INFLUENCE OF VALUES ON THE ATTITUDE TOWARDS CULTURAL DIVERSITY

By

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DECLARATION

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ABSTRACT

Although fifteen years have passed since the change in political dispensation in South Africa, the integration of citizens belonging to the previously disadvantaged sections of society is still progressing at a bewilderingly slow pace. Gaining access to the world of work is instrumental in the alleviation of poverty and the promotion of economic and social stability in a country still plagued by the legacy of apartheid. While South Africa is currently in the process of breaking down the scaffolding of apartheid and promoting the welfare of all South Africans along more equitably lines, the overall success of relevant initiatives fundamentally hinges on both the former oppressors and the formerly oppressed coming to terms with the past and, more importantly, engaging in a process of constitutional reconciliation and compromise to overcome unconstructive attitudes brought about through decades of colonialism, racism and segregation.

Following from this, attitudes towards cultural diversity in general and, more specifically, the forces (i.e. nomological network of antecedents) that shape such attitudes, informed the research question that initiated the current study. Preliminary theorising culminated in the formulation of a tentative theoretical model explicating the relationship between various variables and the attitude towards cultural diversity. The proposed theoretical model in an effort to answer the question that initiated the research implied that values influence the attitude towards cultural diversity. Furthermore, it was argued that the relationship between values and the attitude towards cultural diversity is moderated by race and gender.

The proposed theoretical model was formally assessed with the use of a convenience sample of 1 357 students from four prominent universities in South Africa (Northwest University, Cape Peninsula University of Technology, University of Stellenbosch, and Nelson Mandela Metropolitan University). A *quasi double cross-validation* procedure was utilised whereby a single sample was divided into two equal subsamples: (a) a calibration sample and (b) validation sample.

A combination of qualitative and quantitative research paradigms was utilised in the current study. Only quantitative results are reported formally, although the qualitative

technique of Critical Discourse Analysis (CDA) was utilised extensively during the stages of theorisation. The statistical analysis became naturally segmented in four distinct sections: the validation of the Schwartz Value Survey (SVS) and the Cultural Diversity Belief Scales (CDBS); the refinement of the SVS and CDBS; testing of the proposed theoretical model via Structural Equation Modelling (SEM); and testing the moderating effects of race and gender on the attitude towards cultural diversity by means of moderated regression analysis.

Partial support was found for the proposed linkages between values main effects and the attitude towards cultural diversity, as well as for the moderating effects of race and gender on the value-attitude linkages.

Conclusions were drawn from the results obtained and recommendations for future research have been made.

OPSOMMING

Alhoewel die politieke bewind in Suid-Afrika reeds vyftien jaar gelede verander het, vorder die integrasie binne die samelewing van die voorheen benadeelde gedeeltes van die bevolking teen ‘n verstommend stadige pas. Die verkryging van toetrede tot die wêreld van werk dra by tot die verligting van armoede en die bevordering van ekonomiese en maatskaplike stabiliteit in ‘n land wat steeds deur die nalatenskap van apartheid geteister word. Met Suid-Afrika tans betrokke by die aftakeling van die apartheidsteierwerk en die bevordering van die welsyn van alle Suid-Afrikaners op meer gelyke grondslag, rus die algehele sukses van relevante inisiatiewe daarop dat die voormalige verdruktes en die voormalige verdrukkers met die verlede vrede maak, maar ook meer dat hulle deur ’n proses van grondwetlike versoening en akkoord die onopbouende houdings wat deur dekades van kolonialisme, rassisme en segregasie tot stand gekom het, kan oorkom.

Vanuit hierdie agtergrond het houdings teenoor kulturele diversiteit in die algemeen en, meer spesifiek, die magte (d.i. nomologiese netwerk van voorafgaande gebeure) wat aan sulke houdings vorm gee, die navorsingsvraag laat ontstaan wat tot die huidige studie gelei het. Die voorafgaande teorie-ontwikkeling het tot die formulering van ‘n tentatiewe teoretiese model gelei om die verhouding tussen verskeie veranderlikes en die houding teenoor kulturele diversiteit te ontvou. In ‘n poging om ‘n antwoord te vind vir die vraag wat tot die navorsing gelei het, het die voorgestelde teoretiese model geïmpliseer dat waardes die houding teenoor kulturele diversiteit beïnvloed. ‘n Verdere argument was dat die verband tussen waardes en die houding teenoor kulturele diversiteit deur ras en geslag gemodereer word.

Die voorgestelde teoretiese model is formeel geassesseer met gebruik van ’n gerieflikheidssteekproef bestaande uit 1 357 studente vanuit vooraanstaande universiteite in Suid-Afrika (die Universiteit van die Noordweste, die Kaapse Skiereiland Universiteit van Tegnologie, die Universiteit van Stellenbosch en die Nelson Mandela Metropolitaanse Universiteit).’n Kwasi dubbele kruis-validering (*quasi double cross-validation)* prosedure is gebruik waardeur ‘n enkelvoudige steekproefneming in twee gelyke steekproewe verdeel is: (a) ‘n kalibreringssteekproef en (b) ‘n valideringsteekproef.

’n Kombinasie van kwalitatiewe en kwantitatiewe navorsingsparadigmas is in die huidige studie gebruik. Slegs kwantitatiewe resultate word formeel gerapporteer, alhoewel kwalitatiewe Kritiese Diskoers-analise (*Critical Discourse Analysis*) omvattend gebruik is gedurende die teoretiseringstadia. Die statistiese ontledings het op natuurlike wyse in vier duidelike afdelings verdeel: die validering van die Schwartz Value Survey (SVS) en die Cultural Diversity Belief Scales (CDBS); die verfyning van die SVS en die CDBS; die toets van die voorgestelde teoretiese model met behulp van *Structural Equation Modelling* (*SEM*); en die toets van die modererende effekte van ras en geslag op die houding teenoor kulturele diversiteit deur middel van modererende regressie-analise.

Gedeeltelike ondersteuning is gevind vir die voorgestelde verband tussen hoof-effekte van waardes en die houding teenoor diversiteit, sowel as vir die modererende effek van ras en geslag op die waardes-houdings verband. Gevolgtrekkings is gemaak uit die resultate wat verkry is en voorstelle in verband met toekomstige navorsing is aan die hand gedoen.

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INTRODUCTION AND RATIONALE FOR THE STUDY

1.1 Background to the study

South Africa is characterised as one of the most diverse countries in the world, not only in terms of gender and race, but more so by the numerous subcultures within the country. The South African context is clearly unique in terms of culture, race, ethnic groupings, attitudes and values, which are manifested in no less than 11 official language groups (Statistics South Africa, 2006).

Although South Africa is historically characterised as a very diverse country, the previous political administration governed the country on the basic premise of separate development for the various racial groups, resulting in a highly segregated society. Although cultural groups were set apart primarily due to racial, cultural and ethnic considerations, a division on account of attitudes and values also arose between sub-groups. In addition, the separation contributed to a lack of appreciation of and respect for the unique qualities of one another (Vos, 1998). The legacy of the apartheid system is still very prevalent in the contemporary South African society and whilst some believe that South Africa has transcended to the fully integrated *rainbow nation*, the acceptance of and, more so, valuing of cultural diversity is still a sensitive issue.

To a large extent, the South African society as a whole, including business, probably is not adequately skilled (even after 15 years of democracy) in dealing with diversity. In addition, numerous labour laws aim to promote the proliferation of minorities in the workforce in order to bring about a more demographically representative working corps. The amalgamation of divergent cultures in the workplace results in a co-existence of numerous value systems. Various cultures challenge one another on various grounds, not only to validate the existence of each, but also to exert a legitimate precedence and dominance in the world of work. As a result, the different value bases established in the work setting make the management of human resources very difficult, especially when large-scale animosity and resentment are still prevalent between different racial groups (Vos 1998). When examining the working behaviour of a workforce it is vitally important to examine the different value repertoires, especially when groups are racially and culturally different from one anther (Vos, 1998).

According to Triandis, Kurowski and Gelfand (1994), culture is to a community what memory is to an individual. Researchers have extensively examined the concept of culture through values (Singelis, Habbard, Her & An, 2003). The culture in which individuals find themselves affects their life and learning environment; their experience of the world; their environment and themselves; and also how they expect other cultures to behave. Values play an important role in culture and dictate in part how one culture perceives and reacts to another one. Therefore it makes sense to examine cultural differences from a values perspective.

Williams (1970) agrees that values are culturally bound by postulating that cultural values represent the implicit or explicit shared abstract ideas about what is good, right and desirable in society. Rokeach (1973) adds that values are types of beliefs, central to one's total belief system about how one ought to act or not act, or about some end state of existence worth attaining. From to this definition, it is clear that values are an important antecedent of behaviour. Kluckhohn and Strodbeck (1961) view values as a blueprint which is utilised by decision makers to aid them in the making of choices between different ends, means and actions. Schwartz (1992, p. 2) provides the most comprehensive definition of values by describing values as "desirable states, objects, goals, or behaviours, transcending specific situations and applied as normative standards to judge and to choose among alternative modes of behaviour". Schwartz (1994) adds that different types of values coexist and are organised into a dynamic structure of compatibilities and conflicts on the basis of the psychological and social consequences experienced when a person seeks to pursue them simultaneously.

Due to their enduring and universal characteristics, values have proven to provide a key theoretical concept that can be utilised to explicate cross-cultural differences (Hofstede, 2001). Although voluminous studies have been devoted to values-related research, few have disentangled the role of values which is confounded with numerous other individual differences (Sagiv & Schwartz, 2002). Sagiv and Schwartz (2002) warn that individual values should not be examined in isolation from other prevalent societal norms, beliefs, interest and attitudes to which the individual subscribes, since values and value priorities are products of both shared culture and of unique personal experience. According to Triandis, Kurowski & Gelfand (1994) and Boehnke (2001) values can be seen as the building blocks of a culture and are instrumental in explaining and understanding the diversity of emotions, beliefs and, ultimately, behaviours occurring in different cultures. Just as individuals differ with regard to value priorities, different cultures also have different values and value priorities. Individuals find themselves within a social environment in a specific culture, but with their own norms, beliefs, and values (Triandis et al., 1994). Hofstede (1980) has shown through years of research that countries, nations and sub-cultures display distinct value profiles and patterns. Cultural values form the basis of societal norms that dictate what types of action are appropriate in various situations. Because cultural value priorities are shared, role incumbents in social institutions can draw on them to select socially appropriate behaviours and to justify their behavioural choices to others.

Values influence behaviour in two distinct ways, firstly, it channels an individual's behaviour in such a way that an individual tends to achieve constancy between their behaviour and values. Secondly, it influences individual's perceptions and attitudes that give rise to certain behaviours. A value can therefore be both a determinant and an indicator of behaviour (Rokeach, 1973). According to Yih-Heng Jou and Sung (1995), a value can be regarded as an individual's psychological blueprint, which will be utilised to evaluate the appropriateness of decisions. Apart from the psychological effect of values, deeply ingrained values are more intensely lived by advocates and are difficult to alter or change altogether. When cultural values are so ingrained in the personal belief system that they take on the status of norms in society, they regulate the behaviour of social actors to such an extent that they become standards of living.

Although value dimensions have predominantly been the construct used to guide cross-cultural research, attempts to predict behaviour solely on the basis of value priorities have yielded unsatisfactory results (Bond, Leung, Au, Tong & Chemonges-Nielson, 2004). This could be due to the narrow focus that the majority of researchers adopt when studying values. The emphasis should not be on the value priorities *per se*, but rather on the role of values in social and behavioural theory (Roe & Ester, 1999). Therefore the inclusion of psychological concepts, such as beliefs, norms, attitudes and interests, and demographic constructs, such as race, gender and age integrated with value constructs into a single model, would provide incremental insight into the underlying interdependencies and causal relationships between these variables in causing behaviour.

Roe & Ester (1999) view values as latent constructs that refer to the way that people evaluate activities or outcomes. Therefore values generally refer to a relationship between an evaluating subject and an evaluated object, whereby the relationship supposed has implications for the subject's subsequent actions. The same can be said for the relationships between values and attitudes, or, more specifically, attitudes towards diversity. Value priorities can be viewed as the subject that influences certain attitudes (object), in this case attitudes towards diversity, in some discernable manner. Ample empirical evidence suggests that there is a relationship between values and attitudes, although existing literature in which an attempt has bee made to link specific values to attitudes towards diversity in the South African context are vague and inconclusive at best. This evidence suggests that the values-attitude towards cultural diversity linkage has not been substantiated in the South African context yet.

1.2 Rationale for the study

As can be inferred from the preceding section, the primary aim of the study was to investigate the dynamic forces that shape the attitude towards cultural diversity. Values are regarded as both determinants and indicators of attitudes and behaviour. Cross-cultural studies have predominately made use of values as a vantage point to explicate differences between cultural groups, since values are considered more stable and enduring than beliefs and attitudes (Schwartz, 1994). Post 1994 South Africa has experienced a proliferation of minority immigration into all spheres of society, including the world of work, but even now few organisations are equipped to manage very diverse work forces (Vos, 1998). A lack of understanding of the different value structures that guide cultural behaviour at a group level has led to organisational cultures that are incapable of accommodating a truly diverse working corps.

What is more, values have been linked with a variety of work behaviours, including career choice (Kalleberg & Stark, 1993; Young, 1984; Lobodzinska, 1996; Hofstede, 2001; House, Hnges, Javidan, Dorfman & Grupa, 2003); labour market participation (Lobodzinska, 1996); leadership (Engelbrecht, 2001, 2002; House, Hunges, Javidan, Dorfman & Gupta, 2003); and work performance (Swenson & Herche, 1994; Vora, 1983; Erhart & Naumann, 2004). Having said this, there remains a lack of consensus pertaining to how values influence behaviour. Most of the literature on the topic suggests that values do not influence people's activities directly, but rather indirectly, through attitudes and goals (Roe & Ester, 1999). Thus, values can be seen as a source of motivation for individual working behaviours. The same indirect linkage is assumed at societal level where values define norms and shared goals, which elicit and guide collective action (Roe & Ester, 1999).

Examining the influence of values on attitudes towards diversity can therefore be invaluable in explaining and predicting behavioural responses towards diversity in the workplace. However, there exists a real scarcity of up-to-date and relevant empirical studies that link values with the attitude towards cultural diversity. Those value studies that do exist in the South African context have predominantly taken a very narrow focus by explaining the nature of values and value priorities *per se*, but not explicating how values interact with other variables, such as attitudes, to affect behaviour. Value studies that explicate the causalities and interdependencies between latent variables may be useful in tuning research to the needs of applied psychology.

1.3 Objectives and aims of the study

The current research is expected to contribute to the literature on values in the following ways:

- Limited research could be found that examined the influence of values on attitudes towards cultural diversity. This research study is committed to examine the relationship between various values and attitudes towards diversity which could contribute significantly to the body of knowledge currently utilised in the organisational psychological context.
- The validation of the SVS and the CDBS in the unique South African context.

- The study also proposes the development of a theoretical model that explicates the role of values on the attitude towards cultural diversity via SEM and moderated regression methodology.
- The theoretical model was expected to provide important insight into the forces that shape the attitude towards cultural diversity. These findings could be fruitfully implemented into existing cultural diversity initiatives and interventions.

1.4 Layout of Chapters

Chapter 2 consists of an in-depth literature review with regard to values and the attitude towards cultural diversity. Due to the unique political history of South Africa, the cultural diversity phenomenon was investigated on the basis of Critical Discourse Analysis (CDS). It became apparent, through the literature study, that the cultural diversity discourse can best be described by means of four broad progressive stages of development. It is argued that the diversity discourse can be summarised as assimilation; employment equity through affirmative action; the business case for diversity; and a new diversity discourse, namely valuing cultural diversity. Furthermore' a substantial literature review was conducted on the available values and cultural diversity literature and the main theoretical presuppositions that underlie these constructs are discussed.

Chapter 3 provides a substantial account of the methodology utilised in the current investigation. Item analysis, Confirmatory Factor Analysis (CFA), Exploratory Factor Analysis (EFA), Structural Equation Modeling (SEM) and moderated regression analysis were utilised in this investigation. Other important themes discussed in this chapter include dealing with missing values; centring of values scores; reversed and reconceptualised items; minimum acceptable criteria and decision-making rules; and a description of the sample utilised.

Results from the statistical analysis are presented in Chapter 4. The research results are discussed under four broad themes: firstly, the validation of the measurement instruments; secondly, the refinement of the measurement models; thirdly, the building of the generic structural model; and, lastly, testing the moderating effects of race and gender on the relationship between values and the attitude towards cultural diversity.

The final chapter, Chapter 5, discusses the main findings of the study. The success of the *a priori* theorising is linked to the research results and the general conclusions of the study are discussed and recommendations for future research are proposed.

Chapter 2

INFLUENCE OF VALUES ON THE ATTITUDE TOWARDS CULTURAL DIVERSITY: AN OVERVIEW OF THE LITERATURE

2.1 CULTURAL DIVERSITY

2.1.1 Cultural diversity in South Africa

2.1.1.1 Introduction

Cultural diversity has always been an integral part of South African heritage but has not been recognised as such until the change of political dispensation in 1994. The apartheid doctrine (the political ideology of the pre-1994 government) was built on the premises of segregation and separate development, which not only led to geographical segregation of sub-cultures but also the separation of values, beliefs and attitudes. The legacy of apartheid is deeply ingrained in the South African society and, whilst some may believe that South Africa has transcended to the fully integrated *rainbow nation*, accepting and, more so, valuing cultural diversity remains nothing more than an illusive ideal. This is equally true for industry in South Africa, where integration has come at a bewilderingly slow pace in spite of numerous labour laws that have been advanced to accelerate the diversification of the workplace (CEE 2007).

Questions about which diversity issues are more important depend upon the relevant positional power of various societal groups and the socio-political climate that prevails (Sverko & Vizek-Vidovíc, 1995). Preference will be given to issues most important to the societal group with the most positional power. Historically, the South African diversity discourse has centred around ethnicity and race, led by the non-white struggle for self-determination, which resulted in large-scale shifts in structural transformation, mainly through relevant labour legislation (L'Ange, 2005).
Sverko and Vizek-Vidovíc (1995) state that the larger socio-cultural context in which individuals find themselves has a significant influence on other spheres of life, such as work and family life. Important differences occur in the meaning attached to work

across different societies and cultures and also during different historical periods. Therefore one can expect the large-scale societal changes that have occurred with the change in political dispensation after the 1994 elections to have a significant influence on the contemporary South African work environment.

South Africa is currently in the process of re-evaluating the past and reconstructing the future along more equitable lines. An important aspect of this process involves dismantling old beliefs and structures that provided the basis for the governance doctrine of the previous political dispensation. To this end, the new government has opted for affirmative action to achieve its equity aspirations on a societal level and, more specifically, in the workplace.

Unfortunately, regardless of the admirable intention of the Employment Equity Act (Republic of South Africa, 1998), the successful integration of non-whites, women and the disabled into the South African workforce has not been sufficiently forthcoming (Commission for Employment Equity, 2007). The lack of successful integration of diverse cultures into the South African workforce is alarming if one considers the amount of resources invested in the overall social reconstruction - which has not been forthcoming - of all spheres in the South African society. In looking at the 7th annual report of the Commission for Employment Equity for the period 2006 to 2007 it becomes clear that litigation alone was not able to facilitate significant change in the advancement of employment equity in the South African workplace.

Considering that South Africa boasts one of the most sophisticated legislative frameworks when it comes to issues surrounding employment equity, it is important to look for answers outside the legislative domain for the snail-pace integration of diverse subgroups in the workplace.

Critical discourse analysis (CDA) provides a powerful analysis technique that adopts a macro frame of reference in examining larger societal power structures to this end (Zanoni & Janssens, 2004). Practitioners of CDA examine larger institutional and social configurations in order to draw conclusions about everyday events and larger socio-political sources of influence. CDA practitioners challenge the "discursively constructed armour of normality and inevitability that secures the economic and political status quo" (McKenna, 2004, p. 15). CDA proposes that individuals make sense of the world around them through social discourses by influencing the way that one is permitted to think, feel and act about the "objective world". Therefore discourses- ways of thinking and talking about the world as an individual perceives it from his/her cultural orientation- plays an important role in the development of individual values, beliefs, attitudes and mannerisms.

In addition CDA, can be utilised to either corroborate or refute contemporary diversity debates surrounding cultural assimilation versus cultural pluralism (Prasad, Pringle, Konrad, 2006). In the subsequent sections it is argued that the historical diversity discourse in South Africa (assimilation) had a significant influence (and still has) on how organisations view cultural diversity. In reaction to the injustices and discrimination of the past, the post-1994 government opted for the 'preferential treatment' doctrine which sets out to eradicate the disparities in employment, occupation and income which historically were created by apartheid. However, the disparity created through the legacy of apartheid cannot be addressed solely by repealing discriminatory laws (Republic of South Africa, 1998). To this end, affirmative action is believed to be the means through which to redress the effects of discrimination in breaking down employment barriers and promoting a workplace which is broadly representative of the demographics of South Africa. This will be referred to and discussed under affirmative action diversity discourse.

The business case for cultural diversity and more specifically the Diversity Return on Investment (DROI) theory evolved from the affirmative action discourse. The so-called diversity return on investment (DROI) phrase was coined in an effort to reflect the bottom-line value for managing a diverse workforce (Hubbart, 1999). CDA will be used to critically examine the merits of the business case for managing diversity. Furthermore it is argued that society in general and industry in particular must adopt a new mental model – or diversity discourse - in order to promote cultural diversity successfully in organisations. Optimally such an approach should fall within the pluralistic realm i.e. the deep-rooted philosophy of multiculturalism, in order for organisations to successfully promote a culturally diverse work force. Lastly, a new diversity discourse is formulated built on the pluralistic doctrine.

In summary the subsequent section will be presented in the following format: firstly, a historical overview will be given of the diversity discourse in South Africa based on the assimilistic doctrine. Secondly, the contemporary diversity discourse in South Africa will be examined by referring to the legislative framework aimed at facilitating integration mainly through affirmative action. Thirdly, the business case discourse for diversity will be examined; fourthly a new diversity discourse will be discussed and formulated and, lastly, important methodological issues concerning the diversity construct will be discussed.

2.1.1.2 Diversity Discourse: Assimilation

At the most basic level, workplace diversity is about ensuring that diverse social identity groups are fairly represented at all organisational levels. However, due to the socio-cultural dimension of diversity, diversity should be regarded as much more than a mere matter of representation. What are more important in the contemporary diversity discussion are issues surrounding cultural assimilation versus cultural pluralism. Cultural assimilation has been a defining feature of Western corporate governance ideologies for centuries, and broadly promotes the homogenisation of cultural differences in favour of the dominant cultural practices (Suarez-Orozco, 2002). Cultural differences (e.g. language, religion and spirituality, communication styles, rituals) are surrendered in favour of the dominant culture in return for inclusion and acceptance in the larger society and organisation. Therefore it could be argued that the assimilistic philosophy is fundamentally antagonistic towards acceptance, let alone valuing of cultural diversity since it promotes monoculturality.

A central belief that underpinned the old South Africa was that the way that certain groups perceived and attached meaning to the world and organised themselves - i.e. constructed their cultures - was inherently superior to others (Steyn & Motshabi, 1996). Since the white South African culture (especially the Afrikaner culture) was recognised as the legitimate yardstick for measuring the worth of other South African societies, the cultural orientations of other South African cultures have been grossly undervalued and marginalised. This belief permeated all spheres of society and formed the core ideology around which life was organised. As a result, white South Africans enjoyed elevated recognition and status born of their cultural membership, whereas the value of non-white cultures was undervalued to pitiable levels. The social worth of culture-specific values, beliefs, customs, rituals and traditions was judged by weighing it up to the dominant white culture. If cultural sub-dimensions were judged to be incompatible with the underlying values of the dominant culture, they were simply disregarded by the dominant culture. To a large extent this assimilistic discourse may still be very prevalent in the South African society due to the years of ingrained beliefs that white cultural beliefs and value systems are superior to those of other cultures and should therefore permeate all societal levels, including the world of work.

It makes sense to argue that the social discourse formed on the premise that “white is right” could possibly be one of the fundamental problems inhibiting and even nullifying efforts geared towards promoting employment equity. The deeply ingrained social beliefs and attitudes advanced and maintained during the apartheid years definitely played an important role in the discourse construction of both white and non-white cultures. Although non-whites might publicly claim to value their own cultural beliefs and norms they might, on some unconscious level, cling to the notion of “white superiority”, since this was the dominant social discourse forced onto all people irrespective of ethnicity, gender or race prior to 1994. What is of greater concern is that the newer generation of South Africans might also adopt this discourse, since it is still subconsciously endorsed throughout the larger South African society and passed on downwards towards younger generations.

The black majority of South Africa may to a large extent still be dependent on the white minority for survival. This privileged position of power which whites find themselves at present in part is the result of large-scale inequalities of the past. The ‘normal taken-for-grantedness’ that white customs and values are superior to those of other, non-white, South African cultures are not often challenged on a deeper discourse level because it may be so entrenched in the South African society that most may not even consciously aware of it anymore. The situation is analogous to the metaphor which dictates that “the fish does not know it is in the water”, explicating that we may not be aware of the ‘white discourse’ anymore because we have come to accept it as the established discourse of the South African society. In a similar sense it could be argued that diversity issues in South Africa are still viewed from a ‘common sense' and 'inevitable' white discourse point of view, thus explaining the slow and stigmatised attitude towards cultural integration in the workplace.

In contrast to the assimilistic approach, the pluralistic framework emphasises the co-existence of cultures and subcultures, rather than integration. Pluralism is deep-rooted in the philosophy of multiculturalism and advocates the acceptance rather than the assimilation of different cultures into a homogeneous whole (Taylor, 1994).

With the change to a new political dispensation, the traditional diversity discourse is continually being challenged and found wanting in present-day South Africa. Organisations are struggling to manage the diverse workforces that are being imposed onto them by a myriad of forces falling outside their direct control (e.g. globalisation, employment equity legislation, immigration) (Steyn & Motshabi, 1996). Due to these pressures faced by organisations, the notion of cultural pluralism has gained support as an alternative approach in dealing with cultural differences in the workplace.

Even if organisations' workforces mirror the demographic composition of the larger South African society, but fail to respect and value differences, whether they are gender-, race- or ethnicity-based differences in lifestyles, linguistic proficiency, appearance, decision-making styles, communication or general mannerisms of different individuals, they cannot claim to be culturally diverse. When the primary goal of organisational diversity initiatives is the attainment of employment equity targets, the organisation is bound to underestimate and downplay the importance of a diverse workforce from an ethical as well as a competitive advantage point of view. The mere assimilation of employees from different cultural backgrounds can not equate to valuing diversity.

Although many organisations may claim to value diversity and effectively manage it (fundamentally claiming to espouse the pluralistic doctrine), few organisations actually achieve this illusive ideal. One possible explanation may be that few organisations have re-evaluated their prevailing mental model which suggests that diversity should be promoted mainly because affirmative action legislation forces organisations to do so and, secondly, because organisations believe it is the morally right thing to do, considering that most organisations existing in South Africa today profited from unfair labour practices in the past. This statement is supported by mainstream diversity theories, which postulates that organisational change facilitated by diversity typically is based on one or a combination of the following reasons: (1) moral, ethical and social responsibility goals, (2) legal obligations and (3) economic performance goals (Cox, 1993).

Vos (1998) and Scholtz (2004) agree that few, if any, South African organisations have reached the level of maturity in diversity management that distinguishes multicultural organisations from other organisations. Therefore one can come to the conclusion that the majority of South African organisations may still struggle to understand and value diversity. A lack of understanding and appreciation of prevailing beliefs, values and norms in different cultures may hinder numerous organisations in reaching the status of multiculturalism.

Breaking down the prevailing cultural misperceptions and stereotypes ingrained into South African society is proving to be particularly difficult and numerous laws have been passed to speed up the integration process (CEE, 2007). The Employment Equity Act, No. 55 of 1998 (Republic of South Africa, 1998), was introduced by the newly elected government to promote employment equity in the South African workforce. Even though considerable evidence exists to support the effectiveness of various affirmative action - one of the main provisions of the Employment Equity Act - initiatives around the world, especially in the US (Konrad & Linnehan, 1999), the success of affirmative action initiatives in South Africa has not been sufficiently evident yet (CEE, 2007). The subsequent section will look more directly at some of the main facets of the diversity discourse pertaining to affirmative action.

2.1.1.3 Diversity Discourse: Employment Equity through Affirmative Action

In staying true to the constitutional pledge of justice and equality for all South Africans in all spheres of life, the post apartheid government has introduced numerous laws to dismantle old power structures that could inhibit the diversification of the South African society. Considering that the main of economic influence and power still resides with the minority white South African population, it makes sense at least at a theoretical level, promote equitable employment opportunities by breaking down obstacles that hinder the achievement of a diverse workforce, broadly representative of the national demographic structure (Republic of South Africa, 1998). In this regard, numerous laws have been passed to accelerate the integration of members of so-called designated groups into the South African workforce.

The Labour Relations Act 66 (Republic of South Africa, 1995), the Employment Equity Act No. 55 (Republic of South Africa, 1998) and the Promotion of Equality and the Prevention of Unfair Discrimination Act No. 4 (Republic of South Africa, 2000) are all direct in their intention to increase workplace democracy and equality. Furthermore, the Broad-Based Black Economic Empowerment Act 53 (Republic of South Africa, 2003) promotes the broad-based and effective participation of black people in the economy. Under the apartheid regime blacks were largely excluded from the economic active population that accumulated wealth. The lack of economically participation excluded a vast majority of the South African population from ownership of productive assets and the possession of advanced skills. Unless steps are taken to increase the effective participation of the majority of South Africans in the economy, the stability and prosperity of the economy may be undermined to the detriment of all South Africans, irrespective of race. To a large extent the Employment Equity Act (Republic of South Africa, 1998), in general, and the affirmative action subsection, in particular (Section 15), have therefore been earmarked to proactively spearhead employment equity in South Africa.

According to the White Paper on Affirmative Action in the Public Service, launched in March 1998, affirmative action is defined "as the additional, corrective steps which must be taken in order that those who have been historically disadvantaged by unfair discrimination are able to derive full benefit from an equitable employment environment (Department of Public Service and Administration, 1998, p. 4). The White Paper builds on the framework of the Employment Equity Act, No. 55 of 1998 (Republic of South Africa, 1998) which argues that employment equity involves both the elimination of unfair discrimination and the establishment of specific measures to accelerate the advancement of Blacks[a], women and the disabled. Therefore

[a] Blacks include black Africans, Coloureds and Asians collectively

affirmative action forms part of the broader process of employment equity by promoting specific plans and efforts which involve preferential treatment in the appointment and promotion of members belonging to designated groups.

However, affirmative action initiatives differ from other government initiated programmes designed to promote and protect equal opportunities, in that the affirmative action approach is proactive rather than reactive. The majority of equal opportunity programmes focus on redressing past discrimination rather than proactively advancing the composition of the workforce through actively forcing organisations to include employment equity objectives alongside other major organisational strategic objectives (Human, 1996).

Affirmative action legislation may be met with strong resentment, especially from the dominant white male employment group in particular since any affirmative action initiative inherently proposes a redistribution of power, something that few white male employees in key positions may be willing to surrender voluntarily. Nonetheless, the inflow of non-whites into the workplace is inevitable due to the political and legal pressure placed on organisations to change the compilation of their working corps. The result is that organisations should equip themselves to facilitate an increasingly diverse workforce.

Despite the honourable intention of affirmative action, the successful integration of diverse cultures into the South African workforce comes at a bewildering slow pace, which is evident when looking at the 7th Annual report of the Commission for Employment Equity for the period 2006 to 2007 (Commission for Employment Equity, 2007). Jimmy Manyi (Chairperson of the Commission for Employment Equity) shares this disconcerting view by stating the following in the foreword of the 7th annual CEE report for the period 2006 to 2007 (Commission for Employment Equity, 2007):

> *This report covers the 2006/07 reporting period, which reflect that the employment equity outcomes are no different to those outlined in previous reports of the CEE. Progress in implementing the Act by employers is still too slow. This snail paced movement only perpetuates*

and entrenches the racial and gender disparities that exist in the South African economy. This illustrates that access to opportunities still has a racial and gender bias. Another marginalised segment of the population is people with disabilities who are quietly left by the wayside.

Figures in Employment Equity reports (Commission for Employment Equity, 2007) analysed show that Black representation at the Top Management level increased accumulatively by a meagre 9.5% from 12.7% in 2000 to 22.2% in 2006. This averages out over a six-year period to nearly 1.6% per year. The increase in the number of Africans at this level is even worse. African representation increased by a meagre 5.1%, which averages to an increase of 0.9% per year. The increase in female representation at this level accounted for only 9.2%, with white females accounting proportionately for the main part of the increase. Black females hold only 9.6% of the positions, whilst white females disproportionately hold 14.7% of all top management positions, which is more than twice their Economic Active Population (EAP) percentage (Commission for Employment Equity, 2007).

At the Senior Management level, the increase in the rate of black representation is slower than at Top Management level. Black representation increased by 8.4%, from 18.5% in 2000 to 26.9% in 2006. This averages out over a six-year period to nearly 1.4% per year. African representation accounted for only 4.7% of this increase. Female representation increased by 6.4% at this level over the same period. White females accounted for 2.3% of this increase. Black females held 8% and white females held 19% of all Senior Management positions (Commission for Employment Equity, 2007).

The race and gender representation of the various groups at the Professionally Qualified and Middle Management level has been disappointing. At this level, instead of making any progress, the situation actually regressed; black representation decreased by 7.6% from 44.1% in 2000 to 36.5% in 2006; African representation decreased by 12.6%; white representation increased by 6.1% from 56.1% in 2000 to 62.2% in 2006; the representation of black females decreased by 11.1% from 24.9 in 2000 to 13.8% in 2006, while the representation of white females increased by 3.8% from 18.3% in 2000 to 22.1% in 2006 (Commission for Employment Equity, 2007).

The decline over the years of people with disabilities in the workforce from 1% to 0.7% does not bode well for the country. This is of particular concern as this is a section of the population who are viewed as not being able to make a contribution (when they often can and do) because of prejudice (Commission for Employment Equity, 2007).

When looking at the preceding statistics it becomes clear that litigation alone has not been able to facilitate significant changes in the advancement of employment equity in the South African workplace. If anything, the employment equity situation is regressing, even with the introduction of the highly anticipated Skills Development Act of 1998 (Commission for Employment Equity, 2007). The Act seeks to provide an institutional framework aimed towards developing and improving the skills of the South African workforce, which, in turn, will make it easier for employers to recruit and select competent employees hailing from previously disadvantaged backgrounds. Unfortunately, these much anticipated outcomes have not been forthcoming.

Considering that South Africa boasts one of the most sophisticated legislative frameworks when it comes to issues surrounding employment equity, the real question to be posed is then “what are we missing?” Maybe the legislative framework fails to grasp the pervasive effect that apartheid has had on broad beliefs, attitudes and values that are still very entrenched in South African society today (Du Plessis, 2002). Alternatively, one could argue that the legislative framework is sophisticated enough to address broad based empowerment in the South African labour force, but that the lack of effective implementation has indeed hampered large scale integration of individuals pertaining to the previously disadvantaged sections of the population.

There is necessarily no one-to-one direct effect between initiatives aimed at redressing the wrongs of the past and valuing diversity outcomes. Compelling theories rarely live up to their expectations in the applied setting due to the myriad of variables that either moderate or mediate the relationship between initiatives and outcomes. One such moderator is the deeply ingrained value structure found in South African societies. Analysing the affect (whether it be a main or moderating affect, unidirectional or bidirectional) of values on attitudes towards cultural diversity can make a significant contribution towards understanding the root causes of the lack of cultural integration in the broader contemporary South African society as well as in the world of work. Maybe the South African legislative framework has been too direct in its application of the affirmative action agenda and as a result has merely addressed symptoms attributable to three previous generations of cultural and racial segregation. At the same time the possibility exists that the legislative framework has neglected to address the underlying causal realities (values, attitudes and beliefs) that shaped and still uphold the cultural separation that remains widespread in South African today.

The “strong-arm” manner in which South African labour legislation attempts to forcefully integrate non-whites and women into the labour market is indicative of the ignorance possessed by policy makers in their quest to transform South African society at an overly optimistic pace. To view integration as a mere “numbers game”, i.e. cultural integration at whatever cost, with total disregard for the prevailing effects of a legacy of apartheid at a grassroots level (i.e. on an attitudinal, values and beliefs level) seems dubious and imprudent at best (Henrard, 2002). Litigation should occupy its rightful place in facilitating the equitable advancement of the previously disadvantaged factions of the South African society in an effort to reverse the dismal effects of a corrupt system, but not with a zero-sum mentality. Bestowing overtly biased employment liberties to certain sections of the South African population purely on the basis of ethnicity would be to disregard important lessons learned from the past. To call on Du Plessis (2002, p.19):

> *In short, we in South Africa have lived through the dismal failure of a system that tried to force cultural segregation upon people, and we are still to a large extent left carrying the can of this failure. However, the lesson to be learned from our failure is not simply that a forced segregation of cultures is futile (which of course it is), but that culture as a dynamic reality is spectacularly ill at ease in any straitjacket- that of forced segregation as much as that of forced integration*

Even in America, after strong initial enthusiasm, support for affirmative action waned at the end of the 20th century, due to the lack of successful integration of minorities in the workplace (Litvin, 2006). However, even though affirmative action as a mechanism used to promote diversity has failed to deliver expected results, the integration of minorities in the workplace has continued to prevail as a topic of worldwide interest and concern. Diversity issues once again came to occupy an important position on the corporate agenda worldwide, this time for reasons other than merely adhering to legal obligations.

By the end of the 1990s the business case for diversity had replaced affirmative action as the primary *raison d'être* for promoting a diverse workforce (Litvin, 2006). In acknowledging the proposition that organisations should engage in the promotion of workplace diversity as a central concern in this discussion, it is first important to review the means by which the business case for diversity was transformed into 'common sense.'

2.1.1.4 Diversity Discourse: Business Case

Cultural diversity emerged again as an important issue in corporate governance in South Africa at the end of the 1990's, although for different reasons than in the United States. In the United States management literature in the late 1980s "predicted unprecedented dramatic demographic changes sufficient to change the homogenous workforce of corporate America" (Litvin, 2006, p. 78). In South Africa, however, the diversification of the workplace would not result primarily from a dramatic change in the demography of the country, but more due to the awarding of basic constitutional rights to all South Africans, which would see more previously disadvantaged workers making their way into the workplace.

The second important reason scholars and practitioners alike support the promotion of a culturally diverse workforce is built on the notion that managing diversity is a 'business imperative' (Carnevale & Stone, 1995; Fernandez & Barr, 1993; Herriot & Pamberton, 1995). The so-called diversity return on investment (DROI) was coined to reflect the bottom-line value for managing a diverse workforce (Hubbart, 1999). The Society for Human Resource Management (Society for Human Resource Management, 2004) sites some business-orientated reasons similar to those proposed by Cox (1993) in order to justify investment in a diverse workforce:

- *Diversity initiatives can improve the quality of your organization's workforce and can be the catalyst for a better return on your investment in human capital.*
- *Capitalize on new markets; customer bases are becoming even more diverse than the workforce.*
- *Recognized diversity initiatives and diversity results will attract the best and the brightest employees to a company.*
- *Increased creativity; one by-product of capitalizing on differences is creativity.*
- *Flexibility ensures survival; making adaptations required by diversity keeps an organisation flexible and well-developed.*

By the end of the 1990s the business case for workplace diversity had received widespread support (Wheeler, 1997) throughout literature. The positive organisational outcomes promised by the business case for diversity were welcomed as an appealing alternative to the affirmative action diversity discourse that was viewed by business leaders as some sort of fixed cost attributable to corporate social investment. Despite a lack of hard empirical evidence to substantiate these claims, the business case discourse for diversity has always been popular due to its bottom-line rationale for diversity investment (Williams & O'Reilly, 1998). Litvin (2006, p. 83) concurs by stating:

> *Diversity discourse construct a reality in which businesses should manage diversity, because doing so will transform the threat of workforce diversity into an engine of economic, competitive benefits to the organisation. Businesses should invest in creating a more effective diverse workforce not because it is the legal, ethical or moral 'right thing' to do, but because it is the savvy, bottom-line-focused, pragmatic, self-interested 'right' thing to do. Through its wide dissemination and frequent repetition in business practitioner publications, company training materials and services marketed by diversity consultants, this way of thinking, talking and acting became sedimented as 'common sense', and what everybody already knows.*

However, the merits of the business case have been re-evaluated in recent times due to the lack of empirical evidence existing in support of its theoretical claims. The Diversity Research Network (DRN), a group of researchers from several universities, was formed to research and test the propositions of the business case for diversity (Kochan, Bezrukova, Ely, Jackson, Joshi, Jehn, Leonard, Levine & Thomas, 2003). Despite their efforts, neither these nor other researchers found solid support for the business case for diversity's bottom-line-focussed promise of DROI. Is this to say that organisations should disregard the business case for diversity or even the case for managing diversity altogether due to the lack of positive organisational outcomes that accrue from its practices? Two arguments may be put forward to argue in favour of the business case for diversity, even with the current limited empirical evidence to substantiate the utility thereof in the workplace.

Firstly, designated employers[b] are compelled by law to submit an employment equity plan and assign a senior manager to take responsibility for monitoring and implementing this plan. In addition, designated employers must submit annual reports to the Director-General within 12 months of the commencement of the Act. A labour inspector acting in terms of this act has the right to enter, question and inspect the progress made (or lack thereof) towards achieving employment equity in the workplace. The labour inspector may issue a compliance order to the designated employer if that employer has failed to comply with the Employment Equity Act (Republic of South Africa, 1998). In the final analysis, employers will be forced by law to comply with major employment equity legislation through the promotion of diversity in the workplace.

[b] Designated employer means:

(a) a person who employs 50 or more employees;
(b) a person who employs fewer than 50 employees but has a total annual turnover that is equal to or above the applicable annual turnover of a small business in terms of schedule 4 of this act (In this case the Employment Equity Act of 1998);
(c) a municipality, as referred to in chapter 7 of the constitution;
(d) an organ of state as defined in section 239 of the Constitution but excluding local spheres of government, the National Defence Force, the National Intelligence Agency, and the South African Secret Service; and
(e) an employer bound by collective agreement in terms of section 23 and 31 of the Labour Relations Act, to the extent provided for in the agreement.

Secondly, despite weak support for the business case for diversity, alternative arguments that move beyond the business case arguments hold incremental value for organisations. Kochan et al. (2003) warns that a complete mental shift away from business case for diversity is needed to truly value diversity, which, in turn, will lead to positive outcomes for organisations. Furthermore, the business case for diversity forms only a part of the larger societal discourse. In effect, one could move from the business case but still be caught up in the larger societal discourse (or mega discourse). This scenario is analogous with the allegory of needing to move away from the tree line in order to better see the forest. Reframing - i.e. modifying - the business case for diversity does not achieve a new discourse of diversity if it still largely remains within a grand societal discourse which is built on inherent prejudice and stereotypes. This *reframed* ideology of diversity is still built on the 'taken-for-grantedness' which constitutes the foundation of the grand discourse. Successful diversity management will only take place if we challenge and break down this 'taken-for-grantedness' in order to enable us to think and act in ways that contradict and even reconstruct a new discourse outside the realm of the crystallised ideological structure created by the current discourse.

A recent survey, entitled *Truth – Yes, Reconciliation – Maybe: South Africans Judge the Truth and Reconciliation Process,* for instance, supports the earlier hypothesis in stating that the grand societal discourse built on notions of segregation may still be prevalent in the South African society (Gibson & McDonald, 2001). When talking about culture relevant topics such as diversity and value systems one cannot escape the influence of politics. Colonialism, apartheid and racism contributed significantly to the deeply ingrained collective mental model of the minority white culture being the yardstick against which all other cultures should be evaluated. One segment of the survey diagnosed the collective memory - an accepted version of the truth about the country's past - of South Africa. Although the majority of respondents reported that 'Apartheid was a crime against humanity', a significant proportion of South Africans *of every race* surprisingly also believe that the *idea of apartheid* was good, even if the implementation of the ideology was not! Perhaps somewhat surprisingly, more than a third of Africans, Coloured people and South Africans of Asian origin agree that, in principle, apartheid was a good idea (Gibson & McDonald, 2001). This study illustrate that the historical context of South Africa still has a significant influence on the cognitions, perceptions, beliefs and values of its citizens today, 15 years after the institution and implementation of democracy and the end of apartheid. Most South Africans still find it difficult to understand people of other races and therefore continue to subscribe to ingrained racial stereotypes (Gibson & McDonald, 2001). This lack of understanding of other cultures seems to induce racially hostile attitudes among black people in particular – probably not because of inherent racism, but because of the lack of interaction with individuals from divergent cultural backgrounds.

If South Africans are to make any progress in the attainment of cultural integration at all societal levels, the grand discourse - the collection of historically ingrained social ideas and principles - have to be searched out, attacked and demolished. We have to build a new discourse for diversity, starting with the re-evaluation of currently held mental models of cultural diversity.

2.1.1.5 New Diversity Discourse: Valuing Cultural Diversity

Although more than a decade has passed since the end of apartheid, deeply ingrained notions of segregation and prejudice are still very prevalent in the broader South African society (Gibson & McDonald, 2001; Commission for Employment Equity, 2007). The pervasive affects of a system that tried to force cultural segregation on people left lasting scars on the South African society which continue to affect our way of thinking and acting today. To quote Gibson and McDonald (2001, p. 18) we have not yet started to acknowledge and value the 'otherness of other(s)' that is necessary to build a national culture which values diversity. Mobilisation of different cultures into a communal society will only be possible once South Africans are convinced that it is important and worthwhile to do so. The kind of integration that is referred to in this context is of course more socio- psychological in nature than it is structural.

Having said this, the fact should be acknowledged that no attitudinal change is likely to occur in the absence of proper institutional structures that prompt its importance and advancement. The successful integration of dissimilar cultures hinges on both the former oppressors and the formerly oppressed coming to terms with the past and, more importantly, engaging in a process of constitutional reconciliation and compromise in overcoming unconstructive attitudes brought about through colonialism, racism and segregation. The new South African constitution has been put into operation to improve the fate of the previously disadvantaged sections of the South African population by lending generous protection to language and culture (among a host of other things) to all population groups in South Africa (Gibson & MacDonald, 2001).

This intention is manifested in section 6 of the Constitution, which recognises eleven official languages (Republic of South Africa, 1996). In addition, section 235 makes provision for the protection of language, culture and self-determination. Some might argue that the Constitution provides for an over-generous protection of the various languages and cultures (Du Plessis, 2002).

Unfortunately, not even the admirable new constitutional framework built on notions of reconciliation and compromise has been able to spearhead large-scale cultural integration as of yet; not in the larger society nor in the workplace. Social integration of different cultures has been woefully slow and has even regressed in some cases (CEE, 2007).

In a recent research report by Gibson and MacDonald (2001) reporting on the state of the reconciliation process in South Africa, data revealed that only 42% of white respondents and 7% of black respondents claim to interact with employees from other races in the workplace. Similar findings where reported by Coloured people and South Africans of Asian origin. Most black respondents claimed to have almost no interaction with whites in the workplace!

In addition, inter-racial interaction outside the workplace is even more dismal than the proportion of white-black interaction in the workplace having plunged from 42% to 12% outside the workplace (Gibson and MacDonald, 2001). In addition, it was reported that few South Africans - almost no blacks- have friends of the opposite race. This lack of racial interaction has significant implications for understanding and accepting people of different cultural origins. An integrated multi-cultural society is one in which people understand differences in groups other than their own and value these differences. Gibson and MacDonald (2001) also state that a reconciled society rejects negative stereotypes of other racial groups. In South Africa, this cultural utopia is but a distant dream when considering the results presented in the section on attitudes from the study by Gibson and MacDonald (2001) which specifically examine the attitudes towards other racial groups in South Africa. Over and above the fact that a significant proportion of all the racial groups surveyed claim not to understand the other, the majority of blacks more specifically, believe that whites are untrustworthy, a third of the whites believe the same about blacks whilst the majority of whites, coloured people and South Africans of Asian origin claim not to feel comfortable around blacks (Gibson & MacDonald, 2001). Du Plessis (2002, pp. 18-19) presents a very accurate portrayal of the status quo situation currently experienced in South Africa with regard to the prevailing diversity discourse:

> *I certainly cherish the idea of nation building and will devote all my energy and expertise to co-operate with like-minded compatriots in putting the idea to practice and in relying on all practicable means, including legal and constitutional measures, in quest of doing so. However, the ideal will remain unfulfilled, I believe, if the law and the Constitution are invoked, in a strong arm fashion, trying to effect the integration of the different cultures in South Africa by concocting a melting pot. The law and the Constitution can do no more than to aid the facilitation of a process of consolidation as precondition to nation building, and this process will fail if the reality of deep-seated, cultural differences among various sections of the population are denied or simply thought away. These differences should actively be acknowledged instead, showing each and every individual South African that South Africa is home to her or him as (s)he is, and that there is no blueprint-like assertion of her or his humanness that preconditions full access to the entitlements of South African citizenship. Loyalty to a nation, just like charity, begins at home with the more immediate and intimate expression of citizens' humanness in day-to-day life. From this point of departure it makes sense to negotiate (as we in South Africa have done) and participate in realising (as most of us are hopefully doing) a legal and constitutional dispensation that unite all citizens in at least respecting (but hopefully*

also valuing) the otherness of the other(s). If we do this we can also all start celebrating our diversity in concert and yet each one (and each group) in her or his (or its) distinctive way. This is the stuff that a nation is made of; this is the soil in which a common loyalty (and devotion) to a country grows - among people and peoples as diverse as the people and peoples of South Africa. In short, we in South Africa have lived through the dismal failure of a system that tried to force cultural segregation upon people, and we are still to a large extent left carrying the can of this failure. However, the lesson to be learnt from our failure is not simply that a forced segregation of cultures is futile (which of course it is), but that culture as a dynamic reality is spectacularly ill at ease in any straitjacket – that of forced segregation as much as that of forced integration.

It is vitally important to reconstruct a new societal discourse for South Africa based on valuing the uniqueness of our cultural heritage in an integrated national society. Once we have overcome the racial stereotyping that hampered national institutional efforts until now, we can promote an inclusive multicultural South African society by formulating an alternative diversity discourse in the world of work, one that flows naturally from the larger societal discourse. Through re-evaluating our attitudes, values and beliefs in general, but more specifically towards South Africans with cultural origins different from our own, we can move forward in the quest for a multicultural, integrated South Africa. As Litvin (2006, p. 87) stated so eloquently, "To continue to promote and pursue meaningful diversity work within the dictates of the [old] Mega-Discourse (even by 'reframing' its business case) is to beg irrelevance and redundancy as 'investments gone wrong'." Our efforts to increase diversity in the workplace will rarely deliver on promises if we approach the diversity initiative with an old ideology that promoted cultural separateness to start off with. Formulating a discourse of diversity with a new set of values and attitudes towards other cultures should become the *raison d'être* of any diversity initiative.

Such a conceptualisation of organisational purpose in the promotion and management of diversity is not a utopian dream. The Good Work in Business Project studied 39 visionary business leaders. One of these leaders was Robert Shapiro, former CEO of

Monsanto, who painted an inspirational picture of organisations learning what could be thought of as adhering to an alternative case for diversity in the workplace:

> *Under the right circumstances, people could integrate…within themselves and learn about themselves, could grow, develop, could connect within the context of a for-profit business organization (Csikszentmihalyi, 2003, p. 202)*

Similar conclusions were reached in the Simmons Centre for Gender in Organisations (as cited in Litvin, 2006) which reported that the ability and commitment towards learning from the unique histories, identities, emotions, values, needs and beliefs of other cultures is crucial in "working across differences." Confronting uncomfortable and sometimes controversial cultural issues, firstly through introspection and secondly through interaction with individuals from other cultures, is key in forming "a critical understanding of how power and cultural legacies can make working across differences difficult" (Litvin, 2006, p. 89).

In light of the foregoing argument, the framework developed by Cox (1993) to describe the development of organisations with regard to their cultural diversity maturity or consciousness seems to be particularly valuable in diagnosing cultural diversity in the workplace. Cox (1993) distinguished between (1) *monolithic* organisations: which boast a homogenous workforce, (2) *pluralistic* organisations: which partially integrate minorities in the formal and informal structures of the organisation, although representation at high levels remains reminiscent of the historically dominant culture and (3) *multicultural* organisations: full integration of minorities into the functional as well as informal organisational networks and placing high emphasis on valuing diversity.

Cox (1993, pp. 713-719) maintains that only multicultural organisations have the possibility to value diversity because only these organisations possess the following characteristics:

- Pluralism: these organisations firstly place a lot of emphasis on creating a two-way socialization process and, secondly, on ensuring the influence of minority-culture perspectives on the organization's norms and values.

- Full structural integration: These organisations have programmes for education, affirmative action and targeted career development which ensure that diverse employees are integrated into the organisation.
- Integration in informal networks: one of the tools for integrating diverse employees is through mentoring and social events. Through such techniques, multiculturalism is fostered through selecting both activities and locations with sensitivity to the diversity of the workforce.
- Cultural bias free: A multicultural organisation utilises methods like equal opportunity seminars, bias-reduction training, task forces and focus groups in order to create a work environment free of prejudice and discrimination.
- Minimising inter-group conflict: interpersonal conflict, cultural backlash or resentment by majority-group members is minimised through methods such as survey feedback and conflict-resolution training.

However, Cox (1993) warns that positive organisational outcomes (e.g. better decision making, higher creativity and innovation, greater success in marketing to foreign and ethnic minority communities and a better distribution of economic wealth) will only accrue when organisations truly value diversity by acknowledging that real differences exist between people and when they embrace and celebrate these differences with an accommodating and understanding organisational culture. Sessa (1992, p. 37), in agreement, states:

> *To manage diversity effectively, a corporation must value diversity; it must have diversity; and it must change the organization to accommodate diversity and make it an integral part of the organisation.*

Therefore, valuing diversity can be considered an important prerequisite for managing diversity. From a socio-psychological point of view, the notion of valuing cultural diversity seems to be much deeper-seated than what was initially anticipated. The question can rightly be asked if one shouldn't make a distinction between tolerance for cultural diversity and valuing cultural diversity. Although it is commonly believed that valuing cultural diversity is in essence an attitude or believe (Rentsch Rentsch, Tuban, Hissong, Jenkins and Marrs, 1995; De Meuse & Hostager, 2001), at the same time, it could be argued that valuing cultural diversity is more of a value orientation than any of the aforementioned constructs. If this argument were to be true, the question remains as to what extent can these values that underlie the construct be changed or adapted? A case could be made that most people who are opposed to cultural diversity will change their attitude, rather than values towards cultural diversity in order to bring their observable behaviour in line with acceptable societal norms. In the final analyses it seems highly unlikely that one would truly value cultural diversity, if this appreciation is on an attitudinal level and not a values level.

Most organisational leaders will claim to support diversity initiatives, but few are really committed to the transformation process. However, truly valuing diversity in the workplace will only accrue with the formulation of a new diversity discourse which moves beyond the business case by challenging and breaking down the scaffolding which provided (and to a certain extend still provides) the basis for the old grand societal discourse. This process will be both challenging and painful at the same time, since it is difficult to alter deeply ingrained beliefs and values in which many South Africans may find comfort. Disturbing the equilibrium, so to speak, is what is needed to sensitise all South Africans to the need to invest in a new and bolder vision for diversity in the country. Maybe we can then begin thinking of individuals not only in business-case terms as cogs in a bigger financial machine exclusively geared towards achieving organisational goals and ends, but of South African workplaces as instruments, crucially important in the attainment of broad-based national goals such as the equitable distribution of income and wealth through job creation facilitated through economic growth. But, to do so, we must break free from the old mega discourse - which facilitates the business case - and reassess the role corporate South Africa should play not only in building the economic capacity of the country but also in aiding and addressing the social challenges that the country faces.

In a similar sense, after three decades of slow and fragmented efforts, corporate South Africa has taken up the challenge to address issues relating to HIV/AIDS in the workplace. Increasing pressure is placed on South African organisations to tackle the widespread effects of HIV/AIDS in a manner that reaches far wider than the traditional corporate social investment domain. HIV/AIDS compels organisations to take a pro-active stance in protecting their own interests, but in doing so, organisations will also be forced to act in accordance with the interests of the larger society of which they form an integral part (Dickinson, 2004).

A similar argument can be advanced when considering issues surrounding diversity in the workplace. Organisations rarely link investment in the prevention of HIV/AIDS (or environmental protection strategies for that matter) with bottom-line financial outcomes, although the rational deduction is that prevention and management initiatives will result in a healthier and more productive workforce which will, in turn, result in quantifiable organisational outcomes. Similarly, investment in the development of a diverse workforce achieved by providing employees with the skills, competencies and, most importantly, opportunities to apply themselves individually and collectively, is highly unlikely to result in short-term financial contributions to the corporate bottom-line. However, when most organisations invest in building up the collective human capacity of the country they, in turn, will have the opportunity to source potential talent from a diverse applicant pool. Investment in such an effort may in time yield extraordinary returns.

2.1.2 Conceptualisation and Methodology: Attitude towards cultural diversity

Conseptual and methodological considerations related to the operationalisation of the attitude towards cultural diversity construct will be discussed in the subsequent section.

2.1.2.1 Conceptualisation and Definitions

The myriad of perspectives (e.g. social psychology, sociology, criminology, organisational psychology, anthropology) utilised in examining diversity to date have resulted in a lack of constitutive clarity. Although the multidisciplinary influence on the field of diversity studies is not a problem in and by itself, the lack of constitutive conformity most definitely is. As with any construct enjoying a rapid increase in popularity - and therefore application in research - the investigation thereof is rarely coordinated and guided by a dominant constitutive definition. As a result, numerous definitions and terms have been advanced to describe diversity and its different dimensions (‘dispersion’, ‘inequality’, ‘within-group variability’, ‘heterogeneity’, ‘deviation’, ‘difference’, ‘distance’, ‘relational demography’ and many more) (Harrison & Sin, 2006). However, diversity will only be regarded as a theory of the social sciences when its construct validity is clarified (Harrison & Sin, 2006).

In recognising that constructs are the building blocks of theories, it is crucially important to define these abstractions, conceptually or constitutively, for numerous reasons. Firstly, constitutive definitions form the foundation of every stage found in the research process, at least from a positivistic epistemological point of view (Harrison & Sin, 2006). As a result, failure to comprehensively describe the *meaning* of a construct initially will affect not only the eventual operationalisation of the construct but also inferences and comparisons made across studies (Schwab, 1980). Patterns of findings across studies will only make sense if the construct validity of constructs has been established initially (Hunter & Schmidt, 1990, Stone-Romero, 1994).

Cox (1993) conceptualised the attitude towards cultural diversity in the workplace as a general acceptance and positive attitude towards minorities as co-workers and in supervisory positions. Montei, Adams and Eggers (1996, p. 295) defined the attitude towards cultural diversity as follows:

> *One’s attitude toward organisational diversity refers to the degree to which one tends to accept minorities, primarily women and non-whites, in the workplace. This includes acceptance of such individuals as co-workers and supervisors, and any other persons in work-related roles. In addition, one’s attitude toward diversity includes the degree to which one accepts the increased hiring of minorities.*

De Meuse and Hostager (2001) identified five dimensions (reactions) found in most definitions of cultural diversity. They postulated the five typical responses to workplace diversity as follows (De Meuse & Hostager, 2001, p. 37):

> *1. Emotional reactions:* initial, visceral responses to workplace diversity; an individual’s “gut feeling” about diversity in general

2. Judgments: an individual's beliefs about diversity in principle (for example, whether diversity is good or bad)

3. Behavioural reactions: what an individual intends to do in response to diversity - planned verbal and nonverbal actions

4. Personal Consequences: perceived outcomes for individuals; a person's views on how diversity affects him or her

5. Organisational outcomes: perceived outcomes for the organisation; a person's views on how diversity affects the company as a whole

Rentsch, et al. (1995) suggested that an individual's cultural diversity beliefs are bound to influence the person's attitude towards cultural diversity. Awareness of differences among workers (e.g. sex, age, gender, lifestyle and socioeconomic status) shape cultural diversity beliefs (Rentsch et al., 1995). Valuing cultural diversity is expected to result in a harmonious and creative organisational culture. "Valuing cultural diversity refers to an awareness, respect and valuing of differences among individuals" (Rentsch et al., 1995, p. 2).

All three aforementioned definitions of the attitude towards cultural diversity were formulated with respect to cultural diversity in the workplace. The attitude towards cultural diversity has, however, been researched in numerous other settings including the teaching and educational environment, the legal environment and in political spheres. In the subsequent section some measures of the attitude towards cultural diversity will be discussed.

2.1.2.2 Measurement of the cultural diversity construct

The establishment of conceptual clarity is followed by opererationalising the constitutive definitions formulated to define the construct under consideration. The nomological meaning(s) of focal constructs can only be established empirically once operational definitions that reflect the constitutive nature of the constructs under consideration have been formulated and tested. In team diversity research there is no widely used or accepted measurement, mainly due to a lack of constitutive agreement regarding diversity to begin with. Researchers generally assess diversity attributes by using the measures that fit their theoretical argument best. As a result, a tremendous variety of indices and instruments have been developed to measure some aspect of diversity. Table 2.1 contains some of the most recent instruments that have been developed to measure the construct.

Some of the statistical techniques that are often used include the Coefficient of Variation (CV), Gini Index, Standard Deviation (SD), Blau's Index, Teachman/ Shannon/ Entropy index, Euclidean Distance and Within-Group agreement.

Table 2.1 Variety of investigations including the diversity construct

	Source	Diversity Variables and indexes used	Outcome (social)	Outcome (task)
Demographic diversity	Harrison et al. (1998)	Age (CV), gender (Blau), ethnicity (Blau)	Social integration	
	Earley & Mosakowski (2000)	Nationality (trichotomous categorization)	satisfaction	Project performance
	Jehn et al. (1999)	Social category diversity (aggregate of sex and gender diversity via Teachman/entropy index)	Conflict and morale	Task performance
	Pelled et al. (1999)	Age (CV), tenure (CV), gender (Teachman) and race (Teachman)	Emotional Conflict	
Psychological Diversity	Harrison et al. (2002)	Conscientiousness (SD), task meaningfulness (SD) and outcome importance (SD)	Social Integration	
	Barrick et al. (1998)	Personality (Variance)	Cohesiveness and viability	
	Jehn et al. (1997)	Values (coefficient alpha of organisational culture profile, treating members as items)	Task and relationship conflict	
	Barsade et al. (2002)	Affectivity (SD)	Task and relationship conflict and cooperativeness	Task performance
	Neuamn et al. (1999)	Personality (Variance)		Task performance
	Montei et al. (1996)	Attitude towards diversity	Attitudes towards (a) coworkers, (b) supervisors and (c) hiring and promotion decisions	
	De Meuse & Hostager (2001).	Reaction towards diversity (e.g. judgments and emotional reactions)	Behavioural reactions Personal consequences	Organisational outcomes
	Rentsch et al. (1995)	Cultural diversity beliefs	Valuing individual differences Affirmative action	Cultural diversity as a competitive advantage

(Adapted from Harrison & Sin, 2006, p. 201).

With the recent upsurge of psychological variables being included in diversity theories, analysis techniques that have predominantly been associated with the measurement of clinical and social psychological perspectives are increasingly finding their way into diversity literature. Researchers interested in team demographic diversity will assess team member's attributes such as gender, age and ethnicity, whilst researchers who study psychological diversity (deep level diversity) might derive a team-level measure based on each team member's attitudes (Harrison, Price & Bell, 1998), values (Barsade, Ward, Turner & Sonnenfeld, 2002) or personality (Barrick, Steward, Neubert & Mount, 1998).

The investigation of diversity on a psychological level (e.g. a values and attitudes level) has obvious advantages compared to predominantly demographic-driven diversity investigations, although the operationalisation of deep-seated psychological constructs is much more complex and cumbersome. For this reason, it is important to choose a measuring instrument that is psychometrically sound and theoretically analogous to the main propositions of the envisioned study. After conducting a thorough literature review of cultural diversity instruments; the **Attitude Towards Diversity Scale (ATDS)** (Montei, Adams & Eggers, 1996), **Reaction to Diversity (R-T-D) Inventory** (De Meuse & Hostager, 2001) and **Cultural Diversity Beliefs Scale (CDBS)** (Rentch et al., 1995) were considered for the current study to measure the diversity construct. Eventually the CDBS was chosen to operationalise the attitude towards cultural diversity construct due to its superior psychometric properties and conceptual relevance to the substantive research hypothesis that underlies the current study. A brief description of each instrument is presented below, followed by a full discussion of the CDBS in Chapter 3.

As suggested by its name, **the Attitude Towards Diversity Scale (ATDS)** was developed to measure the attitude towards diversity (Montei et al., 1996). Ten items load on each of its three dimensions: attitudes toward diversity with regard to (a) co-workers, (b) supervisors, and (c) hiring and promotion decisions. A sample of 349 full-time employees, including firefighters, police officers, first-line supervisors, technologists, secretarial workers and managers, completed the scale. The dimensionality of the scale was confirmed using LISREL 8 (Jöreskog & Sörbom, 1993). The internal consistency of the instrument was confirmed for all three subscales (Cronbach's Alphas of 0.79 for the Co-worker subscale, 0.81 for the Supervisor subscale and 0.76 for the Hiring subscale). Additional evidence of discriminate validity was provided by correlating the ATDS with the Marlowe-Crowne Social Desirability Subscale. The resulting correlation coefficient was low ($r = -0.09$), indicating that the ATDS was not related to a social desirability response style (Montei et al., 1996).

The Reaction to Diversity (R-T-D) Inventory constitutes a list of one-word items constructed to capture the postulated five-dimensional framework (Emotional reactions, Judgments, Behavioural Reactions, Personal Consequences and Organisational Outcomes) identified during the literature review for the study. Subsequently, the convergent validity of the R-T-D inventory was established by correlating the summary scores for the R-T-D inventory and the Work Diversity Survey (WDS) - an instrument that measures each of the five dimensions proposed by the R-T-D inventory with two positive and two negative items. Both instruments were administered to a sample of university students ($n=110$) from upper-level management courses, 66 members of a medium-sized, unionised, primarily white-collar organisation, and 90 members of a medium-sized, unionised, primarily blue-collar organisation. Sub-score correlation coefficients for the five dimensions ranged from a low of 0.28 to 0.51 at the $p < 0.01$ level (De Meuse & Hostager, 2001). No information is provided about the internal consistency of the items constituting the instrument.

The Cultural Diversity Beliefs Scale (CDBS) developed by Rentsch, Turban, Hissong and Marrs (1995) was used in this study to measure three dimensions of the attitude towards cultural diversity. The three dimensions constituting the scale are (a) valuing individual differences (VID), (b) Affirmative Action (AA) and (c) Competitive Advantage (CA).

Rentsch et al. (1995) developed the **CDBS** to tap into these three cultural diversity dimensions. The initial scale consisted of 23 items which were administered to two samples of university students. Items were rated on a 7-point scale ranging from 1(strongly agree) to 7 (strongly disagree).

Reliability and dimensionality analysis were conducted on the data. Reliability analysis indicated that two of the items did not contribute to the internal consistency of the *competitive advantage* (CA) scale and these items were subsequently dropped. The internal consistency of all three subscales was significant and within acceptable ranges in both samples. Reported Cronbach's alphas were as follows for the training and testing sub-samples: VID (0.83 and 0.86), AA (0.72 and 0.63) and CA (0.82 and 0.77) (Rentsch et al., 1995).

Principal components factor analyses with varimax rotations were applied in examining the dimensionality of the scales. Initially, five factors had eigenvalues above 1.00. After evaluating the conceptual merit of the generated five factors, it was decided that a three- factor structure seemed more accurate in reflecting the structure of the **CDBS**. An additional six of the original 23 items were dropped, either because they loaded on more than one factor or because they did not load sufficiently on any factor (minimum loading set at 0.40 level). Factor analysis of the data indicated that *Valuing Individual Differences* accounted for 19% and 14% of the variance in the items in samples 1 and 2; *Affirmative Action* explained 16% and 12% of the variance in the items in samples 1 and 2; while *Competitive Advantage* accounted for 15% and 18% of the variance in samples 1 and 2 respectively.

2.1.2.3 Conceptual and methodological inconsistencies in Cultural diversity research.

The burgeoning interest in diversity - in both the applied and the research settings - necessitates the revision of particular theories and methods of inquiry used to conceptually define and operationalise the construct. Given the high priority assigned to diversity issues in the South African context, it is ironic that a similar degree of urgency has not permeated into the research arena, especially in the development of comprehensive theoretical models and subsequent methodologies to analyse the formulated assumptions on which the field of interest is built. Important methodological questions are being raised about the soundness of the theoretical underpinnings of the construct as well as the methodological approaches utilised to measure it. Due to the lack of theoretical consensus, the permissibility of diversity initiatives has come under increasing scrutiny. Inevitably, methodological consideration should be guided and informed by the appropriate theory and not the other way around (Cassell & Johnson, 2003).

From the plea for prudence in the formulation of the constitutive basis for diversity surfaces another methodological consideration that has implications for our understanding of the construct, namely the dimensionality of the construct. Presume for a moment that one could create a 'total demographic index' reflecting all possible differences among team members on all possible variables assessed and aggregated into an overall composite score for diversity. Such an aggregation would be psychometrically and statistically imprudent at best, but if it were possible, the underlying logic (at least from a statistical point of view) would assume positive correlations between constituent elements reflecting a higher order variable (Harrison, 2002). The implication of such a composite would be that all the different diversity dimensions (e.g. age, gender and ethnicity) would be related to one another and greater differences along one dimension would reflect relatively greater differences along others.

However, attractive as such a dimensional structure might seem, there is no sound theoretical conceptual basis to expect different subdimensions of diversity to be correlated. For example, why should there be more men in one ethnic group than another? The assumptions were confirmed in a studies conducted by Chatman and Flynn (2001) in which correlations between participants' race, citizenship and gender ranged meagrely from -0,19 to 0,12 and -0,05 to 0,15 in both study 1 and study 2 respectively. The lack of empirical evidence when examining diversity as a construct may be due to the overtly broad definitions adopted by researchers. More meaningful results can be attained when diversity is defined more narrowly, for example: educational diversity, ethnic diversity, gender diversity and the like, rather than viewing diversity as an umbrella term encompassing all subdivisions of diversity coherently (Harrison & Sin, 2006). Greater differentiation between diversity subdivisions will allow the researcher to derive more direct hypotheses concerning diversity constructs and related variables of interest which, in turn, should lead to better correlations between constructs. To a large extent, the poor research results attained in the past are partly due to researchers defining the diversity construct in an overtly broad fashion, making it difficult to observe the linkage between the independent variable (e.g. values) and specific dimensions of the diversity construct.

In addition, diversity is being dimensionalised according to more abstract constructs, rather than the traditionally emphasised tangible diversity dimensions (e.g. gender, race, ethnicity, etc.) (Harrison, 2002; Jackson, May & Whitney, 1995; Milliken & Martins, 1996). In the literature, a greater distinction is made nowadays between what are referred to as 'surface' vs 'deep' diversity levels which may alternatively be understood as 'demographic' vs "psychological' variables (Jackson, May & Whitney, 1995). Finally, diversity studies are moving beyond mere reliance on demographic variables. From a conceptual point of view, it makes sense to describe and predict diversity as a complex social phenomenon through the building of theoretical models that appreciate this complexity by integrating psychological variables into existing diversity taxonomies (Neumann, Wagner & Christiansen, 1999). Berdahl and Arrow (as cited in Harrison & Sin, 2006) categorised team diversity variables into three sets: (1) personality, demographics and traits (PDT), (2) values, beliefs and attitudes (VBA) and (3) knowledge, skills and abilities (KSA). Formulating higher-level distinctions for the diversity construct has the potential to be specifically meaningful, especially if the categories prove to be statistically convincing. The development of a compelling factorial structure for diversity - complete with first-order and second-order factor structures - has the potential to unite the diversity field by providing a constitutive basis from which to pioneer diversity-related research. Like any field of scientific study, research on diversity needs a generally agreed-upon model of its subject matter. The implication of a general model is that researchers can then study specific domains of diversity, rather than endless individual demographic and psychological variables that constitute the diversity construct. For example, the emergence of the five-factor model for personality has revolutionised the field of personality and, to a large extent, has provided theorists with a basic premise of constitutive consensus from which to study the phenomenon (Pervin, Cervone & John, 2005). Whether one agrees with the quantitative techniques (predominantly factor analysis) used to arrive at the factorial structures for most abstract concepts - such as personality and diversity - will always remain a topic of debate; however, what remains indisputably important is the scientific cry for a parsimonious agreed-upon structure, at least from a positivistic epistemological point of view.

2.1.3 Conclusion

While it remains true that sufficient consensus regarding the constitutive meaning of diversity and the relevant techniques utilised to measure it have not been reached among scholars yet, considerable progress has been made in understanding the construct through supplementing simple demographic variables with complex psychological variables. However, the lack of constitutive clarity remains the Archilles heel of diversity research and it the contention of various scholars that the field can profit significantly if an overarching constitutive definition that has the potential to guide diversity research is adopted. Knowledge about the myriad of statistical techniques and indices as well as their unique properties will prove to be key in any diversity-related research agenda.

In an effort to recognise the multifacitiy and complexity of the construct it is best to adopt a comprehensive definition of the construct. However, it was decided that the definition by Rentsch et al (1995) adequately captures the socio-psychological meaning of the construct and will be applicable in the subsequent sections when reference is made to the attitude towards cultural diversity.

The primary aim of the study was to gain an in-dept understanding of the dynamic forces that shape the attitude towards cultural diversity. Values can be seen as a source of motivation for individual working behaviours and attitudes (Roe & Ester, 1999; Engelbrecht, 2001, 2002; House, Hunges, Javidan, Dorfman & Grupa, 2003). Several studies have examined the linkages between values and various attitudes (Prince-Gibson & Schwartz, 1998; Roe & Ester, 1999; Schwartz, 2005a, 2006), but few have been dedicated exclusively towards examining the role of values in the attitude towards cultural diversity. Nevertheless, sufficient evidence exist that seems to suggest that values might well play a role in the formation for attitudes towards cultural diversity (Allport, 1961; Rokeach, 1973; Aygun, 2002, Schwartz, 2006).

2.2 VALUES

Conceptual and methodological considerations related to the operationalisation of the attitude towards cultural diversity construct will be discussed in the subsequent section.

2.2.1 Introduction and Conceptualisation

According to Triandis, Kurowski and Gelfand (1994), culture is to a community what memory is to an individual. Researchers have extensively examined the concept of culture through values (Singelis, Hubbard, Her & An, 2003). Collectively socialised values form the foundation of cultures and dictate in part how one culture perceives and reacts to other cultures. Values - core concepts across all social sciences - are often used as the main dependent variables in the study of society, culture and personality (Rokeach, 1973). Therefore it makes sense to examine cultural differences from the values perspective.

However, there exists a lack of consensus regarding the conceptualisation and measurements of the value construct (Hitlin & Piliavin, 2004). Given the widely attested significance of values in the study of sociological phenomena, it is surprising that there is almost a complete lack of empirical research on the role of values in relevant social theory (Hitlin & Piliavin, 2004). Values nevertheless remain central in the study of most social topics and recent refinements in the conceptualisation and measurement of values have allowed research to gain a better-than-before conceptual grip on this elusive concept.

2.2.1.1 Evolution of the value construct

The importance of values is underscored by the multidisciplinary interest in the construct. Modern-day social psychologists, anthropologists, political scientists and sociologists endorse the importance of values by utilising them as either dependent or independent constructs in a myriad of studies, linking the construct to an even more diverse set of variables including intentions, attitudes, interests and behaviours. Whereas cross-disciplinary use of constructs is preferable, the lack of definitional synthesis resulting from conceptual imprudence in the conceptualisation of the construct in diverse settings has undermined the potential of using values as a common denominator in order to compare and integrate research results from a variety of disciplines. As a result, the definitional confusion “has slowed down the advancement of the social sciences rather than further it” (Adler, 1956, p. 279). This still seems to be particularly true today (Harrison & Sin, 2006). Since all phases in the research process are affected by the conceptual formulation of the construct under consideration (at least from a positivistic-epistemological point of view), proposing a definition that captures not only the nature of the concept but also how it relates to other constructs is of critical importance. Therefore some of the most influential and popular theories on values will now be reviewed in order to propose a definition that distinguishes values from other related constructs and, secondly, to propose how values are linked to attitudinal, affective and behavioural decisions.

Gordon Allport (1961, p. 543), one of the first authors to recognise the importance of values as a construct in the social sciences explained values to be the “dominating force in life”. However, he was equally quick to point out that it is one of the most neglected topics in the discipline of psychology. In addition, values are often used interchangeably with attitudes, traits, norms and needs, which helps to contribute to the conceptual confusion.

Values differ from other personal attributes or concepts in several distinct ways. Firstly, values transcend specific actions and situations. Values are distinguished from narrower concepts like norms and attitudes, which usually refer to specific situations and actions (Schwartz, 1992). Values are more general in nature than attitudes which are regarded as people’s beliefs about specific objects or situations (Hollander, 1971). Another difference between attitudes and values is that attitudes can be either positive or negative whereas values are always positive, i.e. in favour of something. Secondly, values follow a priority structure, where certain values take precedence in specific situations. The general consensus is that values occupy a higher position in one’s internal evaluative hierarchy than attitudes and are also more durable than attitudes (Konty & Dunham, 1997).

A further distinction should also be made between values and traits. According to Roccas, Sagive and Knafo (2002), traits should be seen as enduring dispositions whilst values are enduring goals. Epstein (1989) provides an example to explicate the difference between the two constructs by stating that one may have a disposition toward being aggressive (trait) but may not value aggression highly.

Due to the enduring and universal characteristics of values, they have proven to be a key theoretical concept that can be utilised to explicate cross-cultural differences (Hofstede 2001). However, a lack of conceptual consensus has forced numerous researchers to steer well clear of values-related research and thus quite often values (as a social science topic) are found at the fringe of the field (Myers, 1996; Pervin, 1996; Smith & Mackie, 1995). Although voluminous research has been devoted to values-related studies, few researchers have disentangled its role, which is confounded by numerous other individual differences (Sagiv & Schwartz, 2002). Previous research may have failed to explicate significant linkages between values and other constructs, due to an immature understanding of values to start off with. The subsequent section will briefly review some of the most influential value theories in the literature.

2.2.1.2 Definitions

By the 1960s, values were an explicit focus of nearly all the social science disciplines, with the possible exception of economics (Hecter, 1993). Given the recent resurgence of values as a construct in the social sciences, one would expect to find detailed theoretical discussions in which values are analysed, defined and distinguished from other concepts, and related to the broad context of social sciences. Although considerable progress has been made in the establishment of the values construct within the larger psychological and sociological domains, no clear research agenda emerged from these pioneer studies, with the result being that value studies suffered from conceptual and measurement inconsistency. A number of scholars from a wide variety of disciplines have made valuable contributions to the theory and measurement of values including (but not limited to), Gordon Allport (1955, 1961), Clyde Kluckhohn (1951), Norman Feather (1975), Geert Hofstede (1980), Shalom Schwartz (1992) and Milton Rokeach (1973) to name but few (see Table 2.2 for a selection of definitions of values). Definitions and conceptual frameworks proposed by these authors are reviewed briefly in the subsequent section.

Table 2.2: A Selection of prominent definitions of values

Theorist	**Definitions**
Allport (1961, p. 454)	A value is a belief upon which a man acts by preference.
Lewin (1952, p. 41)	Values influence behaviour but do not have the character of a goal (i.e. of a force field). For example, the individual does not try to "reach" the value of fairness, but fairness is "guiding" his behaviour. It is probably correct to say that values determine which types of activity have a positive and which have a negative valence for an individual in a given situation. In other words, values are not force fields but they "induce" force fields.
Kluckhohn (1951, p. 395)	A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable that influences the selection from available modes, means, and ends of actions.
Rokeach (1973, p. 5)	A value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence.
Hofstede (2001, p. 5)	A broad tendency to prefer certain states of affairs over others.

Feather (1996, p. 222)	I regard values as beliefs about desirable or undesirable ways of behaving or about the desirability or otherwise of general goals.
Schwartz (1994, p. 21)	I define values as desirable transsituational goals, varying in importance, that serve as guiding principles in the life of a personal or other social entity.
Schwartz (1996, p. 24)	I define values as conceptions of the desirable that guide the way social actors (e.g., organisational leaders, policy-makers, individual persons) select actions, evaluate people and events, and explain their actions and evaluations.

Gordon Allport (1961, p. 543), one of the first psychologists to recognise the potential of values as constructs to integrate seemingly diverse social scientific research agendas, regarded values as "the dominating force in life." Although regarded as common knowledge in the value related literature today, Allport (1961, p. 544) was one of the first scholars who worked on values to stress the cognitive component of values by defining value systems as "schemata of comprehensibility". He berated psychologists for failing to grasp the importance of values in understanding and predicting people's attitudes and behaviour (Allport, 1955).

The anthropologist Clyde Kluckhohn (1951, p. 400), in an attempt to answer his own question "Why are there values?", verified the importance of values by stating that "because without value systems individuals could not get what they want and need from other individuals in personal and emotional terms, nor could they feel within themselves the requisite measure of order and unified purpose." Kluckhohn (1951, p. 395), in an effort to reduce the conceptual ambiguity surrounding values research, formulated one of the most comprehensive definitions of the value construct by stating, "A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable, which influences the selection from available modes, means, and ends of action". The functionalist, deterministic view of Kluckhohn (1951) argues that values have the potential for both action and reward, i.e. values are cultural imperatives that lead to certain actions.

Rokeach (1973), who made important theoretical and empirical contributions to values literature, stressed the importance of the valuing process - i.e. values as giving meaning to action - rather than values affecting actions in and by themselves. Rokeach (1973, p. 5) defined values as "enduring beliefs that a specific mode of conduct is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence''. Values are defined by Rokeach (1973) as beliefs about the desirable. These beliefs, like all other types of beliefs, have cognitive, affective and behavioural components (Feather, 1975). "A value (or belief about the desirable), therefore, involves some *knowledge* about the means or ends considered to be desirable; it involves some degree of *affect* or feeling, because values are not neutral but are held with personal feeling and generate affect when challenged; and it involves a *behavioural* component, because a value that is activated may lead to action" (Feather, 1975, p. 5).

Furthermore Rokeach (1973) made a distinction between values referring to modes of conduct (i.e. means) and end-states (i.e. ends). Values referring to modes of conduct - called *instrumental* values - represent concepts such as honesty, courage and responsibility. End-state values - *terminal values* - encompass concepts such as equality, freedom and inner harmony (Rokeach, 1973). Rokeach (1973) emphasised the role of values in dictating which alternatives, whether it be a mode of conduct or end-state of existence, are desirable. Ultimately what the person conceives to be desirable may apply either to himself or to others, or to both himself and others.

Geert Hofstede (2001, p. 5) offers a simplified version of both Kluckhohn's (1951) and Rokeach's (1973) definitions by stating values to be "a broad tendency to prefer certain states of affairs over others". Hofstede (2001) argues that, since values are passed down from one generation to the next with a strong cultural influence, they are for the most part non-rational, although people like to believe the contrary. Whereas most scholars discussed until now were only interested in value dimensions on an individual level, Hofstede (1980) extensively researched values on a cross-cultural level. He initially proposed four dimensions but later listed five dimensions on which national cultures differ. These five dimensions - *power distance*; *uncertainty avoidance*; *individualism*; *masculinity;* and *long-term* versus *short-term orientation* - capture the main problems that most societies have to cope with, but for which solutions differ.

The holding of multiple value systems, sometimes conflicting in nature, causes uncertainty and confusion in social systems, as is the case with seeking simultaneous expression of diverse values such as “freedom” and “equality”.
Schwartz and Bilsky (1987, p. 551) extracted five features common to most definitions of values. They observed that most definitions of values reiterate the following five aspects of the construct: “values are (a) concepts or beliefs, (b) about desirable end states or behaviors, (c) that transcend specific situations, (d) that guide selection or evaluation of behavior and events, and (e) are ordered by relative importance”. Accordingly, Schwartz (1996, p. 2) defined values as “desirable, transsituational goals, varying in importance, that serve as guiding principles in people’s lives”. Schwartz (1996, p. 2) derived ten motivationally distinct values by reasoning that values represent three requirements of human existence: “biological needs, requisites of coordinated social interaction, and demands of group survival and functioning”. *Universalism, benevolence, conformity, tradition, security, power, achievement, hedonism, stimulation* and *self-direction* constitute the ten values of Schwartz’s (1992) value theory.

2.2.1.3. Dominant Theoretical Values Frameworks: Rokeach and Schwartz

Having reviewed some of the most important values theories and in distinguishing the construct from other similar concepts, it is important to examine how values relate to other social constructs. Although Bond, Leung, Au, Tong and Chemonges-Nielson (2004) warn that values should not be confused with concepts such as attitudes, social norms or needs, an attempt should be made to systematically relate values to these concepts, since attempts to predict behaviour solely based on value priorities have yielded unsatisfactory results. Evidently the emphasis should not be on the value priorities *per se*, but rather on the role of values in social and behavioural theory (Roe & Ester, 1999). Therefore, an integrated approach combining beliefs, norms, attitudes and interests with value constructs into a single model would provide insight into the underlying interdependencies and causal relationships that ultimately shape behaviour.

For these reasons it made sense to conduct a more thorough investigation of Rokeach's (1973) value theory, due to its specific emphasis on the linkage between values and attitudes. Mention will also be made of Schwartz's (1992) value theory, which has been used in numerous research projects, boasting considerable cross-cultural validity in the prediction of individual value differences in a wide variety of attitudes, personality variables and behaviours.

Rokeach's (1973) value theory: According to Milton Rokeach (1973, p. 3), values should occupy a central position across social sciences, since it has the potential to "unify the apparently diverse interests of all the sciences concerned with human behavior". Rokeach (1973) reinstated values to its rightful place in the social sciences by linking values to attitudes and behaviour. Rokeach's (1973) values theory is built on five assumptions of human nature: (1) individuals possess a relatively small number of values; (2) all individuals possess the same set of values, although the relative importance they assign to these values differs between individuals; (3) values are organised into coherent value structures; (4) the culture, society or institution in which individuals are reared determines to a large extend which values are important to an individual and which are not; (5) values play a central role in virtually all psychological processes – either as main affect or as an interaction affect. Based on these basic assumptions of the nature of human values, Rokeach (1973) postulated that it is critically important to make a distinction between values which advance desirable modes of conduct (instrumental values) or desirable end-states of existence (terminal values). Values were operationalised as either goals (terminal values) or modes of conduct (instrumental values) in Rokeach's (1973) Value Survey, which has been extensively used worldwide. When filling out the Value Survey, respondents are instructed to arrange a list of 18 terminal and 18 instrumental values "in order of importance to YOU, as guiding principles in YOUR life." (Rokeach, 1973, p. 27). The list of goals typically includes items such as "an exciting life" and "self-respect" (self-esteem), whilst the mode of conduct list includes items such as “Honest (sincere, truthful)” and “broad-minded (open-minded)” (Rokeach, 1973, p. 359-361). Respondents subsequently rank all 18 items on both lists from most important as a guiding principle in their lives to least important.

Although the Value Survey proposes to measure a “comprehensive sample of possible human values”, Braithwaite and Law (1985) maintain that four important omissions from the survey detract from the utility of the instrument. According to Braithwaite and Law (1985), values relating to healthy lifestyle and wellbeing (e.g. exercise and fitness), privacy and personal rights (e.g. dignity and autonomy), “thriftiness” and diligence (e.g. conscientiousness in decision-making and entrepreneurism), hedonism and “carefreeness” (acting spontaneously and without worrying about the consequences) represent important dimensions of individual value systems. Failing to comprehensively incorporate these values will seriously undermine the external validity of any values measure.

Although Rokeach’s Value Survey has probably been the most widely used instrument to measure value priorities, the single biggest critique against the instrument is that there is no coherent theory underlying Rokeach’s value survey (Rohan, 2000). The set of value statements was generated through sheer intuition and no conceptual clarification is presented on how values relate to one another as well as to other external variables (e.g. attitudes, values and needs). Considering the supposition that values are believed to be interrelated (i.e. form a coherent value structure), one could argue that a high standing on a specific value would have consequences for other values. For example it seems improbable that an individual will claim to value stimulation and traditional values simultaneously due to the obvious conflicting intent of the two value dimensions. However, in the absence of a properly formulated underlying theory, it would be difficult, if not impossible to predict how values would relate, firstly with one another, and secondly, with other latent constructs. Understanding the consequences of one value priority on other value priorities surely is critical in understanding patterns of responses that seem unrelated at first. What is of greater importance is to evaluate consistency in response patterns. The significance of response consistency is evident when examining the voluminous arsenal of literature that exists to explain its importance, especially when interpreting research results.

As a result, relating values (or even value dimensions) individually to other latent variables is obviously ill at ease with mainstream theories on values (Schwartz, 2006). In contrast, the formulation of an integrated value structure will enable researchers to treat value systems as coherent structures that could be related to other variables in an organised and integrated manner (Schwartz, 2006). Such an integrated approach would make it possible for researchers to formulate hypotheses that relate full sets of value priorities with any other construct(s) of interest. Schwartz (1992) advanced a comprehensive values theory, incorporating 10 broad value dimensions which are believed to be conceptually robust and universally meaningful. The following section examines Schwartz' (1992) theory more extensively.

Schwartz's typology of values: This theory defines values as desirable, transsituational goals that vary in importance and serve as guiding principles in people's lives (Schwartz, Melech, Lehmann, Burgess, Harris & Owens, 2001). The theory proposes a universal set of 10 distinct value constructs (See Table 2.3). The structural component of the values theory explicates the dynamic relations among the 10 values. The pursuit of any value has consequences that may conflict or may be congruent with the pursuit of other values. For example, the pursuit of power is likely to undermine benevolence values. The conflicts and congruities among all the values yield an integrated structure. The theory proposes two basic higher order dimensions: (1) *Self-Transcendence* (Benevolence and Universalism) versus *Self-enhancement* (Achievement and Power) and (2) *Openness to change* (Self-direction and Stimulation) versus *Conservation* (Security, Conformity and Tradition).

Table 2.3: Explication of the ten value dimensions of Schwartz's universal values theory
POWER: Social status and prestige, control or dominance over people and resources
ACHIEVEMENT: Personal success through demonstrating competence according to social standards
HEDONISM: pleasure and sensuous gratification for oneself
STIMULATION: Excitement, novelty, and challenge in life

SELF-DIRECTION: Independent thought and action-choosing, creating, exploring
UNIVERSALISM: Understanding, appreciation, tolerance and protection for the welfare of all people and for nature
BENEVOLENCE: Prevention and enhancement of the welfare of people with whom one is in frequent personal contact
TRADITION: Respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide the self
CONFORMITY: Restraint of actions, inclination, and impulses likely to upset or harm others and violate social expectations or norms
SECURITY: safety, harmony and stability of society, of relationships, and of self

(Adapted from Schwartz, Melech, Lehman, Burgess, Harris & Owens, 2001, p. 521)

Stating that values are distinctly different from attitudes, traits, norms and needs, the next rational question to ask is "So what does the structure of values look like?" Explication of the factorial structure of any construct is a vital starting point for any researcher who is interested in the correlations between values and other constructs such as attitudes, interests or behaviours. The formulation of a comprehensive value structure will enable researchers to treat individual value systems as coherent structures that could be related to other variables in an organised and integrated manner (Schwartz, 2006). Schwartz (1992, 1994a, b) developed an integral value structure which boasts significant empirical support internationally. The theorised structure encompasses ten value types which are believed to be "a reasonable approximation of the structure of relations among the ten value types in the vast majority of samples" (Schwartz, 1994a, p. 35) (See circular value structure in Figure 2.1)

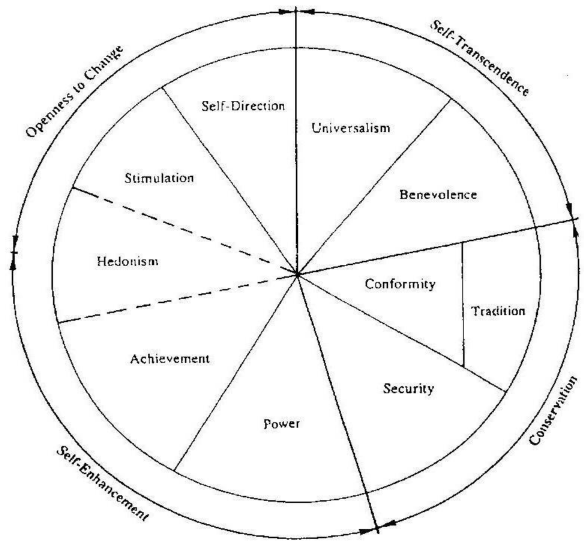


Figure 2.1: Theoretical model of relations among motivational types of values

(Adapted from Prince-Gibson & Schwartz, 1998, p. 54).

Data on the SVS (Schwartz Value Survey) and PVQ (Portrait Values Questionnaire) was gathered out of 233 samples from 68 countries located on every inhabited continent (N=64 271) and lends support to Schwartz's 10-value scheme (Hitlin & Piliavin, 2004; Schwartz, 2004). Support for the 10 value taxonomy is somewhat stronger in western countries than in samples from the Far East, Sub-Saharan Africa and South America (Hitlin & Piliavin, 2004). Although the theory structure is not perfect, considerable evidence has been found worldwide for the proposed structure and attempts to validate the value theory with an alternative method of measurement replicated the 10 values dimensions over 60 countries worldwide (Schwartz, Melech, Burgess, Harris & Owens, 2001). Schwartz (2006) reports that the 10 dimensions of values hold universal validity in over 70 countries worldwide.

According to Schwartz's theory, behaviour is a function of the trade-off between competing values, rather than the individual's standing on any single value (Sagiv & Schwartz (2002). The circular structure of values as proposed by Schwartz (1992, 1994a, b) dictates a continuum of related motivations. The closer any two values are to one another in the schematic representation, the more similar their underlying motivations; the more distant, the more divergent their motivations (Schwartz, 2006). The fact that the 10 values are conceptualised to form a motivational continuum implies that the whole set of ten values relate in an integrated manner to related external variables. For example, if an attitude correlates highly with one value while it displays a distictly low correlation with another, the expected pattern of associations with all other values follows from the circular value structure (Schwartz, 2006). The coherent value structure makes it possible for researchers to theorise about the relationship not only between distinct value dimensions, but also between collections of values that occupy positions of close proximity in the conceptual space. Adopting this approach in theorising culminates in coherent hypotheses which relate full sets of value priorities to any other construct of interest. Since the argument underlying the value structure rests on the notion that certain values are relatively compatible with one another whilst others are fairly incompatible by nature, the circular structure implies a pattern of positive, negative and zero associations with attitudes to cultural diversity.

By examining the conceptual definitions of the ten value dimensions, one is able to formulate hypotheses in anticipation of certain dimension(s) being related to a given attitude more often (or much stronger) than with other value dimensions. According to values theory, people tend to behave in ways that balance their opposing values (Schwartz, 2005b). As a result people (for the most part subconsciously) choose actions according to underlying values of higher priority opposed to lower priority values. Based on the foregoing one can expect the order of positive, negative and neutral associations between the ten values and specific behaviour to follow the order of the values circle. What remains paramount in any investigation of this nature is not the mechanical fixation on one or two values, but rather the ability to explicate a network of relationships between values and the independent variable under consideration. Typically, the correlations will graphically take on the form of a sinusoidal curve (i.e form of mathematical graph that is characterised by a succession of waves or curves) (Schwartz, 2005b).

A wide variety of research studies have used the theory of ten basic values to understand and predict individual differences in a wide variety of attitudes, personality variables and behaviours. The behaviours studied with the use of the values framework included the use of alcohol, condoms and drugs; shoplifting; delinquency; competition; hunting; autocratic, independent and dependent behaviour;

occupation; choice of university major; participation in sport and social contact with out-groups, among many more (Schwartz, 2005b). In the examination of attitudes or personality, results also confirm the sinusoidal pattern reflecting the motivation structure of values. Topics examined with the use of the values framework include job satisfaction, organisational commitment, attitudes towards ethical dilemmas; attitudes toward the environment; sexism; religiosity and trust in institutions (Schwartz, 2005b).

In line with the aforementioned research tradition, Schwartz (2006) examined the associations between the full set of value types and the attitude towards immigration in France by focusing on a sample of 1125 native born residents of France (Schwartz, 2006). The empirical results of this French study will prove to be decisive in the formulation of research propositions in the current investigation due to the inter-group relations approach adopted in both studies. When using the full set of value types rather than single values, the resulting pattern of associations is much more informative and valid, since sets of value items share meaning across individuals and cultures. In contrast, single values are likely to have idiosyncratic meanings (Schwartz, 1996). Conceptualising values as a coherent structure that relates to other variables fits the notion that attitudes and behaviour are guided by trade-offs among relevant competing values (Rokeach, 1973; Schwartz, 1992; Tetlock, 1986). Typically, the set of hypotheses derived from systematic theory building using the value structure will include both positive and negative associations reflecting the competition between relevant values for expression. Postulating sets of associations by using the full value structure facilitates more systematic theorising since the researcher is forced to consider both positive and negative relationships. Even near zero associations are valuable to the extent that they help to form a pattern of proposed associations that can be used to corroborate the coherent pattern of associations with the whole structure of values (Schwartz, 1996).

2.2.2 Methodology considerations in values research

Methodological considerations releted to the measurement of the values construct will be discussed in the subsequent section.

2.2.2.1 Measurement of the Value construct

In Engelbrecht's (2001) literature review of work and life values, the author reported that, among many others, England and Lee (1974), Elizur (1994), Super and Sverko (1995), Chatman (1991), Ronen (1994) and Schwartz (1992) made significant contributions to the scientific study and measurement of values. In addition, Allport (1955, 1961), Hofstede (1980), Feather (1995), Inglehart (1997), Kluckhohn (1951) and Rokeach (1973) have done research on values in a variety of disciplines (including Psychology, Sociology and Anthropology). From a measurement point of view, the psychology of values owes much to recent contributions by Milton Rokeach (1973) and Shalom Schwartz (1992). These two authors made valuable contributions towards the understanding and measurement of values and value systems. A brief description of some of the most important value theories and methods of assessment follows.

England's typology of values: England (1967) developed the Personal Values Questionnaire to measure personal value systems. Personal value systems were defined as the "relatively permanent perceptual framework which shapes and influences the general nature of an individual's behavior." (England & Lee, 1974, p. 412). In his development of the Personal Values Questionnaire, England postulated that the instrument would gauge the individual's values reasonably accurately since responses to a carefully specified set of concepts are rooted in the person's personal value system, which, in turn, is systematically related to behaviour (England & Lee, 1974). A set of concepts believed to be relevant to personal value systems of managers was generated from literature and pilot studies. In the end 66 values were selected through a content validation exercise using Subject Matter Experts (SMEs).
England and Lee (1974) utilised the 66-value framework to investigate the relationship between managerial values and managerial success in a diverse sample of American managers (n=878), Australian managers (n=301), Indian managers (n=500) and Japanese managers (n=312). A reasonably strong relationship between the level of success achieved by managers and their personal values was found (England & Lee, 1974). All the reported correlation coefficients were significant (p>0,001), confirming that value patterns are predictive of managerial success (American

managers $\rho[X,Y]=0.32$, Australian managers $\rho[X,Y]=0.47$, Indian managers $\rho[X,Y]=0.35$ and Japanese managers $\rho[X,Y]=0.26$ (England & Lee, 1974).

Furthermore, Whitely and England (1980) proposed that 12 distinct factors underlie the 66 values. Examples of these factors include social equality (consisting of social welfare, equality and compassion); personal loyalty (consisting of dignity and trust); personal influence (consisting of power and influence); entrepreneurialism (consisting of change and risk); and extrinsic rewards (e.g. money).

Elizur's typology of values: Elizur (1994) defined the content and structure of individual work values using two distinct facets: modality of outcomes (cognitive, affective and instrumental) and system performance contingency (rewards and resources). Using this two-facet classification scheme, five distinct work values categories were identified (Engelbrecht, 2001). Working conditions, benefits, pay and security were categorised as *instrumental.* Opportunity to interact with people, relationship with supervisors and co-workers and recognition were classified as *affective.* Advancement, achievement, job interest, contribution to society, feedback, responsibility, meaningful work and company status were classified as *cognitive.* Finally, recognition, advancement, status and feedback were classified as *rewards*, whilst the remaining values were classified as *resources.*

Elizur (1994) applied his work-values conceptualisation to study the structure of work values for samples of male and female respondents from Hungary, Israel and the Netherlands. Smallest space analysis (SSA) was performed on the ratings on the 24-item work values list. Essentially the same radex structure was obtained for both men and women in all three samples (Elizur, 1994). Although substantial similarity exists in the work value structures between men and women, considerable differences between the ratings of men and women were found.

Work Importance Study (WIS) Value Scale (VS): Multinational research teams developed a 20-scale work value instrument which loads on five dimensions: *Utilitarian orientation* (emphasises expansion of wealth and career progress); *orientation toward self-actualisation* (intrinsic values that are important for self-actualisation and internal growth goals, e.g. advancement of personal skills and abilities); *individualistic orientation* (stresses the importance of an autonomous way of living, e.g. autonomy, creativity and variety); *social orientation* (e.g. social interaction and social relations); and *adventurous orientation* (e.g. risk and physical activity) made up the VS (Super & Sverko, 1995). In most of the individual samples (Australia, Belgium, Canada, Croatia, Israel, Italy, Japan, Poland, Portugal, South Africa and the United States) the 5-factor structure was confirmed. In addition, factor analysis was conducted on the pooled sample (n=18 318) and five factors similar to those found in the individual analyses clearly emerged from the data (Sverko, 1995). The *dimensionality identity* (i.e. whether congruent dimensions are understood similarly between samples) of the instrument was confirmed, proving the WIS Value Survey especially fitting for cross-cultural value measurement (Sverko, 1995). Although no data was presented on the internal consistency of the pooled sample, all individual samples reported modest reliability coefficients as well as meaningful external and internal validity coefficients.

The internal consistency (Cronbach's alpha) and stability (test-retest) coefficients ranged between 0.53 and 0.66 across samples (e.g. year-8 pupils, year-10 students, year-12 students, university students and adults). The reliability coefficients were fairly low, but, while insufficient for individual analyses, the instrument seems reliable enough for its intended use, namely cross-national analyses (Sverko, 1995).
On a scale level the individual country analyses replicated the five-factor structure found in the pooled sample. In the pooled sample, the five factors accounted for about 53,8 % of variance. This finding is in line with individual country analyses (Sverko, 1995).

Chatman's typology of values: Chatman's (1991) model, the Organisational Culture Profile (OCP), consists of 54 items yielding eight value dimensions: attention to detail, innovation and risk taking, team orientation, supportiveness, orientation toward results or outcomes, aggressiveness and competitiveness, decisiveness and emphasis on growth and rewards. The measure is based on the Q-sort profile comparison process (Bem & Funder, 1978). "The Q-sort method is one viable method for developing a simultaneously idiographic and nomothetic instrument to assess values and for determining whether an organization's value system presents a strong or weak situation to individuals." (Chatman, 1989, p. 341). Since the OCP has been developed to assess the degree of Person-Organisation fit, the Q-sort methodology was employed to compare individual and organisational value profiles and in order to determine the fit. Consequently the OCP can be utilised to assess individual and organisational values (Chatman, 1989).

In an effort to establish the reliability and validity of the OCP, 16 M.B.A. students from a large west coast university in the United States were asked to Q-sort the 54 items on two occasions, once in February and then 12 months later, for a second time. Significantly high correlations were reported throughout the year (average r = 0.73). Cronbach's Alphas ranged from 0.84 to 0.90 (Chatman, 1991).

Ronen's typology of values: In an effort to integrate seemingly distinct need and motivational theories, Ronen (1994) utilised values as the common denominator which has the potential to combine motivational and need taxonomies. Need theories, primarily developed in the United States, have shown external validity cross-culturally. Ronen (1994) postulated that work values influence the valence categories of various job characteristics which form universal dimensions that display cross-cultural relevance. The transsituational nature of values can be associated with motivation models, since valences associated with job characteristics are influenced by the motivational intent of values. Stated simply - job characteristics will have valence to the extent that they are instrumental in the attainment of the motivational goal through the expression of certain job values. The importance assigned to job characteristics, orientations or outcomes reflects the importance of work goals through the expression of work values (Elizur, 1984; Quinn & Cobb, 1980).

The assumptions of Ronen's (1994) integrative theory were empirically evaluated using a questionnaire in which employees rated the importance of 14 different aspects of a job. The 14 work values were selected to represent a wide variety of work-related expectations. Employees were asked to rate the 14 values on a five-point scale ranging from "most important" to "very little or no importance" with reference to rated importance in an ideal job (1994).

ALSCAL algorithm, a multivariate analysis technique was employed to analyse the data. *Collectivistic* versus *individualistic* and *materialistic* versus *humanistic* dimensions were found to underlie Ronen's (1994) values theory. Self-actualisation and personal growth values characterise the individualistic-humanistic category, whilst ego and esteem needs characterise the individualistic-materialistic dimension of the theory. These findings lend support to the basic assumption that values underlie the different need motivation taxonomies (Ronen, 1994).

Rokeach's Value Survey: Rokeach's (1973) values theory is built on five assumptions of human nature: (1) individuals possess a relatively small number of values, (2) all individuals possess the same set of values, but the relative importance assigned to these values differs from one individual to another, (3) values are organised into coherent value structures, (4) the culture, society or institution in which individuals are reared to a large extent determines what values are important to the individual and which are not, (5) values play a central role in virtually all psychological processes – either as a main affect or as an interaction affect. Based on these basic assumptions about the nature of human values, Rokeach (1973) postulated that it is critically important to make a distinction between values which advance desirable modes of conduct (instrumental values) and desirable end-states of existence (terminal values). Values are operationalised as either goals (terminal values) or modes of conduct (instrumental values).

The 36-item value survey constitutes two lists of 18 values each, alphabetically arranged according to instrumental and terminal values. Respondents are asked to "arrange them in order of importance to YOU, as guiding principles in YOUR life" (Rokeach, 1973, p. 27). The ranking procedure assumes that values exist in a complex network of interdependencies; thus it is not the absolute presence or absence of a value that is of interest, but rather the relative prioritisation of values within individuals (Rokeach, 1973).

Given the ipsative nature of the ranking procedure (one which generates non-independent data within individuals), one would not expect highly significant intercorrelations between terminal and instrumental values. As predicted, this assumption has been confirmed in a probability sample of 1409 adult American citizens, in which the average intercorrelations among terminal as well as instrumental values was shown to be –0.06 (Rokeach, 1973). The average correlation between terminal and instrumental values was only 0, 01. These results can be interpreted to show a relatively negative relationship between the 36 values of the Value Survey. Nevertheless, on a factorial level, results reveal that the 36 values are not altogether completely independent of one another. Certain values seem to cluster together and form seven distinct factors although no factor accounts for more than eight percent of the variance (Rokeach, 1973). As a matter of fact, all seven factors taken together only account for about 41 % variance (Rokeach, 1973). Out of the dimensionality analyses, Rokeach (1973) conceptualised the seven bipolar factors as: *Immediate vs delayed gratification; competence vs religious morality; self-constriction vs self-expansion; social orientation vs personal orientation; societal vs family security, respect vs love; inner-directed vs other-directed.* Although the seven factors provide meaningful higher order dimensions for the 36 individual value items, Rokeach (1973) maintains that 36 values should not be reduced to a smaller number. Adopting smallest space analyses (Guttman, 1966) as quantitative technique leads to a similar conclusion.

In order to evaluate the stability of the instrument, Rokeach (1973) developed five alternate forms (A, B, C, D, and E) for the value survey. The test-retest reliability of forms A, B and C were modest, ranging from 0.65 to 0.69 for both terminal and instrumental values. Significantly better test-retest reliabilities were reported with form D. (0.53 for seventh graders to 0.70-0.72 for college students). Form E is fundamentally the same as for D but slightly less challenging to complete. In summary it seems that form D of the value survey is the best version that was developed as reliabilities reported with form D are consistently higher than those obtained with other forms, while being more interesting to complete (Rokeach, 1973).

2.2.2.2 Conceptual and Methodological problems

As with numerous psychological constructs, values research suffered severely due to a lack of measurement and conceptual clarity. The widespread use of the values construct resulted in the formulation of numerous (sometimes diverging) conceptualisations (Hitlin & Piliavin. 2004). Boudon (2001), Inglehart (1997), Kohn (1969), Parsons (1951) and Rokeach (1973), for example, have advanced distinctly different conceptualisations of values. Often research on attitudes, beliefs and social axioms are erroneously advanced under the broad banner of values (Hitlin & Piliavin, 2004). The lack of conceptual clarity concerning basic human values, doubts regarding the factorial structure of the construct, as well as the lack of empirically verified measurement techniques used to measure the construct, have resulted in serious questions being raised about the validity of the results and the practical applicability thereof (Schwartz, 2006).

To this end, Schwartz (1992, 1994a, b) envisioned the development of a universally applicable theory of basic human values. Schwartz (1992) - in developing the Schwartz Values Survey (SVS) - borrowed from the theory of values developed by Rokeach (1973). Both Rokeach (1973) and Schwartz (1992) conceptualised values similarly, except for the distinction that Rokeach (1973) made between means (instrumental values) and ends (terminal values) (Hitlin & Piliavin, 2004). For Rokeach (1973) this distinction is key in understanding how values operate, whereas, for Schwartz (1992), the distinction never made a significant contribution towards the understanding of values since values should best be viewed as motivating forces operating for both means and ends (Hitlin & Piliavin, 2004).

Although it would be very imprudent to state that Rokeach (1973) and Schwartz (1992) should be regarded as the leading scholars in values research, it does make sense to stop and consider the work of these two scholars since the theories proposed and advanced by them have proven to be the most meticulously researched, excepting, perhaps, the research done by Hofstede (1980, 2001).

Little doubt exists concerning the statement that Schwartz's theory of human values has achieved universal merit, although questions have been raised with regard to the methodology used to arrive at the circular 10-value structure (Hitlin & Piliavin, 2004). Having said this, it still seems that the SVS with the less abstract upgrade of the PVQ - the so-called Personal Values Questionnaire (PVQ) – remains one of the most reliable instruments when examining cross-cultural value structures.

It is also important to highlight several important differences between the approaches advanced by Rokeach (1973) and Schwartz (1992) in their development of the two questionnaires. One critical difference arises from the ranking procedures utilised in the two instruments. Rokeach's Value Survey (1973) forces respondents to make a decision between conflicting values since he believed that forced ranking is much more realistic in a world of limited resources where people are forced to make difficult decisions. But, due to the lack of empirical support for the ranking procedure, Schwartz (1992) opted for a rating scale. Although the SVS explicitly draws on the work of Rokeach (1973), respondents are asked to rate items in the questionnaire and not to rank them.

Differing from Rokeach (1973), Schwartz (as cited in Hitlin & Piliavin, 2004) offered more conclusive justification for using a rating scale rather than a ranking procedure. These justifications include that longer lists of values can be used, rating scales allow greater statistical analysis and, most importantly, rating scales do not force respondents to choose among equally important values (Hitlin & Piliavin, 2004). Furthermore, Schwartz (1994) argues that people rarely rank one value over another and therefore it makes phenomenological sense to design the questionnaire in such a way that respondents can attach similar weights to values of equal importance in a given situation. The rating procedure adopted by Schwartz (1992) is believed to be more parsimonious with leading inter-group relation theories, especially Ambivalence-amplification models proposed by Katz, Glass and Cohen (1973). In short, the theory proposes that ambivalence stems from the fact that group members can hold both anti- and pro-black attitudes (Katz et al., 1973). Pro-black sentiment is elicited since black is perceived to be disadvantaged by the system but, blacks at the same time, are seen as deviating from the dominant societal values and norms, which elicits hostility and anti-black affect (this theory will be discussed in more detail in the following section).

Nevertheless, Alwin and Krosnick (1985) concluded that the controversial debates concerning the ranking vs rating of values are superfluous; since values are desirable, people may have little inclination to vary responses among ratings on a list of desirable items. Krosnick and Alwin (1988) further reported that, after removing "nondifferentiating respondents from the data, results from ranking data were similar to those of rating data". This evidence can be interpreted as support for the use of either rating or ranking of values, although a ranking method produces an artificial contrast between sets of values. On the other hand, rating long lists of values can be potentially taxing for respondents. In conclusion it seems that there is more support for rating than for ranking in values literature (Hitlin & Piliavin, 2004).

Moving beyond the ranking-rating controversy, Searing (1979) states that the abstractness of values impedes the recall and accessibility of values. Contrary to popular belief, people, in reality, may not always know what their values are (Hechter, 1993). Popular discourse is replete with topics regarding values, but one has to question whether respondents truly understand what values represent due to the abstract nature of the construct. To counter this, the PVQ was developed by Schwartz (2004) which is a less abstract instrument that is more accessible to a wider population of respondents.

Context may also have a significant influence on how people fill out value surveys. Seligman and Katz (1996) found evidence that certain situations can prime certain values. These authors found situation variability in rankings of values such as “freedom” and “wisdom” when respondents were primed for their opinions regarding controversial issues such as abortion (Seligman & Katz, 1996). In an attempt to limit the contextual influence on value responses, Konty (2002) developed a questionnaire that is sensitive to contextual influences.

In conclusion, researchers interested in studying values across life courses, should pay considerable attention to cohort and aging affects (Alwin, Cohen & Newcomb, 1991). Linear longitudinal values research can make a valuable contribution towards a better understanding of the effect aging has on values. More work needs to be done in this respect.

2.2.3 Conclusion

Values exist as core concepts across the social sciences and have the potential to integrate seemingly divergent disciplines. The comprehensiveness of values coupled with the transsituational validity of the variable has led to large-scale multidisciplinary interest in the construct. Unfortunately, the popularity of the construct has caused overuse and abuse. Values are often used interchangeably with concepts such as attitudes, social norms and needs. As a result, values research suffers severely due to a lack of conceptual clarity. Rokeach (1973) and Schwartz (1992) have played an important role in synergising the values field - conceptually, methodologically and empirically. A wide variety of research studies have utilised Rokeach's and Schwartz's value theories and measures to understand and predict relations between values and a myriad psychological constructs including attitudes, personality variables and behaviour. Methodologically speaking, more work needs to be done to refine available measuring instruments. Item bias and restriction of range are commonly regarded as statistical artifacts hindering values research.

2.3 LINKING VALUES AND THE ATTITUDE TOWARDS CULTURAL DIVERSITY

Theory of Value Contents and Structure

The theory of value content and structure (Schwartz & Bilsky, 1987; Schwartz, 1992) was used to develop a set of hypotheses relating the full value structure with the three dimensions constituting the attitude towards cultural diversity. In this section the theory of value content and structure will only be reviewed briefly, as a comprehensive discussion of the theory will be presented in Chapter 3 (also see Schwartz, 1992; 1994; 1996). In this section we apply the theory to the study of attitudes towards cultural diversity by focusing on ethnical and gender value differences.

The theory of value context and structures, refers to human values as desirable goals, varying in importance, which serve as guiding principles in people's lives (Schwartz, 1992; Rokeach, 1973; Kluckhohn, 1951). Values are regarded as cognitive and social representations of important goals which coordinate everyday behaviour (Prince-Gibson & Schwartz, 1998). Schwartz (1992) derived 10 motivationally distinct values from the universal requirements of human existence (see Table 2.3). The content and structure of the 10-value taxonomy have been proven to be comprehensive and robust cross-culturally (Schwartz et al., 2001). "Specific values represent a value dimension if its central goal is promoted when people act in ways that express the value or lead to its attainment." (Sagiv & Schwartz, 1995, p. 438) For example, the pursuit of power is likely to undermine benevolence values. Actions taken in pursuit of any single value have consequences that may conflict or be compatible with the pursuit of other value types. The circular structure (see Figure 2.1) constituting value types and dimensions reflects the network of compatibilities and conflicts between individual value dimensions.

In addition, the theory proposes two basic higher order dimensions: (1) Self-Transcendence (Benevolence and Universalism) versus Self-enhancement (Achievement and Power) and (2) Openness to change (Self-direction and Stimulation) versus Conservation (Security, Conformity and Tradition). Each one of these higher order dimensions combines one or two of the 10 value types which share motivation intent. The rationale behind such a classification is to present an integrative values framework that can be systematically applied during hypotheses formulation. The theory proposes that any outside variable will associate similarly with value types that are adjacent in the value structure since adjacent values reflect similar motivational goals, i.e. they are conceptually related. By implication one would expect values that occupy relatively opposing positions in the value structure to relate paradoxically to any outside variable, since these values are opposed to one another in their motivational intent.

Although researchers often feel inclined to leave out values that are hypothesised to have no relationship with the variable under consideration, Schwartz (1992, 1994, 1996) appeals to scholars to utilise the total value structure during hypothesis formulation. Schwartz (1996) states that the pattern of associations is bound to reflect the change in motivational intent of each value type when being related to outside variables. Consequently, when the whole pattern of associations is predicted, even nonsignificant associations provide meaningful information (Sagiv & Schwartz, 1995).

According to the theory, the relative influence of any value on the attitude towards cultural diversity for different cultural and ethnic groups is determined by the motivational goal that the particular value expresses. Therefore, theorising and hypothesis formulation in this study were guided by two questions: (a) Are the consequences of certain attitudes towards culturally diverse individuals (defined in terms of gender and ethnicity) relevant to the attainment of the motivational goal of that value type? and (b) If the consequences are relevant, will the diversity identity (i.e. gender and ethnicity) of the perceiver promote the attainment of the motivational goal (yielding positive relationship) or block it (yielding a negative correlation) in their expression of attitudes towards in-group/out-group members.

The type of beliefs studied here consists of views about basic personal values relating to members of in-groups and out-groups. Since values are regarded as types of beliefs, i.e. broad beliefs about desirable goals, the construct seems particularly fitting to study and understand inter-group attitudes. After examining the substantive meaning of the three dimensions constituting the attitude towards cultural diversity (as proposed by Rentsch et al. (1995) - Valuing Individual Differences (VID), Tolerance for Affirmative Action (AA) and Cultural Diversity as a source of competitive advantage (CA) – it was argued the influence of values on these dimensions are qualified by which race and gender one belongs to. Stated more simply, the relationship between values and the attitude towards cultural diversity is dependent on one's race and gender.

The assumption being that attitudes towards cultural diversity are the result of a cognitive appraisal process whereby every respondent evaluates (mostly subconsciously) the consequences (psychological, practical, social) of expressing a certain attitude for the attainment of the motivational goal of each value type given his/ her gender and race.

Values can be derived from the goals individuals strive most to achieve, often expressed through attitudinal and behavioural valences. Furthermore, it is believed that the VID subscale underlies the attitude towards cultural diversity. Stated differently, it is unlikely that someone will endorse affirmative action initiatives or the idea that cultural diversity can lead to a competitive advantage in the work place, if that person does not deeply value cultural diversity to begin with. For this reason, it is hypothesised that the relationship between values, AA and CA are mediated by VID.

Historically, inter-group theoretical perspectives dominated diversity studies, but more recently the cognitive theories of modern social psychology, including Social Identity Theory (Tajfel, 1981, 1982), Social Categorization Theory (Turner, 1987), Social Attribution Theory (Hewstone & Jaspars, 1984; Kelley & Michela, 1980), Status Characteristic Theory (Berger, 1977), Post-Colonial Theory (Gandhi, 1998), Critical Feminist Theory (Fee, 1981), and neo-evolutionary perspectives (Malson & Turner, 1999), have gained popularity and are increasingly being used in the process of hypothesis formulation. Inter-group relations theories emphasise the dynamic relationships and interactions between members of two or more distinct groups with special emphasis on inter-group discrimination and prejudice (Proudford & Nkomo, 2006). On the other hand, the phenomenological approach of the cognitive theories, especially Social Identity Theory (Tajfel, 1981, 1982) and Social Categorization Theory (Turner, 1987), postulate that individuals are dependent on the social groups of which they are members for the expression and reinforcement of their social identities (Tafjel, 1981). In light of the foregoing discussion it is believed that the meaning of cultural diversity beliefs - or VID, AA and CA - are different for both dominant and minority groups, as well as for males and females. As a result, we can expect different value associations between groups (gender and ethnicity).

Beliefs about the value hierarchy of out-group members reveal the perceiver's view of the fundamental nature of the members of that group (Schwartz, Struch & Bilsky, 1990).

Ethnicity and gender are commonly associated with social status and power differences that may influence males' and females' value-relevant experiences differently (Prince-Gibson & Schwartz, 1998).

The influence of values on inter-group attitudes and social contact is dependent on whether an individual is a member of the dominant or the minority group in society (Sagiv & Schwartz, 1995). Formulating hypotheses in terms of dominant-minority group dynamics is more informative and parsimonious with leading inter-group theories, since one is forced to examine culture-relative concepts (e.g. attitudes, interest, beliefs and values) from both the minority as well as the majority group perspective. The inter-group approach towards studying social psychological phenomena acts as an antidote towards overgeneralisation in theorising, a mistake commonly made when examining social tendencies, and theorising exclusively from the dominant group perspective.

Hofman (1982) suggests that the factors which influence readiness for out-group contact differ for members of dominant versus minority groups. As a result it is possible that the role of values in the formation of attitude towards cultural diversity may depend on whether an individual is a member of the dominant group or of a minority group in society. Smith (1983) states that “minority” and “majority” categorisation are closely linked with concepts such as race and ethnicity , but are not identical in meaning. Wirth (as cited in Smith, 1983) defines a minority group as “a group of people, who, because of physical or cultural characteristics are singled out from others in the society in which they live for differential and unequal treatment, and who therefore regard themselves as objects of collective discrimination”.

Therefore, in the context of the current study (i.e. the world of work), white males are regarded as the dominant group in South Africa whilst the so-called “previously disadvantaged” members of society, non-Caucasian and female, are regarded as minorities, although they represent the majority of the population. South Africa is currently going through a transitional period that is certainly changing the inter-group dynamics as a result of societal power shifts among the different cultural groups. For the first time, the rights of all South Africans are guaranteed in the new constitution. Furthermore, various acts are introduced to speed along the diversification of the workplace. These initiatives can be construed as disempowering the whites while empowering the blacks (Booysen, 2001).

However, even though whites do not have exclusive power anymore, one would also have to agree that they remain the most powerful cultural group in the South African society - at least in the private sector of the economy and at middle, top and executive managerial levels. Results from the Commission for Employment Equity (Commission for Employment Equity, 2007) support this contention. Black representation at top- and executive managerial levels has increased meagrely by about 1.6 % and 1.4 % respectively over the last six years. At both of these levels black representation has not yet surpassed the 30 % mark. Black representation at the

Professionally Qualified and Middle Management levels has actually regressed from 44.1 to 36.5 %. This evidence seems to suggest that whites and white males, in particular, should still be regarded as the dominant group in the private sector of the economy. The situation might look different in the public sector of the economy where government has had more direct control over corporate governance.

To avoid confusion, all non-whites and women will still be referred to as the minority group(s) whilst white males will be regarded as the majority (dominant) group. In the current study "minority" and "majority" classification refers to socio-economic status (previously disadvantaged) rather than a demographic variable.

During the process of generating hypotheses, the consequences of the different interpretations of diversity (believed to be guided by values) for members of both the white and non-white groups, as well as for males and females, in the attainment of the motivational goals for individual value types were considered. The proposition that values play an important role in the formulation of in-group-out-group beliefs was examined from various theoretical perspectives (e.g. social identity theory, status characteristic theory, value ambivalence theory) with an eye towards understanding the dynamic role that values play in the formulation of inter-group attitudes. Stated more generally, the aim of the study was to make a contribution towards understanding (by formulating explicit operationalisable hypotheses) the role that ingrained beliefs about the basic values of group membership play in the formulation of inter-group attitudes and behaviours. The theoretical approach seemed especially fitting for examining the relations between members of any set of groups in conflict involving a number of dimensions, for example, homosexuality, racial prejudice, obesity and women's rights (Schwartz, 2004, 2006; Schwartz & Struch, 1989). Although the current study only envisaged the examination of attitudinal relations among groups by focusing on value concerns with regard to race and gender, beliefs related to numerous other diversity-related topics can be examined using the same inter-group relations approach.

Yet, it is not the intention of the study to review all theories that adopt an inter-group approach, nor to set up these theories as competing perspectives in an effort to determine which theory is 'best', but rather, to point towards the validity of each theory in explicating differences in inter-group attitudes and beliefs by adopting values as the main independent variable. What has been found is that the majority of the inter-group theoretical perspectives researched are largely compatible, rather than contradictory as was initially believed. Finally, the structure and content of the value theory will be used in conjunction with some of the most dominant theories in order to formulate a set of research hypotheses explicating the systematic relations between inter-group attitudes by utilising values as the main independent variable.

2.3.1 ETHNICITY

Much debate has taken place over the concepts of race and ethnicity. Although race and ethnicity scholastically refer to different phenomena, the terms are often (wrongfully) used interchangeably. The concept of race originated in the early eighteenth century when scholars studying natural history set about describing and classifying specimens and used the word race in recording differences among humans on the basis of skin colour (Banton, 1998). Since race is a socially constructed concept, i.e. just a label, any other word could have been used to designate a group of people. This means that the concept of race has no analytical value (Banton, 1998). Furthermore, Montagu (1997) and Banton (1998) have argued that differences between people can be captured in the absence of concepts such as race. Montagu (1997) states that, since race does not correspond to any biological referent, racial categories are so arbitrary as to be meaningless.

The non-biological basis of race has shifted interest towards the concept of ethnicity, which is believed to be a broader concept, distinct from race (Jenkins, 1997). According to the work of Jenkins (1997), race is an allotrope of ethnicity, but conceptually slightly different. One notable difference is that ethnicity is ubiquitous while race is not. In addition, biological characteristics are often seen as indicative of a common culture, the English, Scots and Welsh for example, can be described as of a similar race, but are typically viewed as three distinctive cultural groups (Fraser & Burchell, 2001).

Jenkins (1997, p. 13) offered the following conceptualisation of ethnicity:

- Ethnicity is about cultural differentiation;

- Ethnicity is concerned with culture-shared meaning but it is also rooted in, and the outcome of, social interaction;
- Ethnicity is no more fixed than the culture of which it is a component, or the situations in which it is produced and reproduced;
- Ethnicity is both collective and individual, externalised in social interaction and internalised in personal self-identification.

While the conceptual distinctiveness of the concept remains in doubt, what scholars do agree upon is that race and ethnicity are socially constructed concepts (Proudford & Nkomo, 2006). What makes this concept so astonishing is the pervasive effect that race and ethnicity have had in past and present world events. History is littered with accounts of large-scale war and genocide such as in the cases of Rwanda, Serbia and Darfur, not to mention the recent xenophobic attacks in South Africa, all rooted in ethic and racial differences.

While cognisant of the shortcomings generated by the conceptualisations of both race and ethnicity, the current study opts for the concept of ethnicity due to the broader culture-level emphasis placed on the construct.

2.3.1.1 Dominant Theories: Values and Ethnicity

The study of diversity has enjoyed burgeoning interest since the 1990s and there is continuous research in new areas of interest within the field. In the pioneering days of diversity studies emphasis was placed on race as the main focus area within the diversity discourse. As research within the discipline has gained momentum over the last three decades, race came to be combined with other demographic variables such as gender and age. Recent advancements in analytical and statistical methodology has allowed researchers to study multiple diversity-related variables simultaneously, bringing to light important interaction affects that were previously suspected, but impossible to prove.

Although no real integrated workplace diversity research agenda existed in the formative days of the concept, diversity as a field of study has shifted from the traditional affirmative-action focus, which characterised earlier studies, to multi-variable frameworks emphasising developing ownership, learning potential and greater opportunities for advancement. With this shift in direction, scholars were forced to reconsider traditional diversity theories. Harrison, Price and Bell (1998) made a distinction between surface-level (demographic) and deep-level (attitudinal) diversity. They found that variance in group functioning is explained by deep-level variables more than by demographic variables. Based on the foregoing knowledge, it seemed epistemologically prudent to supplement surface-level constructs with deep-level concepts akin to values and attitudes to bolster diversity studies.

Unfortunately, empirical work still suffers from a lack of theoretical focus (Proudford & Nkomo, 2006). As noted in the first part of this section, numerous theories, including Modern Racism, Black Feminist Theory, Critical Race Theory, Postcolonial Theory, Social Categorization Theory, Social Attribution Theory and Status Characteristic Theory show promise, but, fail to acknowledge the pervasive cultural, social and political context within which racial dynamics are enacted. The more traditional inter-group approaches, in general, and Social Identity Theory (Tajfel & Turner, 1979) and Status Characteristic Theory (Berger, 1977), in particular, have emerged as the most fitting theories to elucidate and predict the complex relationships between values and attitudes towards cultural diversity. In addition, a variety of complementary theories have been considered during the theorising stage of the study and mention will be made of their main propositions as it has bearing on the current investigation.

- **Social Identity Theory**

Tajfel and Turner's (1979) Social Identity Theory (SIT) asserts that group categorisation lies at the heart of inter-group relations. Individuals are motivated to derive a positive social identity from their group membership by engaging in cognitive perceptual processes (Schwartz & Struch, 1989). Positive group distinctiveness is achieved when group members differentiate themselves from out-group members according to valued social categories, even in the absence of any conflict between the two groups. The role of the perceiver's personal characteristics in the perception process (i.e. which categories are likely to be more salient, and which stereotypes are most likely to be developed) are very important. Social identification theory dictates that the perceiver makes use of his/her own self-perception (i.e. social identity) as criterion when evaluating others. In effect, people stereotype themselves by attributing to themselves the attitudes, behaviours, values and other attributes they associate with membership in a particular group. This process of seeing oneself as a member of a group is described as self-categorisation (Kalik & Bainbridge, 2006).

Since values are socially shared conceptions of what is good, they serve as standards of what is appropriate to do in certain scenarios (Sagiv & Schwartz, 1995). Furthermore, they serve as bases for judging inter-group attitudes and behaviour, and for justifying prejudicial actions and attitudes (Kristiansen & Zanna, 1994; Rokeach, 1973). In a similar sense, Roe and Ester (1999) view values as latent constructs that refer to the way people evaluate activities or outcomes. Therefore, values generally refer to a relationship between an evaluating subject and an evaluated object, whereby the supposed relationship has implications for the subject's subsequent actions. The perceiver compares features of the target to a vision available in his/her mental warehouse, so to speak. From the perspective of social cognition, the mental image that the individual forms of the target is compared to preconceived stereotypes based on the world as he/she perceives it (Kalik & Bainbridge, 2006). If the individual encounters a novel target and he/she has no previous recollection of a similar target, a new category will be created to guide future judgments.

When an individual perceives other group members to exhibit values different from his/her own or when cherished values are blocked by other groups, inter-group prejudice and even aggression towards that group can be expected. The thesis is that in-group values are used as a yardstick to evaluate out-group members in the process of self-definition. When members of the ethical out-group are evaluated on the basis of in-group values and not on unique cultural significance, perceived differences become sources of misunderstanding which lead to prejudicial evaluation of members belonging to the out-group. If ethnic groups differ with regard to verbal and non-verbal codes of behaviour; I.e. their expression of status, authority, honour, sexual behaviour, and/or their valuation of time, family, labour and religion, these differences will be used by in-group members as stimulus inputs in the formulation of out-group stereotypes. The collective cultural belief that some groups are superior to others evolved from the ethnocentric held stereotypes of out-group membership based on the in-group's values system (Hagendoorn, 1993). Racial stereotypes not only evolve from cultural values but also preserve the cardinal values of the in-group by legitimising power between ethnic groups (Hagendoorn, 1993).

The process by which the protection of group interest is translated into racism and prejudice is much more complex than initially anticipated. Once again, discourse analysis provides valuable insight into the formation of prejudiced perceptions and stereotypes and the interaction of group membership within the social context. Discourse analysis focuses on the interaction between knowledge, power and the "institutions and practices [which] serve as relays for the circulation of those diverse kinds of knowledges (e.g. political, economic, medical, penal, religious and sexual) that constitute and inform a specific culture at a given moment in history" (Proudford & Nkomo, 2006, p. 123).

Historically, the white culture was judged to be paramount to all others and therefore became the yardstick with which other societies' worth was calculated. The social power hegemony resided with the whites who subjugated most other cultures. Whites believed that it was their prerogative and duty to educate and enlighten non-whites about western ways and to "haul them from the clutches of barbarism and ignorance" (L'ange, 2005). This 'liberating role' of whites was often justified on religious and spiritual grounds - a defined responsibility, if you like.

Based on the foregoing information, it is clear that, although racial segregation reached epic levels in the 1960s it is still very prevalent in contemporary South African society. For a number of reasons, including slavery and conquest of territory, the value of blacks had to be devaluated to provide legitimate reasons for whites to *civilize* non-Caucasian cultures. As L'ange (2005, p. 17) points out,

> *Other factors did indeed contribute to the European view of Africans as inferior,* ***factors that have to do with differences in appearance, culture, environment and technology*** <u>***rather than with innate ability.***</u> *But slavery sealed the perception of blacks as lesser beings. Slavery*

required an excuse for its inequity, one most easily found in ethnic differences. To justify slavery, the slave had to be made out to be of a lower order of life.

Consequently, negative behaviours displayed by members of out-groups were perceived by the minority white in-group as manifestations of the collective traits and characteristics of the group (Hagendoorn, 1993). Since these negative behaviours were believed to be the result of stable collective traits found within the group, they formed the basis for the formation of stereotypes. According to *Social Attribution Theory* (Kelley & Michela, 1980), the negative behaviours of others are primarily attributed to inner traits, values and goals, whilst negative behaviour of self is attributed to external sources. This so-called *fundamental attribution error* works the other way around for positive behaviour, where positive out-group behaviour is attributed to external forces and positive in-group behaviour is attributed to innate traits and characteristics (Kelley & Michela, 1980). Such attribution errors lead to the formation of faulty stereotypes about out-group members in South Africa.

Stereotypes not only provide criteria for social categorisation, but also preserve the core values of groups (Hagendoorn, 1993). The stereotypes used to evaluate other groups implicitly assume a comparison of core characteristics and traits between groups. Although the relative weight placed on the different dimensions used in the comparison may differ between groups and therefore influence the subsequent evaluation, what remains true is that each group will satisfy its own need for positive self-evaluation by accentuating the positive characteristics of the in-group whilst emphasising the negative features of the out-group. Depending on the significance of the perceived difference between the key characteristics of the out-group and the in-group, out-groups will be rank ordered on an ethnic hierarchy (Hagendoorn. 1993). As the values of the in-group are used to evaluate members of out-groups, out-groups differing more, or on more dimensions, from the in-group are evaluated more negatively and placed further down in the ethnic hierarchy. The greater the gap in the rank position between the in-group and the out-group, the more it will determine how the in-group will engage with members of the out-group. Shared perceptions of self-worth and group identity govern group member conduct as well as interaction with members of other cultural groups. The underlying assumption is that people *are* *unable to transcend the normative frame of their own value system when forming stereotypes and acting on these stereotypes.*

The notion that values have a direct effect on the formation of perceptions, attitudes and resulting behaviour has been empirically validated in numerous studies, yet several authors challenge the assumed totalitarian role that values play in this process (De Bono, 1987). De Bono (1987) argues that the role of values should best be explained through the process of self-monitoring, whilst Katz's (1981) theory of racial ambivalence predicts that individuals experience psychological tension when they try to express seemingly divergent values. The implications of these theories with regard to values in the context of cultural diversity will be explored below.

- **Racial Ambivalence and Self-monitoring**

Katz's (1981) theory of racial ambivalence postulates that simultaneous feelings of aversion and sympathy are held by the dominant society towards members of the stigmatised group (Katz, 1979). These simultaneous feelings of hostility and compassion towards the out-group create emotional tension on the side of in-group members.

The duality of attitudes towards non-whites in particular (but not limited to) stems from the conflict between two cardinal western values as they are applied to out-group evaluations (Biernat, Vescio, Theno & Crandall, 1996). Similar to American whites, South African whites also embrace seemingly contradictory egalitarian values along with individualistic values which signify the Protestant Work Ethic (Biernat, Vescio, Theno & Crandall, 1996). Whites adhere to egalitarian values stemming from socially valued concepts like equality and justice for all, which invoke pro-black sentiment. On the other hand, the white South African culture - much like its American counterpart – places high regard on values emphasising individualism, diligence and self-determination - values that can be summed up as the Protestant Work Ethic. Anti-black attitudes derive from this value system mainly because whites believe that non-white individuals in general do not assign importance to these values.

Negative back sentiment is still prevalent in the contemporary South African environment due to life-long anti-black socialisation. However, these negative biases are downplayed in normative contexts which have the potential to threaten the egalitarian values of whites.

De Bono (1987) argues that the role of values is best explained through the process of self-monitoring. Low self-monitors are more likely to link their attitudes to their values, whereas high self-monitors are more likely to shift their attitudes to be more in line with situational pressures. This paradox in behaviour between low self-monitors and high self-monitors has important implications for the prediction of attitudes towards cultural diversity when utilising values as the independent variables in the analysis. In this regard Schwartz (2006) furnishes a possible explanation by stating that some values correlate more strongly with their relevant behaviour than others do due to the normative group pressure experienced by individuals in different situations and contexts. The notion of being ‘politically correct’ has socialised individuals to bring their attitudes and behaviour in line with socially accepted axioms. When societal norms dictate that it is inappropriate to act in an aversive fashion towards non-whites, i.e. when the egalitarian self-image is in danger of being tarnished, positive out-group attitudes are likely to occur. However, when a normative structure defining appropriate behaviour is lacking, blacks may be treated aversely.

Based on the foregoing knowledge, one would expect high self-monitors to yield to normative pressure more readily, even though the manifested attitudes and behaviours are in conflict with his/her individualism (Protestant work ethic) values. Strong value orientations might be downplayed by individuals (most likely white males) in the South African environment due to the contemporary social normative pressure placed on them to accept and value individuals from different cultural backgrounds. The theory predicts, however, that only high self-monitors will be able to bring about the expression of their values in line with socially acceptable attitudes rather than the other way round. When forming hypotheses strictly according to this theory, one would expect low self-monitors who strictly adhere to the social norms originating from the apartheid era to be abrasive and insincere towards individuals from other cultural backgrounds, although one has to admit that such dogmatic adherence to cultural values will rarely be expressed in such a manner in the modern-day South

African environment as such behaviour is strongly condemned (socially, politically and juristically) in the contemporary South African society.

Of greater importance is to ask the following two questions: (a) Are the consequences of being "politically correct" linked to the attainment of the motivational goal of a value type? (E.g. power values) and (b) If the consequences are relevant, will socially accepted (albeit concealed) conduct promote the attainment of the motivational goal (yielding a positive correlation) or block it (yielding a negative correlation)?

- **Status Characteristics Theory**

According to Status Characteristics theory (Berger, 1977; Foschi, 1989; Wagner & Berger, 1993), expectations of members of a particular group (low status vs high status) influence how society engages them. For example, a person associated with the high status group is expected to perform better in tasks and activities compared to those who are associated with the poor status group. Essentially the expectation that members of the high status group should perform better than those belonging to the low status group results in powerful subjective societal norms which dictate what behaviour is valued and will be rewarded by society. The continued reinforcement, lack thereof or punishment of social conduct guides behaviour, resulting in a self-fulfilling prophecy where the higher expectations bestowed on the higher status group results in higher performance by group members, due to the positive reinforcement received from such actions. The contrary remains equally true insofar as members of the low status group perform at a lower level relative to members of the high status group, due to the lower expectations they face. Over time these expectations translate into societal norms that dictate what actions are appropriate and culturally justifiable.

Two broad types of characteristics (diffuse and specific) referred to as status characteristics are used to evaluate the value of group membership (Wagner & Berger, 1997). Diffuse status characteristics are relatively stable in nature and normally constitute demographic factors such as gender, ethnicity, etc. Diffuse status characteristics acquire status as people within society come to agree that membership in one specific group is superior to membership in another (Ridgeway & Erickson, 2000). In turn the evaluation of these characteristics becomes linked to cultural beliefs that members of one group are more worthy and valuable than those of another (i.e. stereotyping).

It is no secret that the perception that whites are superior in most, if not all, aspects of social life and culture compared to non-whites formed the backbone of racial segregation worldwide (L'ange, 2005). This is specifically true in South Africa, where, prior to 1994, mere membership of the white society gave members unlimited opportunities which were not always accessible to non-whites.

Specific status characteristics point to characteristics of people relevant to their abilities on specific tasks and activities (Kalik & Bainbridge, 2006). Individual performance is anticipated by critically evaluating each status characteristic relevant to the task at hand. In other words, the underlying process in status characteristics theory dictates the creation of mental schemata – stereotypes - by using status characteristics as main points of criteria (Kalik & Bainbridge, 2006). Therefore, it could be argued that diffuse status characteristics attribute status to an individual as a function of group membership, while specific status characteristics attribute status to an individual as a function of his or her personal skill (Kalik & Bainbridge, 2006). However, diffuse status characteristics (i.e. individual status as a function of group membership) may moderate perceptions about specific status characteristics of individuals based on their status as either dominant or minority group members. In applying Social Attribution Theory (Kelly & Michela, 1980) principles to the current discussion, negative behaviours by others will be attributed to specific status characteristics (e.g. values and inner traits), whilst negative behaviour by self and group members is attributed to external sources. On the contrary, positive behaviours by out-group members will be perceived to be the result of external factors whilst positive behaviours of in-group members are bound to be attributed to specific status characteristics. *Fundamental attribution error* amplifies specific status characteristics for in-group members whilst simultaneously downplaying innate abilities of out-group members. Perceptually speaking, expectations of specific status characteristics guide conduct though reinforcement or punishment, resulting in an on-going cycle of producing and reproducing socially constructed stereotypes.

In the final analysis, what remains true is the fact that deep-seated perceptions of white superiority could have been reinforced over centuries in the subconscious mental schemata of most South Africans, white and non-white. In order to address diversity fruitfully, we should challenge the mega diversity discourse that is built on this age-old prejudiced discourse that may still be prevalent in modern-day South Africa. Not only should the diffuse status characteristics be revaluated, but, more importantly, the specific status characteristics (values, attitudes and beliefs) which are much more enduring and prominent in our formation of perceptions and attitudes towards other cultures. In this sense, the envisioned study would make a valuable contribution towards understanding how surface level diffuse status characteristics - such as gender and ethnicity - are used as inputs in the cognitive process that leads to the formation of perceptions of and attitudes towards cultural diversity. More importantly, specific status characteristics such as values have long been excluded from diversity studies due to methodological difficulties in defining and measuring these abstractions in diversity studies (Harrison & Sin, 2006). However, research has come a long way in explaining how the specific status characteristics as well as the diffuse status characteristics interact to reproduce social axioms which influence attitudes, perceptions and behaviours towards members of diverse cultural backgrounds. To state that diversity theory and methodology have progressed to a level where scholars studying diversity can claim with confidence the main and mediating effects of diversity variables on constructs such as beliefs and attitudes remains as untrue as it did 20 years ago when the field as a research topic was in its formative days. Nonetheless, valuable progress has been made and new-age diversity scholars should build on the pioneering work of the numerous influential authors to further our understanding of this illusive construct. In the next section, empirical results from diversity studies which used values as independent variables will be reported.

2.3.1.2 Empirical results from research on Values and Ethnicity

In this section empirical results from past studies which investigated the relationship between values and constructs akin to acceptance and tolerance of cultural diversity are reviewed. Research results from previous studies were expected to prove to be instrumental in the formulation of accurate research hypotheses in the current investigation.

One of the first studies undertaken to examine racial differences with regard to value priorities was conducted by Rokeach (1973) when he examined readiness for social contact, as well as attitudes towards blacks. Whilst Rokeach (1973) found 13 terminal and instrumental values that revealed significant ethnical differences, he pointed out that differences were due to differences in socioeconomic status rather than race per se. Predictably, the value of *equality* revealed the greatest differences between black and white Americans. Other values that were rated higher by blacks than by whites were *a comfortable life, social recognition, being clean, ambitious* and *obedient*. The only two values that significantly distinguished black Americans from whites were *wisdom* and *equality*. Considering the specific time in American history when the Value Survey was administered, one can understand why the *equality* value revealed the most significant racial differences; Rokeach's Value Survey was conducted in April 1968, during the time of the black social rights movement in America and mere weeks after the assassination of Dr Martin Luther King Jr. The findings suggested that blacks fitted the description of 'prejudiced people' but offered no possible theoretical explanations for the results.

Sagiv and Schwartz (1995) applied the theory of value content and structure to examine the readiness for out-group contact to a sample of Israeli Jews and Israeli Arabs. The idea was to capture value influence on the in-group/out-group dynamic relevant to readiness for out-group contact. Jews can be regarded as the dominant group in Israel whilst Arabs are the minority group. The authors considered the consequences of contact with members of the Arab community for the attainment of expression of the motivational goals of the value types by members of the dominant Jewish group. The whole value structure was used to generate a full set of hypotheses using all ten value dimensions. *Universalism* values were predicted to have the strongest positive associations with readiness for out-group contact whilst *Tradition* values were predicted to yield the strongest negative associations with readiness for out-group contact. With these two value types as anchors, the rest of the value associations for all ten individual dimensions were derived by using the circular value structure. This set of integrated hypotheses can be graphically portrayed as a sinusoidal curve. The shape of the sinusoidal curve reflects the separate analyses of the relation with readiness for out-group contact of each value type.

As hypothesised, readiness for out-group contact was most positive in the case of *universalism* and most negative with *tradition*. The other three associations were in line with the initial hypotheses, with *self-direction* being positive, *conformity* and *security* being negative and *power, achievement* and *hedonism* being close to zero. *Benevolence* and *stimulation* were both positively related to readiness for out-group contact, but not significantly. In conclusion, the expected sinusoidal curve that was initially predicted emerged in the final results and value priorities explained a substantial 39% of the variance (Sagiv & Schwartz, 1995).

In an analogous study Schwartz (2006) used the theory of value structure and content to examine opposition among 1125 native born residents of France to accepting immigrants. Although not explicitly stated, this study also adopted an inter-group approach. The *a priori* hypotheses corresponded to the predictions formulated in the Sagiv and Schwartz (1995) study, although inversely in the current investigation (due to the research question being formulated inversely). The *Security* value correlated most positively with *opposition* (.39) to immigration whilst the *universalism* value correlated most negatively (-.28) (Schwartz, 2006). Natives for whom *self-direction, stimulation* and *hedonism* values were especially important would show less opposition to immigration. Those for whom *security, tradition* and *conformity* values were especially important would oppose immigration more strongly. All predicted correlations were significant (all > 0.15, $p < 0.001$).

2.3.1.3 Hypotheses: Ethnicity

Borrowing from inter-group psychological theories, one would expect social contact with out-group members to have different implications for members of the minority and the dominant groups in society. In the previous section the cultural diversity debate in South Africa was discussed with reference to a number of discourses which follow a progressive time frame. Cultural diversity was discussed on a continuum ranging from assimilation to multiculturalism. This classification has bearing on the current discussion since group members will evaluate the implication of cultural diversity for their respective groups in terms of these diversity discourses. For example, members of dominant groups are likely to view contact with members of a minority group as entailing the acceptance of themselves as full members of their respective societies (i.e. multicultural integration). On the other hand, minority-group members may perceive contact with the dominant culture to entail their integration into the dominant culture or even assimilation. Out-group contact for minorities is guided by balancing two opposing motivations: to enter fully into the larger dominant society versus preserving their unique group heritage and identity (Sagiv & Schwartz, 1995).

Therefore it can be expected that contact with out-group members will have different implications for the motivational intent of each value. For some value types out-group contact will be instrumental to the expression of these values (e.g. benevolence), whilst for other values contact will negate the underlying motivational intent of these values (e.g. power).

Dominant theoretical perspectives as well as previous empirical results were considered during theorising. Hypotheses were generated clockwise around the structural circle (Figure 2.1), starting from Tradition (strongest negative association with attitudes towards cultural diversity) to Universalism (strongest positive association with attitudes towards cultural diversity) (refer to Table 2.4 for a summary of all hypotheses formulated with regard to ethnicity).

Hypotheses were formulated in relation to each of the separate criterion domains (VID, AA, and CA) that comprise the overall attitude towards cultural diversity. Although all three dimensions of the Cultural Diversity Belief scale was developed to measure the overall attitude towards cultural diversity, it was thought best to relate value dimensions individually to each cultural diversity scale. The rationale behind such an approach was based on the premise that, although VID, AA and CA comprise a cultural diversity attitudinal measure, the three subscales can be regarded as unique factors from a dimensionality point of view. Since all three dimensions of the CDBS were developed to tap seemingly divergent dimensions of cultural diversity, stronger associations would be expected when correlating values individually with each subscale.

However, having said that, it was previously argued that VID might mediate the relationship between specific values and AA and CA. The mediating role of VID on the relationship between values and AA and CA is theoretically more fascinating especially when considering the concomitant moderating effect of race on gender on the aforementioned relationship. It makes intuitive sense to argue that one's psychological standing on valuing individual differences has the potential to regulate the intensity of the influence of values on AA as well as CA. Therefore one would expect the effect of values on subscale AA and CA to be mediated by VID.

Value types

Conservation: Social contact with out-group members has motivational implications for the goals of the *tradition*, *conformity* and *security* values. Schwartz (2005) postulated that values at the bottom part of the value structure serve to cope with anxiety in the social and physical world. "People seek to avoid conflict (conformity) and to maintain the current order (tradition, security) or actively to control the threat (power)" (Schwartz, 2005, p. 24).

The relationship between conservation values and tolerance for cultural diversity will present divergent motivational goals for individuals, depending on group membership. For the dominant group, valuing diversity through out-group contact will threaten the traditions and customs of the dominant culture. Social Identity theory predicts that in-group members will strive to achieve positive group distinctiveness when group members differentiate themselves from out-group members on valued social categories (Tajfel & Turner, 1979). The role of the perceiver's personal characteristics in the perception process (i.e. which categories are likely to be more salient, and which stereotypes are most likely to be developed) is very important. To this end, one would expect negative correlations with tradition and conformity values in minority groups as opposed to in dominant groups. Borrowing from Status Characteristics theory, one would expect members of the dominant group to distinguish themselves from minority groups by emphasising diffuse status characteristics (e.g. ethnicity, race, gender).

Although a negative correlation between conservation values and attitudes towards cultural diversity is predicted for both the dominant and the minority groups in South Africa, out-group socialisation processes may be different for minority groups compared to dominant groups. Social contact with members of the dominant culture has two conflicting motivational implications for minority-group members. Integration of minority groups into the dominant culture may undermine and devalue the minority's social order and traditions as minority-group members are reinforced to conform to dominant group processes (i.e. a negative association is assumed). On the other hand, integration into the dominant society could provide stability and security for minority- group members and their relatives (i.e. a positive association is assumed).

On balance, it was expected that minority group members would be more strongly concerned about losing group identity than about assuring safety and security, and for this reason they would foster an overall negative attitude towards cultural diversity when they valued conservation values highly. In light of the foregoing information, it is expected that the correlation between the *tradition* value and the attitude towards cultural diversity will show the strongest negative correlation with regard to both the white and non-white groups. Years of racial segregation in South Africa polarised group members around a common group identity and in the process accentuated the value of culture-specific traditions, customs and norms.

Based on the foregoing discussion, the following hypotheses were formulated with regard to the conservation value:

Hypothesis 1: A significant negative relationship was predicted between **conservation** values and attitude towards cultural diversity with regard to both dominant and minority-group members. More specifically it was expected that conformity and tradition would correlate more negatively with attitude towards cultural diversity than with security values.

Subhypothesis 1a: A negative relationship was expected between the *conformity* value and valuing individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) with regard to both the dominant and the minority group.

Subhypothesis 1b: A negative relationship was expected between the tradition value and valuing individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) with regard to both the dominant and the minority group.

Subhypothesis 1c: A negative relationship was expected between the *security* value and valuing individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) with regard to both the dominant and the minority group.

Openness to change: The motivational goals of openness to change values express the desire to act independently (self-direction) and to seek novel (stimulation) and exciting (hedonism) sensory stimulation. The motivational goals underlying openness to change values stand in direct contrast to values typifying conservation values. Since the motivational intent of the bipolar higher-order dimension contradicts each other, one would expect the correlations with attitudes towards cultural diversity to be opposing as well. Schwartz (2005a) in agreement states that values located on opposite sides of the value structure are conceptually disparate and should relate differently to any outside variable.

In addition, openness to change values present divergent motivational implications for members of the dominant group, compared to members of minority groups. For example, conceptually, the *self-direction* value is motivational for those individuals who cherish independence of thoughts and actions highly. On the other hand, tolerance for cultural diversity implies relinquishing or suppressing some of one's customs, beliefs and behaviours in order to accept individuals that differ from oneself in a number of ways (e.g. race, gender, age, education). For dominant-group members, this sacrifice is expected to be smaller than for minority group members since the latter seek inclusion into the dominant culture. Out-group members may be forced to learn a new language and to conform to out-group norms (Sagiv & Schwartz, 1995). For individuals who attribute high importance to self-direction and independence, giving up autonomy in decision-making and behaviour may be very difficult. Hence, a negative correlation is expected between the self-direction value and valuing of individual differences (VID) as well as diversity as a source of competitive advantage (CA).

On the other hand, a positive correlation is expected between self-direction and the tolerance for affirmative action dimension for members of the minority group. For individuals attributing high importance to the self-direction values, being the master of one's own destiny is very important. Affirmative action in the workplace grants preferential treatment to members of minority groups in South Africa. For minority-group members who value self-direction motivational goals highly, affirmative action can be instrumental in gaining access to opportunities to gratify these needs. Thus, a positive correlation is expected between self-direction and tolerance for affirmative action in the case minority group-members.

A negative relationship is expected between the self-direction value and tolerance for affirmative action in the case of dominant-group members. From the perspective of members of the dominant group, affirmative action entails forfeiting opportunities to attain the motivational goals of the self-direction value. Therefore, one would expect dominant-group members who attribute high importance to the motivational goals of the self-direction value to be opposed to affirmative action, since it inhibits their ability to seek the gratification of cherished goals.

Out-group contact is relevant to the goals of novelty inherent in stimulation and hedonism values (Sagiv & Schwartz, 1995). Hence, positive correlations are expected between attitudes towards cultural diversity and stimulation values. Stronger correlations, however are expected for minority groups, since out-group contact presents greater challenges and complications from a minority point of view (i.e. more stimulation).

Setting aside stimulation values, positive correlations are only expected between hedonism and attitudes towards cultural diversity if out-group contact is perceived to be enjoyable and self-gratifying. Having said that, it is highly unlikely that culturally diverse groups would perceive out-group contact to be enjoyable, save for a small liberal section of the greater South African society. It is difficult to predict the correlation of hedonism and tolerance for cultural diversity, although in general a negative correlation is expected. However, a positive relationship is expected between the *Hedonism* value and tolerance for affirmative action (AA) with regard to the minority group. The affirmative action legislative framework awards some privileges to members pertaining to the previously disadvantaged sections of the South African population which can prove to be instrumental for the gratification of *Hedonism* values. Affirmative action has the ability to advance non-white individuals into institutional power positions which will serve motivation rewards associated with the *Hedonism* value. By implication, a negative relationship is expected between the *Hedonism* value and AA with regard to the dominant group.

The openness to experience dimension may mitigate the categorisation process utilised by in-group members in their quest for positive self-identity, although the observed distinctness of out-group members may in and by itself only serve to amplify already held stereotypical perceptions. What seems more plausible is that individuals who attribute high importance to openness to change values may judge out-group members more on specific status characteristics rather than on diffuse status characteristics. Attributing social worth to out-group members based on diffuse characteristics is bound to deflate prejudiced views of minority groups. However, once again social norms will either support or oppose these perceptions. Considering the university setting utilised in the current investigation, one would expect norms to support cultural diversity.

Hence, based on the foregoing discussion, the following hypotheses were formulated with regard to openness to change values:

Hypothesis 2: Associations between the **openness to change** values and the attitude towards cultural diversity for dominant and minority groups were expected to be mixed. Yet, an overall positive relationship was expected between the openness to change dimensions and the attitude towards cultural diversity with regard to both groups.

Subhypothesis 2a: A negative relationship was expected between the *self-direction* value and valuing individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) with regard to the dominant group.

Subhypothesis 2b: A negative relationship was expected between the *self-direction* value and valuing individual differences (VID) and diversity as a source of competitive advantage (CA) with regard to the minority group.

Subhypothesis 2c: A positive relationship was expected between the *self-direction* value and tolerance for affirmative action (AA) with regard to the minority group.

Subhypothesis 2d: A positive relationship was predicted between the *stimulation* value and attitudes towards cultural diversity (VID, AA, CA), with regard to both the dominant and minority group. More specifically it was expected that the minority group would assign relatively greater value to this value than the dominant group.

Subhypothesis 2e: A negative relationship was predicted between the *hedonism* value and valuing individual differences (VID) and diversity as a source of competitive advantage (CA) with regard to both the dominant and the minority groups.

Subhypothesis 2f: A negative relationship was expected between the *hedonism* value and tolerance for affirmative action (AA) with regard to the dominant group.

Subhypothesis 2g: A positive relationship was expected between the *hedonism* value and tolerance for affirmative action (AA) with regard to the minority group.

Self-enhancement: This dimension expresses the motivational inclination to exert dominance over others (power) and pursue one's own success (achievement). Power and achievement are closely defined concepts; insofar as the motivational goal underlying power is the attainment of status and prestige and to control situations and resources. The achievement value become salient in situations where it serves to express confidence and competence in assuring required resources for individuals to survive and for groups to reach their objectives (Schwartz, 2005a). In most cases power and achievement are interconnected - where some degree of power at least is assumed in manifestations of achievement. Self-esteem is a function of both power and achievement (Schwartz, 2005a). Korman (1974) maintains that power and achievement are best understood in the context of social motives. According to this perspective, power values are transformations of the human need for dominance and control.

From this perspective, out-group contact is much more instrumental for the expression of the power and achievement values for in-group members, compared to out-group members. The high-status position of the dominant group suggests that group members have managed to accrue some form of power and dominance in a particular society. However, for minority-group members with a high regard for power and achievement values, access to the dominant group's power structures is vital for the gratification of power and achievement ideals. Although minority-group members can attempt to pursue economic and academic success within their in-group structures, there are normally few opportunities to do so. As a result, non-whites and women in South Africa are forced to become immersed in the established academic and economic society, which can still be described as being very patriarchal and white dominated.

Contact with, immersion in or even assimilation of minorities into the dominant culture is relevant to the power and achievement values in two opposing directions (Sagiv & Schwartz, 1995). On the one hand, it is necessary to gain access to the major resources of the dominant-group in order to satisfy power and achievement values. On the other hand, important minority-group values can be violated in the process of submitting to the values of the dominant-group in the pursuit of power and achievement of ideals. The strength of the motivation of in-group members to make financial and materialistic inroads will strengthen the ambition to value diversity. If a high degree of value ambivalence is experienced in the pursuit of power and achievement values through out-group contact that may infringe in-group values, the motivation for out-group contact will decrease.

On the balance of evidence it is hypothesised that power and achievement will relate negatively to valuing individual differences for both dominant and minority groups, but will relate positively to diversity as a source of competitive advantage. Associations between power and achievement and the attitude towards cultural diversity are predicted to be mixed. Of the two values that comprise the Self-enhancement second order value factor, the relationship between the power value and the attitude towards cultural diversity is predicted to be the stronger than the relationship between achievement and the attitude towards cultural diversity. Stated differently, it is hypothesised that the value main effect explains more unique variance in the attitude towards cultural diversity than the achievement value main effect.

Based on the foregoing discussion, the following hypotheses were formulated with regard to self-enhancement values:

Hypothesis 3: Associations between **self-enhancement** values and attitudes towards cultural diversity for dominant and minority groups were expected to be mixed. Yet, an overall negative relationship was expected between the self-enhancement dimensions and the attitude towards cultural diversity with regard to both groups.

Subhypothesis 3a: A negative relationship was expected between the *power* values and valuing of individual differences (VID) and tolerance for affirmative action (AA) with regard to the dominant group.

Subhypothesis 3b: A positive relationship was expected between the *power* value and diversity as a source of competitive advantage (CA) with regard to the dominant group.

Subhypothesis 3c: A negative relationship is expected between *power* value and valuing individual differences (VID) with regard to the minority group.

Subhypothesis 3d: A positive relationship was expected between the *power* value and tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) with regard to the minority group.

Subhypothesis 3e: A negative relationship was expected between the *achievement* value and valuing of individual differences (VID) and tolerance for affirmative action (AA) with regard to the dominant group.

Subhypothesis 3f: A positive relationship was expected between the *achievement* value and diversity as a source of competitive advantage (CA) with regard to the dominant group.

Subhypothesis 3g: A negative relationship was expected between the *achievement* value and valuing individual differences (VID) with regard to the minority group.

Subhypothesis 3h: A positive relationship was expected between the *achievement* value and tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) with regard to the minority group.

Self-transcendence: This dimension emphasises the acceptance of others as equals and concern for their welfare (Schwartz, 2005a). *Universalism* and *Benevolence* underlie self-transcendence. Both universalism and benevolence are concerned with the welfare of others. However, the two value dimensions are distinct from one another insofar as universalism is concerned with the understanding, appreciation and tolerance of all people and nature (global focus), whilst benevolence values are more concerned with the wellbeing of those with whom one is in frequent personal contact (i.e. in-group members).

Benevolence values are critical for smooth group functioning and are believed to be derived from the orgasmic need of affiliation (Korman, 1974; Maslow, 1965; Kluckhohn, 1951; Schwartz, 2005a). "Benevolence values emphasize voluntary concern for others' welfare (helpful, honest, forgiving, responsible, loyal, true friendship, mature love) [sense of belonging, meaning in life, a spiritual life]" (Schwartz, 2005a, p. 7). Empirical results suggest that benevolence will have a positive relationship with attitudes towards cultural diversity (Sagiv & Schwartz, 1995). Hence, one would expect positive correlations between benevolence values and the attitude towards cultural diversity with regard to both the dominant and the minority group.

Universalism promotes a society and a world at peace. The global focus of universalism suggests that the motivational goal of this value seeks gratification in attitudes and behaviours directed at individuals and situations typically located outside the realm of the in-group milieu. Stated most simply, individuals who attribute significant importance to universalism values are motivated to act in a tolerant and understanding manner towards nature and member of various out-groups because sustainability and global harmony depend on such actions. The motivational intent of universalism is achieved through actions and attitudes expressing broadmindedness, equality, aesthetic investment, wisdom, spiritual life and protecting the environment. Universalism has consistently been found to correlate significantly with numerous variables that promote harmony (e.g. out-group contact, voting decisions, policy formulation and attitudes toward immigration) (Schwartz, 2005a).
Hence, a positive correlation was expected between Universalism and the attitude towards cultural diversity with regard to both the minority and the dominant group. Universalism is also the single value expected to show the strongest correlation with tolerance for cultural diversity.

Hence, based on the foregoing discussion, the following hypotheses were formulated with regard to self-transcendence values.

Hypothesis 4: Positive associations are expected between self-transcendence and the attitude towards cultural diversity. More specifically it is expected that universalism will correlate more positively with attitudes towards cultural diversity than benevolence values in the case of the dominant and the minority group.

Subhypothesis 4a: A positive relationship was expected between the *benevolence* value and valuing of individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) with regard to both the dominant and the minority group.

Subhypothesis 4b: A positive relationship was expected between the *universalism* value and valuing of individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) with regard to both the dominant and the minority group.

Table 2.4: Propositions regarding the relationship between values and ethnicity

HYPOTHESES (values)	VALUING INDIVIDUAL DIFFERENCES(VID)	TOLERANCE FOR AFFIRMATIVE ACTION(AA)	DIVERSITY AS A SOURCE OF COMPETITIVE ADVANTAGE (CA)	OVERALL ATTITUDE TOWARDS CULTURAL DIVERSITY
DOMINANT GROUP (WHITE)				
Conservation:				NEGATIVE
• Conformity	Negative	Negative	Negative	
• Tradition	Negative	Negative	Negative	
• Security	Negative	Negative	Negative	
Openness to Change:				POSITIVE
• Self-direction	Negative	Negative	Negative	
• Stimulation	Positive	Positive	Positive	
Hedonism:	Negative	Negative	Negative	NEGATIVE
Self-Enhancement:				NEGATIVE
• Achievement	Negative	Negative	Positive	
• Power	Negative	Negative	Positive	
Self-Transcendence:				POSITIVE
• Universalism	Positive	Positive	Positive	
• Benevolence	Positive	Positive	Positive	

MINORITY GROUP (NON-WHITE)				
Conservation:				
• Conformity	Negative	Negative	Negative	**NEGATIVE**
• Tradition	Negative	Negative	Negative	
• security	Negative	Negative	Negative	
Openness to Change:				
• Self-direction	Negative	Positive	Negative	**POSITIVE**
• Stimulation	Positive	Positive	Positive	
Hedonism:	Negative	Positive	Negative	**NEGATIVE**
Self-Enhancement:				
• Achievement	Negative	Positive	Positive	**NEGATIVE**
• Power	Negative	Positive	Positive	
Self-Transcendence:				
• **Universalism**	**Positive**	**Positive**	**Positive**	**POSITIVE**
• **Benevolence**	**Positive**	**Positive**	**Positive**	

2.3.2 GENDER

Similar to studies on race and ethnicity, sex and gender studies have been plagued by conceptual confusion both in everyday usage and in research. Oakly (1972), one of the first scholars to make a distinction between sex and gender, proclaimed *sex* to fundamentally represent a biological concept, whilst *gender* is conceptualised to incorporate a broader cultural impetus. According to this definition, sex refers to the biological distinction between men and women, whereas gender stresses the socio-cultural implication of this distinction and calls attention to the more abstract ideas of masculinity and femininity (Benschop, 2006). Other than the biologically rooted conceptualisations of sex, masculinity and femininity are socially constructed concepts that take on variable and multiple meanings in different social contexts. As with any socially constructed variable, gender has been open to extensive scrutiny and has been contested on numerous premises (Deaux, 1993; Unger & Crawford, 1993). Although the epistemological foundation of gender remains dubious, the social emphasis of gender remains invaluable in the study of power relations between the sexes. Scott (1986, p.94) captures the power-sex dynamism of the construct by stating "gender is a constitutive element of social relationships based on perceived differences between the sexes and gender is a primary way of signifying relationships of power."

Power, gender and politics have always been unavoidably implicated in each other (Malson & Turner, 1999). Feminist perspectives have always sought to dissect the hetero-patriarchally prescribed gender discourses in an effort to explain gender inequalities. Understanding power relations in society is critical in challenging patterns of male domination and female subordination by identifying subtle forms of sex discrimination (Benschop, 2006). Critical Feminism and post-structuralism in particular argue that gender theories and discourses (especially evolutionary theory) should be critically dissected since the *scientific truths* that these theories have been based on are inherently gender biased. Like any other discourse, most gender theories encompass a variety of power effects (Foucault, 1979). In the late 1980s proponents of critical feminism and qausi-feminism argued that gender is much more complex that initially believed and influence relations between women and men in several societal layers that are analytically distinct but in reality are interwoven (Harraway, 1989). Prominent power structures dissect society along a number of lines - one being gender – but, in general, one can also adopt inter-group terminology to describe the social cleft between those with power and those without. Without reasonable doubt, males have been the dominant gender across subcultures in South Africa, especially in the world of work (Booysen, 2001). Women, on the other hand have essentially been subjugated to traditional roles in society, often facing significant normative restraints in the selection and advancement of personal and professional aspirations. Therefore, minority group status can be assigned to women, even in the contemporary South African society where men still dominate most spheres of social life.

As a result, the inter-group approach may be used to study significant culture-based differences between men and women as they are manifested through values. Group membership and notions of inclusivity, being central to inter-group epistemology, is believed to influence the attitudes and behaviour of individuals, depending on group membership (in-group vs. out-group). Based on this distinction, the three dimensions of the CDBS (i.e. VID, AA, CA) are bound to hold different instrumentalities for the attainment of goals related to the expression of values, for in-group and out-group members.

In sum, two broad streams of research seem to dominate the psychological literature on gender; those that postulate that gender differences reflect stable gender differences and those who maintain that there are no clear, consistent gender differences. The former category is dominated by the essentialist school that includes traditional and modern psychoanalytical theories, cultural feminism, feminist standpoint theory, evolutionary theory and role theory. Theories supporting no clear and stable gender differences are dominated by constructionist and interactionalist conceptualisations that maintain that gender is not a trait of individuals but rather the result of individual interaction with the social environment (Prince-Gibson & Schwartz, 1998).

After thoroughly reviewing individual theories within these two broad schools of thought, it was decided to discuss one theory from each perspective. The decision to include theories from both perspectives seems logical for two reasons: firstly, no clear dominant theory has emerged and empirical results remains inconclusive; secondly, theories from both perspectives provide a more balanced and comprehensive understanding of gender and in some cases can even be complementary. In addition, it is believed that the inter-group approach can shed additional light on gender differences.

In the following section an evolutionary and social constructionist view of gender will be discussed.

2.3.2.1 Dominant Theories: Values and Gender

Three prominent theories of ethnicity will be discussed in the subsequent section.

- Evolutionary perspective

Evolutionary psychology believes that males and females will be the same in all domains in which the sexes have faced similar adaptive problems (Buss, 1995). The evolutionary theorist does not deny that there is great variation in social behaviour and that the greater majority of differences can be attributed to the social context in which the individual finds him- or herself. (Kendrick, 1987). However, evolutionary scholars challenge the purely behaviouristic school of thought that posits that social conduct is infinitely malleable and without structure. Evolutionary psychology is built on the notion that, although behaviour is very complex and seemingly incoherent, it is possible to discern some regularities in human behaviour (Kendrick & Trost, 1993). Fundamentally, it remains true that people from diverse social environments display unique behaviour, but they also share some common behavioural patterns with all other human beings. Evolutionary psychology provides an explanatory framework which can be used to understand differences and similarities between the sexes.

Evolutionary psychology postulates that sex differences are due to different adaptation problems faced by males and females over the course of history (Buss, 1995). Historically men and women have always been called upon to make different investments to the fitness of the overall group. For example, men traditionally had to contribute to group wellness through physical prowess (hunting and protection) whilst women typically occupied a more nurturing and submissive role in society. Power values have consistently revealed the greatest differences between the sexes since males had to be dominant, aggressive and competitive in order to acquire the greatest number of females for reproduction, and secondly, to support the females with resourses during pregnancy. The evolutionary pressures faced by males have given high value to power and status and this is still very prevalent in societies where men continue to occupy the vast majority of occupational and political positions of high status (Kendrick & Trost, 1993). Furthermore, men are known to be more aggressive than women and consistently supersede women in committing violent crimes (281 196 men were arrested for murder in the U.S.A. in 1989, compared to 43 215 women) (Kendrick & Trost, 1993).

On the other hand, females generally make a bigger investment in bearing and rearing of offspring. Large differences between males and females occur in the minimum obligatory parental investment. In order to produce a single offspring, mammalian females must carry a fetus for several months whilst all her nutritional intake is subsidised for the whole period of pregnancy. Following birth, the offspring must be fed and cared for even after the newborns are weaned. As can be seen, the minimum female parental investment is quite extensive. Males on the other hand could father a child with very low investment, namely the amount of energy required for one act of intercourse (Beall, 1993).

As a result, females tend to be much more selective in choosing mates because a wrong decision may present dire implications for the survival of offspring. Women largely disdain qualities that signal inequality in accruing resources, such as lack of ambition and education in a potential mate (Buss, 1995). Because women are more selective regarding mating partners, men compete on dimensions that women deem to be important. Therefore social status acquired through competitiveness and power is instrumental in signalling to possible female mating partners that the male is able to support the female. Greater male competitiveness will cause males to have a higher preference for stimulation and achievement values, since this serves to increase male social status (Schwartz & Rubel, 2005).

One would also expect males to attribute higher importance to hedonistic values. Males generally seek access to a variety of sexual partners to increase the potential of producing offspring and guaranteeing the continuation of the genetic lineage. Men are genetically predisposed to seek greater sexual stimulation and gratification since fertilisation occurs internally within women, and men are never fully certain that their putative children are genetically their own. Women are always sure that the children that they bear are their own (Buss, 1995). Women will be less willing to engage in the immediate gratification of sexual urges since they run the risk of unwanted pregnancies and uncertain paternity that may deprive them of the needed support from male partners (Schwartz & Rubel, 2005).

As previously mentioned, to ascertain the greatest return on investment in pregnancy, women show a greater concern for the welfare of their offspring, therefore they will assign greater value to benevolence and universalism. Following the same line of argument, one would expect women to show a greater concern for national safety and security since it could directly and indirectly affect the welfare of offspring. As a result one can expect females to assign relatively greater value than men to security values that concern safety, harmony and stability.

- Social Constructionist Perspective

Social constructionism is concerned with how people perceive the world around them and ultimately arrive at a conscious or subconscious definition of *reality* (Beall, 1993). According to this approach, one's understanding is a social product constructed through people's perceptions of reality. Different views of the world lead to different perceptions and experiences of the world, which are equally 'real' to the people who believe in them. From a social constructionist point of view, gender, like any other socially constructed phenomenon, takes on different connotative meanings in different cultural contexts and societies. Cultural norms and nuances are active cues used by members of a specific society to formulate ideas about gender and to understand social categories of male and female (Beall, 1993). According to this approach, behaviour could best be thought of as flexible and malleable due to the cultural undertones that shape social conduct (Deaux & Major, 1990).

The role of the social context in which individuals find themselves, as well as the active role they play in defining the context, will dictate whether they construe the world around them (i.e. their subjective reality) in gender terms. Therefore, from a constructionist point of view, gender-related behaviour only exists when a specific interaction is socially interpreted in gender patterns (Prince-Gibson & Schwartz, 1998).

Accordingly, social agents will only evaluate the world in gender terms if gender forms an important part of the individual's self-identity and in the event that gender roles are culturally salient (Deaux, Reid, Mizrahi & Ethier, 1995). Considerable cross-cultural evidence suggests that gender is a highly salient social category (Beall, 1993). Children from a very young age quickly cognitively appraise and encode the gender of individuals. Cognitively, gender schemas are created that contain information about the traits that typically characterise women and men (e.g. men - dominant and aggressive, women – passive and dependent). Socially constructed mental schemata play an important role in making sense of the world, because they act as quick references in assigning gender labels to social behaviour or social information (Bem, 1987). From a constructionist point of view, behaviour therefore is not stable and there are no stable gender differences across cultures. According to the constructionist approach then, there exists no reason why consistent gender differences in value meanings across cultures should be expected. Even if gender proves to be an important dimension of the self-identity, socially constructed gender norms may only become salient in some scenarios. Therefore, from a constructionist point of view, the relative importance of values in gendered behaviour and attitudes will only become salient once the environment permits the gratification of the motivational goal of that specific value. I.e. the constructionist perspective debunks the espoused transsituational nature of values. As a result, one would not expect any gender differences in value preferences from one situation to the next, when adopting a constructionist approach, except if the context primes the gratification of a particular value differently for men than for women and vice versa.

2.3.2.2 Empirical results from research on Values and Gender

Previous research results on values and gender have been mixed and can be described as inconsistent at best. In general gender differences in value priorities indicate that males show a preference for self-enhancement values whilst women show a relatively stronger preference for self-transcendence values (Schwartz & Rubel, 2005). These findings can be compared to the agentic/instrumental versus communal/expressive values proposed by Bakan (1966).

Several studies have used the Rokeach Value Survey (RVS) to examine gender-related differences in value priorities. In one of the first studies on values and gender, Rokeach (1973) reported that males and females have very similar value priorities, although 12 of the 18 terminal values and 8 of the 18 instrumental values discriminate significantly between men and women (Rokeach, 1973). Men place significantly more value on an *exciting life, a sense of accomplishment, freedom, being ambitious, imaginative, logical* and on *social recognition*. Women, on the other hand, place significantly more value on *wisdom, happiness, loving, inner harmony, cleanliness, self-respect, cheerfulness* and *salvation* (Rokeach, 1973). The study confirmed that males favoured agentic/instrumental values whilst women showed a greater inclination towards communal/expressive values.

Using the Rokeach Value Survey in two independent studies, Feather (1984, 1987) examined gender differences in value priorities by using a representative sample of Australian students. Feather (1987) found results akin to Rokeach's (1973) earlier agency-communal distinction (self-enhancement vs self-transcendence). Feather (1987) furthermore stated that gender-related differences between male and female value orientations are remarkably stable. Male respondents consistently rated values concerned with living an exciting life, pleasure, being logical and self-control as very important. Female respondents emphasised a world at peace, being polite, equality, being cheerful and forgiving as very important. In general men placed a relatively higher value on pleasure and living an exciting life (instrumental), whilst women expressed an inclination towards values emphasising loving and forgiving dimensions which underline communal values.

Bond (1988) reported gender differences in values using the RVS (in nine East Asian countries) and the Chinese Value Survey (in 21 countries). Data analyses from both instruments revealed results akin to the agentic/instrumental versus communal/expressive dimensions identified by Feather (1975) and Schwartz (Schwartz & Rubel, 2005). Females assigned higher importance to morality and security in contrast to the more instrumental inclination of male respondents (Bond, 1988).

Other studies using the Schwartz Value Survey (SVS) reported equally mixed results (Schwartz & Rubel, 2005). No significant sex differences were found on any of the 10 values in a Turkish and Israeli adult sample (Aygun & Imamoglu, 2002; Prince-Gibson & Schwartz, 1998).

However, in German, Spanish and Australian samples significant gender differences were found when using the SVS. Hinz, Albani, Gießler and Brähler (2002) found significant gender differences on all 10 value dimensions in a representative German sample. Women assigned relatively more value to conservation values, and men prioritised self-enhancement and openness values (Hinz, Albani, Gießler & Brähler, 2002). Spanish women also showed a greater inclination towards self-transcendence values, compared to the high priority Spanish men assigned to values underlying self-enhancement (Schwartz & Rubel, 2005).

Prince-Gibson and Schwartz (1998) used the theory of value content and structure (Schwartz Value Survey-SVS) combined with leading theories concerned with gender to generate hypotheses about the impact of value priorities on gender differences and the interactions of gender with possible socio-demographic moderators of gender experience such as age, education and ethnicity. A representative sample of 480 Israeli males and 519 Israeli females was used in the study to investigate gender-based value differences. The authors proposed that power values may show the largest significant difference in importance (favouring males) compared to benevolence (favouring females). An important point in this analysis is that gender differences do not directly indicate the importance of a value type to men or women, rather that the above are the two values for which the gender difference is hypothesized to be the greatest (Prince-Gibson & Schwartz, 1998).

Relative to females, the difference in value scores for males was the greatest for power, achievement and stimulation. The results were in line with the predicted prototype with one reversal (security and conformity/tradition values were reversed). The structure of values matched the theoretical structure exactly, with value difference being the highest for hedonism, self-direction and universalism (Prince-Gibson & Schwartz, 1998).

Furthermore it was proposed that the structure of relations among values was similar for men and women, i.e. the meanings of values were quite similar for men and women, making it theoretically viable to compare value priorities cross-culturally for males and females (Prince-Gibson & Schwartz, 1998).

Results of the study reported no gender differences in value priorities. Accordingly, the structural component was shown to be the same for men and women and therefore one could assume that values had similar meanings for men and women (Prince-Gibson & Schwartz, 1998).

Schwartz and Rubel (2005) examined gender difference in values cross-culturally in 127 samples in 70 countries (n=77 528). Relative to women, men consistently assigned higher importance relative to women to power, stimulation, hedonism, self-direction and achievement values. Women emphasised benevolence and universalism values more than men (Schwarz & Rubel, 2005). The results confirmed the self-enhancement vs self-transcendence (alternatively agentic vs communal) split identified in the majority of studies examining gender-related differences with regard to values. No significant differences were reported for tradition and conformity values for men and women.

In one of a small number of studies on gender-related differences in value priorities using Structural Equation Modelling (SEM), Beutel and Marini (1995) reported significant value differences for men and women. Beutel and Marini (1995) developed three measures of value orientation: (1) compassion, which reflects a concern for the welfare of others; (2) materialism, stressing self-enhancement and the pursuit of affluence; and (3) meaning, akin to self-transcendence with special emphasis on finding meaning in life. Results from the 15-year study revealed important gender differences in gender orientations of American adolescents.

Females expressed a greater concern for the well-being of others and indicated greater concern for finding purpose and meaning in life than men (Beutel & Marini, 1995). The differences were reported throughout the period from the mid-1970s to the early 1990s without any evidence indicating a decrease. A change in gender-role attitudes has however, been reported, with women attaching increasingly more importance to recognition of their accomplishments in the labour market relative to men (Beutel and Marini, 1995).

2.3.2.3 Hypotheses: Gender

The theory of value structure and content was used to generate the following hypotheses by considering the motivational goal of each value based on compatibilities and conflicts in the simultaneous pursuit of different values. This was done for each separate value dimension, each time from a male and a female point of view.

Dominant theoretical perspectives as well as previous empirical results were considered during theorising. Hypotheses were generated clockwise around the structural circle (Figure 2.1), starting from Power (hypothesised to show the greatest difference in importance between males and females) to benevolence (largest difference favouring females) (refer to Table 2.5 for a summary of all hypotheses formulated with regard to gender).

The generic structural model, on the other hand, only incorporated those values-attitude linkages that were hypothesised to hold true over gender, race and time. To maximise the predictive validity of the generic structural model only values-attitude linkages, *a priori* hypothesised to be robust (i.e. significant), were included in the final structural configuration. Another reason that contributed towards the decision to include only some of the value dimensions, was the inability to gauge important moderating effects on the structural relationships between values and attitudes using SEM. It was hypothesised that race and gender would have an amplified effect on the relationship between values and the attitude towards cultural diversity. The inability of the SEM methodology to account for these moderating effects of race and gender on the hypothesised structural relationships would cause the attitude towards cultural diversity to be underestimated when making use of values as key predictors. For these reasons, it was decided to investigate the most significant value-attitude relationships with a full information analyses technique such as SEM, whilst examining the moderating effects of race and gender with traditional regression analyses. In the final analyses it was felt that the values and attitude towards cultural diversity hypothesised relationships can't be assessed fairly if the analyses technique is unable to incorporate significant interaction effects on these relationships.

Of further note is the expected interaction effect of gender and ethnicity on the relationship between values and cultural diversity. Whereas it was possible to utilise the inter-group doctrine in hypothesising the relationship of values on the attitude towards cultural diversity by categorising cultural groups in South Africa according to ethnicity, formulating hypotheses based purely on gender proved to be more complex. A gender-ethnicity interaction affect was hypothesised to effect the relationship between values and the attitude towards cultural diversity. Such an interaction would imply that the motivational goals of specific values can not be judged from a purely male-female point of view, but should rather be judged from a socio-economic or dominant- and minority- group perspective. Stated more basic, a male-female categorisation is inept to capture the socio-economic dynamism underlying dominant- and minority-group status in South Africa, which in turn affects the formulation of hypotheses. As a result, gender and ethnicity (discussed in the previous section) will be considered jointly in the classification of dominant and minority groups. Females and non-whites will be classified as minority-group members whilst white males will be regarded as majority- group members since they have enjoyed (and to a large extend still do) the greatest socio-economic status in the private sector of the economy, whilst women and non-whites can be thought of as being previously disadvantaged. This classification is in line with the description of *designated groups* as explicated in the Employment Equity Act (1998).

Value Types

Self-enhancement: Cross-cultural empirical evidence suggests that, in general, there are no significant gender differences in value priorities and structure. Yet, research results also indicate that males and females consistently assign higher importance to selected value dimensions. Men consistently assign higher importance to self-enhancement values than do their female counterparts (Schwartz & Rubel, 2005). Men tend to rank value domains pertaining to power, achievement and hedonism higher than women do (Schwartz & Rubel, 2005). These values primarily underlie the self-enhancement dimension. Young boys are socialised from a young age (at least in most western societies) to be assertive, dominant and competitive (Prince-Gibson & Schwartz, 1998). From the perspective of evolutionary psychology, males are more likely than females to be competitive and achievement orientated since this will allow males to acquire resources that are instrumental for the attainment of multiple mating partners. Normative pressure restrains women in general from pursuing sensuous pleasure, or at least from expressing the desire overbearingly, whilst it is socially more permissible for men to be pleasure-seeking. As a result, one would expect men to rank values pertaining to self-enhancement more highly than women would.

From a constructionist point of view, this cultural 'reality' permitting males to act in a dominant, competitive and self-indulgent manner is the result of power structures that favours male interests. Critical feminism debunks the evolutionary perspective which maintains that men are 'genetically programmed' to act in a dominant and hedonistic manner due to the different evolutionary restraints faced by males and females. From a critical feministic point of view, pro-male sentiment is the result of socially ingrained myths advanced and rationalised from an evolutionary, scientific and even religious point of view. As a result, critical feminists will declare that, whenever gender differences occur in behaviour, it is due to gender-salient social cues acted upon under normative pressure. Thus behaviour is totally malleable and unpredictable and to a large extent completely dependent on the social context in which the attitudes or behaviours seek expression (Deaux & Major, 1990). The relative importance of values in gendered behaviour and attitudes will only become salient once the environment permits the gratification of the motivational goal of self-enhancement values.

Nevertheless, considerable empirical evidence exists to suggest that males and females differ with regard to the importance attached to values pertaining to the *self-enhancement* dimension. A negative correlation is expected between self-enhancement values and valuing individual differences (VID), as well as with tolerance for affirmative action (AA) with regard to the dominant group. It seems highly unlikely that the motivation rewards associated with self-enhancement values will be fulfilled by pursuing and endorsing cultural diversity in the workplace for the dominant group. However, individual who belong to the minority group stand to attain the motivational goals of self-enhancement values through tolerance for cultural diversity as well as affirmative action initiatives since it rewards preferential treatment to members pertaining to this group. As a result one would expect minority group member to foster a positive attitudes towards cultural diversity. This has specific bearing when looking at the tolerance for affirmative action (AA) as a dimension of valuing cultural diversity.

Women and blacks have faced considerable discrimination, especially in the workplace. As a result one would expect generally positive attitudes towards cultural diversity from blacks and females, since affirmative action could be instrumental in achieving the motivational goals of self-enhancement values. On the other hand, affirmative action has a different connotation for white males, who have traditionally been the dominant group in the workplace. For them, affirmative action equates to giving up power and influence. Therefore one would expect white males in general to be less supportive of affirmative action, although the effect is mitigated in the current investigation since the student sample used in this study was bound to be more liberal and generally more accepting of a diverse South African society at all levels. As a result, the following hypotheses were formulated with regard to self-enhancement values.

Hypothesis 1: Gender differences are expected in the importance assigned to self-enhancement values. Self-enhancement values give coherence to male agentic behaviour revealed in assertiveness, ambition, dominance and decisiveness. The biggest difference between males and females is expected to be revealed in the importance ascribed to the power value.

Subhypothesis 1a: A negative association is expected between the *power* value and valuing individual differences (VID) in the case of white males (dominant group), non-white males (minority group) and females (minority group).

Subhypothesis 1b: A negative association is expected between the *power* value and tolerance for affirmative action (AA) in the case white males (dominant group).

Subhypothesis 1c: A positive association is expected between the *power* value and tolerance for affirmative action (AA) in the case of black males (minority group).

Subhypothesis 1d: A positive association is expected between the *power* value and diversity as a source of competitive advantage (CA) in the case of white males (dominant group), black male (minority group) and females (minority group).

Subhypothesis 1e: A positive association is expected between the *power* value and tolerance for affirmative action (AA) in the case of females (minority group).

Subhypothesis 1f: A negative association is expected between *achievement* value and valuing individual differences (VID) for white males (dominant group), black males (minority group) as well as females (minority group).

Subhypothesis 1g: A negative association is expected between the *achievement* value and tolerance for affirmative action (AA) in the case of the white male (dominant group).

Subhypothesis 1h: A positive association is expected between the *achievement* value and tolerance for affirmative action (AA) in the case of black males (minority group).

Subhypothesis 1i: A positive association is expected between the *achievement* value and diversity as a source of competitive advantage (CA) in the case of white males (dominant group), black males (minority group) and females (minority group).

Subhypothesis 1j: A positive association is expected between the *achievement* value and tolerance for affirmative action (AA) in the case of females (minority group).

Self-Transcendence: Universalism and Benevolence underlie the self-transcendence dimension. No gender differences in the relationship between self-transcendence values and the attitude towards cultural diversity are predicted. Positive associations between self-transcendence and the attitude towards cultural diversity are predicted in the case of both males and females, although a stronger association is expected with regard to females. The biggest difference in value importance between females and males is expected on the dimensions of self-transcendence and self-enhancement, with males attributing higher importance to self-enhancement while females show a greater preference for self-transcendence (Prince-Gibson & Schwartz, 1998; Schwartz & Rubel, 2005; Struch, Schwartz & Van der Kloot, 2002; Beutel & Marini, 1995).

Universalism values suggest tolerance and concern for the welfare of in-group as well as out-group members (Prince-Gibson & Schwartz, 1998). Female relationships are characterised by greater emotional intimacy, supportiveness and other positive social behaviours, whereas men generally assign greater value to task-orientated behaviours (Beutel & Marini, 1995). Women naturally adopt the caregiving role at home and in the marketplace. Research on job values also suggests that women actively seek jobs in which they are likely to help others (Finly, Fan, Marini & Beutel, 1993).

Women also express a greater concern for equality and the welfare of others, which is manifested in their attitudes towards public policy (Beutel & Marini, 1995). Women are more concerned about social welfare, education and health care programmes and are willing to assist directly and indirectly in poverty alleviation, job creation and social reform initiatives (Cook, 1979; Shapiro & Mahajan, 1986; Marini, 1990).

Benevolence values are typified by the concern for the welfare of those with whom one is in frequent contact. Benevolence values differ from universalism values insofar as the motivational goal of benevolence values is expressed through the communal-expressive orientation invoked through women's nurturing roles and attitudes. Evolutionary psychology promulgates that women's greater concern for the welfare of significant others in the social group originate from the greater parental investment women make in raising their offspring. Newborn children require significant emotional and material support, even after they are weaned. Therefore women, in order to maximize their investment in child bearing, need to be more affectionate and caring than men. This explains why women are not only concerned about the safety and security of the micro milieu in which they and their families exists, but also report greater concern for the safety and security on a macro level that is bound to influence in-group member interest (directly or indirectly), including that of their offspring. As a result, one would also expect women to show a greater concern for national security than men (Prince-Gibson & Schwartz, 1998). In general, research results confirm the self-enhancement (agentic) vs self-transcendence (communal) polarisation of gender differences (Bakan, 1966; Rokeach, 1973; Feather, 1984, 1987; Prince-Gibson & Schwartz, 1998; Hinz, Albani, Gießler & Brähler, 2002; Schwartz & Rubel, 2005).

Based on the foregoing discussion, the following hypotheses were formulated with regard to self-transcendence values:

Hypothesis 2: A positive relationship is predicted between **self-transcendence** values and attitudes towards cultural diversity in the case of both males and females, although it is expected that women will assign relatively greater value to these values than men. The u*niversalism* value is expected to show a stronger correlation with the attitude towards cultural diversity than the *benevolence* value, due to the in-group impetus of benevolence.

Subhypothesis 2a: A positive association is expected between the *universalism* value and valuing individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) in the case of white males (dominant group), black males (minority group) and females (minority group).

Subhypothesis 2b: A positive association is expected between the *benevolence* value and valuing individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) in the case of white males (dominant group), black males (minority group) and females (minority group).

Conservation: This dimension captures values that emphasise order, self-restriction, preservation of the past and resistance to change (*security, conformity* and *tradition*). The motivational goal of this value dimension is to preserve order and harmony in in-group relations by honouring and upholding existing social norms and arrangements (Schwartz, 2006). Whereas self-transcendence emphasises concern for the welfare of others, the conservation values have a narrower focus insofar as it is concerned with the wellbeing of in-group members and not society per se. Although negative associations with cultural diversity are predicted for all three values, it was expected that women would assign greater importance to these value dimensions than men.

Conformity expresses the desire to delay gratification of one's own inclinations if it runs contrary to group norms. Since women normally have less social status than males, endorsing conformity values that justify congruent behaviour is more adaptive in the case of women (Prince-Gibson & Schwartz, 1998).

Women are acculturated to be more submissive and to uphold traditions and customs that are unique to a culture or subculture. Women are also entrusted with the custodianship of *tradition* and passing it on from one generation to the next. Women are typically more involved than men in traditional activities and would be expected to favour traditional values more than men do, since it is more in keeping with the female gender role.

Although the safety and security of personal relationships, religion and the general course of life are equally important for men and women, it has been mentioned earlier that females may assign higher value to the security value as it directly threatens women's investment in child bearing.

Based on the foregoing discussion, the following hypotheses were formulated with regard to conservation values:

Hypothesis 3: A negative relationship is predicted between **conservation** values and attitudes towards cultural diversity with regard to both males and females, although it is expected that women will assign relatively greater importance to these values than men.

Subhypothesis 3a: A negative association is expected between the *conformity* value and valuing individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) in the case of white males (dominant group), black males (minority group) and females (minority group).

Subhypothesis 3b: A negative association is expected between the *tradition* value and valuing individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) in the case of white males (dominant group), black males (minority group) and females (minority group).

Subhypothesis 3c: A negative association is expected between the *security* value and valuing individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) in the case of white males (dominant group), black males (minority group) and females (minority group).

Openness to Change: This dimension emphasises independence of thought, action and feelings, as well as readiness for change (Schwartz, 2006). Independence of thoughts and actions and being the agent of one's own destiny are motivational goals underlying the expression of the *self-direction* value. Males are socialised to pursue these motivational goals since they are instrumental in attaining social status. Women, on the other hand, are socialised to take on a more submissive and dependent gender role (Prince-Gibson & Schwartz, 1998). Critical discourse analysis and the constructionist theory would state that these gender differences are not stable, because the submissive role that women occupy in society is the result of gender role stereotypes dictated by a dominant pro-male society (Beall, 1993).

The evolutionary perspective, on the other hand, will debunk the constructionist perspective by underlining empirical results that indicate that there might indeed be stable gender differences with regard to values emphasising self-direction. Values pertaining to the so-called Protestant work ethic (e.g. diligence, reliability, thrift) justify the 'breadwinner' role that males should naturally adopt whilst women should take care of the household. Although traditional gender roles have changed significantly, males still seem to occupy the majority of high-status jobs whilst women in general seem to be more satisfied in jobs that are instrumental to the goals of self-transcendence values (Schwartz & Rubel, 2005). However, in the current study it is predicted that females will cherish self-direction values more than would typically be the case in the larger South African society (due to the more liberal student sample). Furthermore it is expected that females assigning high priority to the self-direction value to favour affirmative action, since it could promote their self-direction ideals. In contrast, it is expected that white males with a high preference for the self-direction value to display a negative attitude towards affirmative action since it restrains them from achieving work-related goals that may be instrumental in achieving motivation goals through the expression of the self-direction value.

A negative relationship is predicted between the self-direction value and valuing individual differences, as well as diversity as a source of competitive advantage with regard to both males and females. However, a stronger negative relationship is expected from these dimensions for men compared to women since the self-direction value has been shown to be more important for males than females (Beutel & Marini, 1995). From a constructionist point of view, the inverse would be true to the extent that attitudes towards cultural diversity are instrumental in the attainment of self-direction motivational goals. It is common practice today, for instance, for individuals falling outside the classification of 'designated groups', i.e. white males, to contract an affirmative action compliant candidate as partner in business ventures. In this way, the business venture gains numerous privileges which could be instrumental in the success of the organisation.

The *stimulation* value emphasises motivational goals that encompass risk taking, novelty and adventure (Schwartz, 2006). Males are socialised to take greater risks, especially if it results in the accumulation of rare resources. Hence, it is expected that the stimulation value will show a greater gender difference, favouring males (Prince-Gibson & Schwartz, 1998).

Hedonism is typified by sensual gratification, and is indicative of the male prerogative (Prince-Gibson & Schwartz, 1998). It was mentioned earlier that it is socially more acceptable for males to engage in self-gratifying experiences than for females. Gender differences are expected in the association of hedonism with tolerance for affirmative action with regard to males and females. Females who rate the hedonism value highly will perceive affirmative action initiatives as instrumental to achieving hedonism motivational goals. On the other hand, affirmative action is bound to impede males from achieving the motivational intent of the hedonism value. As a result a general positive relationship was expected between the hedonism value and tolerance for affirmative action (AA) and cultural diversity as a source of competitive advantage (CA) with regard to the female group. However, a negative relationship is predicted between the hedonism value and tolerance for affirmative action with regards to the male group.

Based on the foregoing discussion the following hypotheses were formulated with regard to openness to change and hedonism values:

Hypothesis 4: Associations between **openness to change** values and attitudes towards cultural diversity in the case of both males and females are expected to be mixed. Yet, an overall positive relationship is expected between the openness to change dimension and the attitude towards cultural diversity.

Subhypothesis 4a: A negative association is expected between the *self-direction* value and valuing individual differences (VID), tolerance for affirmative action (AA) and diversity as a source of competitive advantage (CA) in the case of white males (dominant group).

Subhypothesis 4b: A negative association is expected between the *self-direction* value and valuing individual differences (VID) and diversity as a source of competitive advantage (CA) in the case of females (minority group).

Subhypothesis 4c: A positive association is expected between the *self-direction* value and tolerance for affirmative action (AA) in the case of females (minority group).

Subhypothesis 4d: A positive relationship is predicted between the *stimulation* value and attitudes towards cultural diversity (VID, AA, CA) with regard to white males (dominant group), black males (minority group) and females (minority group). It is expected that males will assign relatively greater importance to this value than females.

Subhypothesis 4e: A negative relationship is predicted between the *hedonism* value and valuing individual differences (VID) and diversity as a source of competitive advantage (CA) in the case of white males (dominant group), black males (minority group) and females (minority group).

Subhypothesis 4f: A negative association is predicted between the *hedonism* value and tolerance for affirmative action (AA) with regard to white males (dominant group).

Subhypothesis 4g: A positive association is predicted between the *hedonism* value and tolerance for affirmative action (AA) in the case of females (minority group) and black males (minority group).

Table 2.5: Propositions regarding the relationship between values and gender				
HYPOTHESES (values)	**VALUING INDIVIDUAL DIFFERENCES (VID)**	**TOLERANCE FOR AFFIRMATIVE ACTION (AA)**	**DIVERSITY AS A SOURCE OF COMPETITIVE ADVANTAGE (CA)**	**OVERAL ATTITUDE TOWARDS CULTURAL DIVERSITY**
DOMINANT GROUP (White Males)				
Self-Enhancement:				**NEGATIVE**
• Achievement	Negative	Negative	Positive	
• Power	Negative	Negative	Positive	
Self-Transcendence:				**POSITIVE**
• Universalism	Positive	Positive	Positive	
• Benevolence	Positive	Positive	Positive	
Hedonism:	Negative	Negative	Negative	**NEGATIVE**
Conservation:				**NEGATIVE**
• Conformity	Negative	Negative	Negative	
• Tradition	Negative	Negative	Negative	
• Security	Negative	Negative	Negative	
Openness to Change:				**POSITIVE**
• Self-direction	Negative	Negative	Negative	
• Stimulation	Positive	Positive	Positive	
MINORITY GROUP (Black Males & Females)				
Self-Enhancement:				**NEGATIVE**
• Achievement	Negative	Positive	Positive	
• Power	Negative	Positive	Positive	
Self-Transcendence:				**POSITIVE**
• Universalism	Positive	Positive	Positive	
• Benevolence	Positive	Positive	Positive	

Hedonism:	Negative	Positive	Negative	NEGATIVE
Conservation:				NEGATIVE
• Conformity	Negative	Negative	Negative	
• Tradition	Negative	Negative	Negative	
• Security	Negative	Negative	Negative	
Openness to Change:				POSITIVE
• Self-direction	Negative	Positive	Negative	
• Stimulation	Positive	Positive	Positive	

2.3.3 Comprehensive and Generic Structural Models

Investigating the attitude towards cultural diversity from a variety of theoretical perspectives culminated into a number of substantive research hypotheses (See Tables 2.4 and 2.5). The direct effect of values and the indirect effects of race and gender on the attitude towards cultural diversity have been proposed from the minority- and dominant-group perspective. In other words, the expectation was that the relationship between values and the attitude towards cultural diversity are generally moderated by race or gender, or alternatively an interaction between the two.

In addition, a generic structural model that captures the most pervasive (i.e. robust) main effect of values on the attitude towards cultural diversity was proposed. The generic structural model, only incorporated those values-attitude linkages that were hypothesised to hold true over gender, race and time. It was hypothesised that race and gender would have an amplified effect on the relationship between values and the attitude towards cultural diversity. The inability of the SEM methodology to account for these moderating effects of race and gender on the hypothesised structural relationships would cause the attitude towards cultural diversity to be underestimated when making use of values as key predictors. For these reasons, it was decided to investigate the most significant value-attitude relationships with a full information analyses technique such as SEM, whilst examining the moderating effects of race and gender with traditional regression analyses. In the final analyses it was concluded that the values and attitude towards cultural diversity hypothesised relationships can't be assessed fairly if the analyses technique is unable to incorporate significant interaction effects on these relationships. For this reason the generic theoretical model (assessed via SEM) was supplemented with the comprehensive theoreticall model (assessed via moderated regression analysis) that is able to gauge the moderating effects of race and gender on each value-attitude towards cultural diversity linkage.

The expectation was that certain value dimensions - individually, without the moderating effect of race and gender - will consistently relate positively or negatively (or show no significant relationship, for e.g. the self-direction value) with the attitude towards cultural diversity (i.e. having transituational validity), c*eterus paribus*. Figure 2.2.1 depicts comprehensive structural model that incorporates all 10 value dimensions. Figure 2.2.2 portrays the adapted structural reconfiguration of the generic structural model which includes only the value dimensions that are hypothesised to have the strongest and most robust influence on the AA, VID and CA.

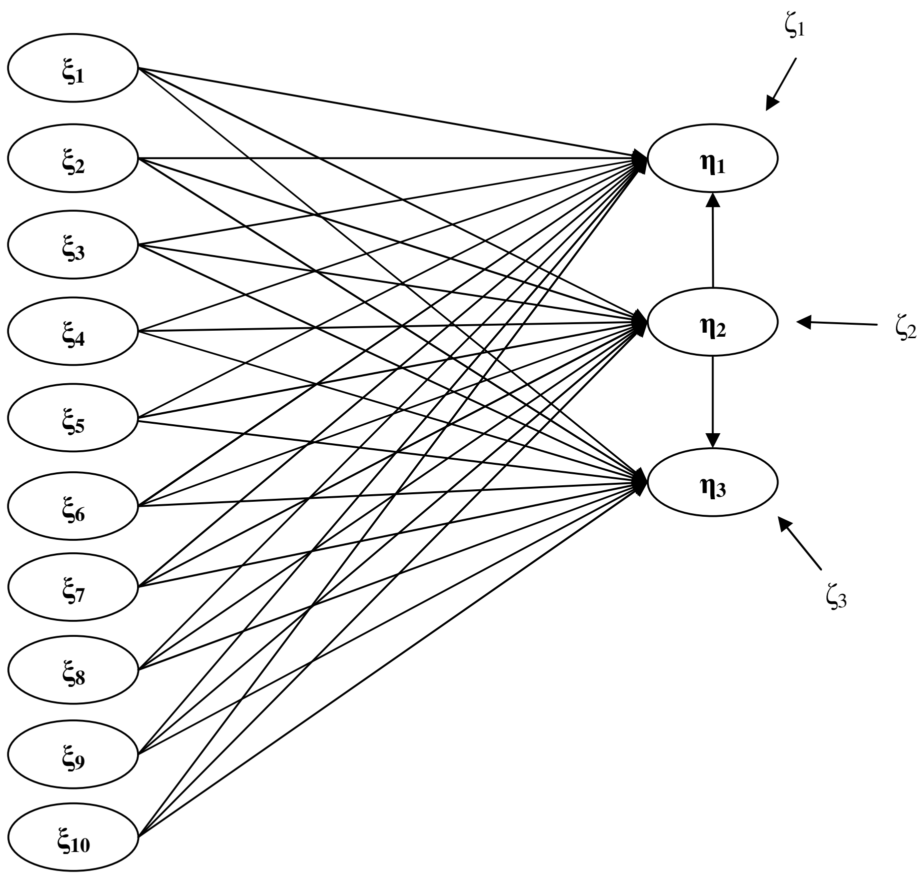


Figure 2.2.1: Graphical portrayal of the comprehensive structural model.

Where:

ξ_1 = Conformity	η_1 = AA
ξ_2 = Tradition	η_2 = VID
ξ_3 = Benevolence	η_3 = CA
ξ_4 = Universalism	
ξ_5 = Self-direction	
ξ_6 = Stimulation	
ξ_7 = Hedonism	
ξ_8 = Achievement	
ξ_9 = Power	
ξ_{10} = Security	

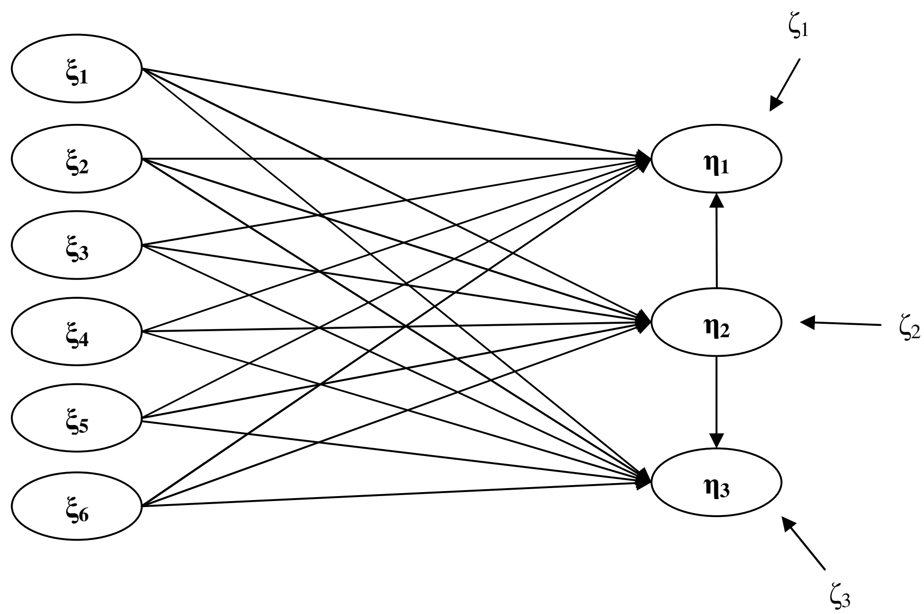


Figure 2.2.2: Graphical portrayal of the proposed generic structural model.

Where:

ξ_1 = Tradition	η_1 = AA
ξ_2 = Benevolence	η_2 = VID

ξ_3 = Universalism η_3 = CA

ξ_4 = Stimulation

ξ_5 = Hedonism

ξ_6 = Power

2.3.4 Revisiting the main objectives and aims of the study

The main objectives of the study could be summarised as follow:

- Validation of the SVS and the CDBS
- Development of a generic SEM model explicating the role of the values on the attitude towards cultural diversity.
- Investigating the moderating effect of race and gender on hypothesised values-attitude linkages via regression analyses (See Tables 2.4 and 2.5).

2.3.5 Conclusion

The contemporary cultural diversity environment has been discussed at the hand of a number of diversity discourses. Preliminary evidence suggests that affirmative action has failed to promote cultural diversity in the workplace, especially in the private economic sector and at middle, high and executive managerial levels. Various values have been proposed to either promote or deter one's attitude towards cultural diversity. Schwartz's (1992) theory of value content and structure has been utilised to examine the relationship between values and cultural diversity by making use of an inter-group approach. It has been hypothesised that group membership (i.e. dominant vs minority group) affects the perceived motivational intent of values. Numerous relationships between values and the attitude towards cultural diversity have been proposed using gender and ethnicity as inter-group criteria.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

Research methodology should serve the epistemological ideal of science. The chosen research design and methodology should be a function of the objectives of the study. To this end, it is important to briefly review the main objectives of the study. The aim of this chapter was to present the research design and methodology that were used to validate the exogenous and endogenous measurement models, as well as to capture and evaluate the proposed values-attitudes relationships. The latter implies the investigation of value main effects (See Figure 2.2) with regard to the attitude towards cultural diversity and the interaction effect of race and gender on proposed values-attitude linkages (See Tables 2.4 and 2.5).

A qualitative research method known as Critical Discourse Analysis (CDA) was utilised for the purpose of hypothesis formulation in Chapter 2 to examine the attitude towards cultural diversity in the contemporary South African society as a phenomenon. What was more important than the mere identification of prevailing norms in the South African society was to gain an understanding of how the particular values became embedded in different cultures and what forces uphold and reinforce these value constellations. During the study of the literature dealing with cultural diversity it soon became apparent that the cultural diversity scenario in South Africa is uniquely different when compared to any other country or society in the world, especially the United States of America. Since the bulk of diversity research was conducted in American and European settings, one has to question the applicability of the related theories in a more culturally diverse South African context. In America, the goal of diversity initiatives is to award and enforce equitable rights to minorities, whereas in the South African scenario 'minorities', i.e. previously disadvantaged individuals, constitute the majority of the national population. The scope of the diversity debate therefore resides in a much broader societal level, compared to America, Australia and New Zealand, where relatively small segments of societies are regarded as minorities. In addition, the impact of formally instituted racial segregation by the apartheid regime on the broad South African culture and society had a significant influence on the diversity status quo found in the country at present.

In light of the foregoing, discourse analysis proved to be particularly insightful for the purpose of gaining an understanding of the contemporary South African cultural diversity scenario, since the technique promotes the “understanding of the world (i.e. ‘reality’) as the product of historical, cultural and social interaction, rather than fixed, universal ‘essences’” (Giles, 2003, p.183). Unlike other research techniques (e.g. grounded theory), discourse analysis does not rule out the use of previous theory in getting an epistemological grip on modern-day phenomena (Giles, 2003). Critical Discourse Analysis proclaims the dismantling of the widely held ideas that result from elites and institutions exercising their social power through language and symbolism (e.g. the Union Jack and the swastika). CDA’s emphasis is on revealing *how*, rather than *if* the world (or reality) is constructed through discourses and, more importantly, how this affects social conduct (Giles, 2003). Numerous psychological topics have a history in critical and discursive psychology, including racism (Wetherell & Potter, 1992), stress (Brown, 1999) and identity (Antaki & Weddicombe, 1998).

Discourse analysis – being qualitative in nature – has certain methodological implications when used collaboratively in a study with a predominantly quantitative and positivistic research design. Reicher (2000) claims that discourse analysis is compatible with quantitative methods, although it is rarely used by psychologists who adopt a constructionist research ideology, probably because it is too closely related to the positivistic tradition which social constructionism seeks to challenge. Although CDA was very helpful in gaining an understanding of the role that social and political power structures plays in the formation of personal values and attitudes – the technique was not formally applied. The aim of CDA was to dissect popularly held attitudes and values with regard to cultural diversity and subsequently to theorise (using CDA techniques such as transcription of literature) not only *what* linkages exist between certain values and the attitude towards cultural diversity, but, more importantly, *why* these attitudes and values exist. Although the objectives of the current study were thought to be best achieved within the realms of the quantitative research paradigm, it became apparent that positivistic-deductionistic quantitative techniques lack scope and depth in the formulation of substantive research propositions. To this end, it was felt that adopting a purely positivistic doctrine in investigating diversity as construct and merely confirming causal linkages between values and attitudes towards diversity will contribute little towards understanding which forces shape diversity attitudes and how it can be dismantled in the larger South African society and the world of work. Based on these reasons it was decided to utilise a qualitative approach for theorising and the formulation of hypotheses, but to confirm these linkages with a quantitative approach using regression analysis, as well as structural equation modelling (SEM).

The choice and composition of research techniques utilised in the current study were guided by the ideology that the chosen *methodology should serve the epistemological ideal of science* (Theron, 2007). The validity and credibility of research results are fundamentally a function of the methodology that is used. Therefore research results can only be empirically evaluated in the light of the methodology used. This chapter is dedicated to promoting the *epistemological ideal of science* by providing a comprehensive description of the research methodology utilised at each specific stage of analyses.

3.2 RESEARCH DESIGN

To empirically investigate the hypothesis that variance in the attitude toward cultural diversity can be explained in terms of various value main effects and race-gender-value interaction effects, requires a strategy that will provide *unambiguous* empirical evidence in terms of which to evaluate the operational hypotheses. The strategy used to provide empirical verification of hypotheses is known as the research design (Kerlinger, 1973; Theron, 2006). The research design should be engineered in such a way that variance in the to-be-measured construct (attitude towards cultural diversity) is clearly linked to the proposed exogenous latent variables (various values) by limiting the variance caused by error variables (Kerlinger, 1973). The ability of the research design to maximise systematic variance, minimise error variance and control extraneous variance (Kerlinger, 1973; Kerlinger & Lee, 2000) will determine the degree of confidence with which the researcher can make claims regarding the influence of values on the attitude towards cultural diversity.

In order to develop and evaluate the theorised model, facilitation of the research process necessitates a research design which will set up the framework required to regulate the manner in which the validity of the hypothesised relations among the variables will become apparent. The plan and structure of the research design for this study are best achieved within the realms of the quantitative research paradigm.

When utilising a quantitative approach to inquire into socially related phenomena, theories composed of variables are presented in models which are measured by numbers and analysed statistically to determine the merits of the predicted generalisations of the postulated theories (De Vos, Strydom, Fouche & Delport, 2005). Within this paradigm data are collected empirically and presented in the form of numbers (Goodwin, 2003).

The explication and measurement of variables as they exist naturally is best achieved by utilising a correlational research design. Herein lays the value of the design insofar as it not only identifies variables, but elucidates the relationship between variables and describes the nature and strength of the causality. Ultimately, the researcher is interested in these relationships between variables in order to predict and explain the criterion variable (in this specific case, the attitude towards cultural diversity). Whenever the researcher is unable to manipulate variables under consideration because it is impossible or unethical to do so, he/she is forced to examine variables as they exist naturally, thus making the research design *ex post facto* in nature, as is the case with a correlational research design. Their manifestations have, thus, either already occurred or they are not inherently manipulable (Kerlinger & Lee, 2000). Inferences about the hypothesised relationships between the latent variables ξ_j and η_i are made from concomitant variation in independent and dependent variables (Kerlinger & Lee, 2000). Due to the fact that the researcher is unable to manipulate the independent variable(s), studies that utilise correlational research designs tend to boast high external validity (Gravetter & Forzano, 2003).

At the same time, Kerlinger and Lee (2000) warn that *ex post facto* research designs have four major limitations. These limitations are:

1. low internal validity

2. exclusion of the ability to assign causality of influence
3. the lack of ability to establish directionality
4. the third variable problem: i.e. two variables may be correlated, not because they are causally related but because some third variable caused both of them

Based on the foregoing, researchers using *ex post facto* correlational research designs should be careful when interpreting research results, especially when making predictions based on the direction of causality between variables. Notwithstanding the limitations of an *ex post facto* research design, the researcher was forced to make use of the design due to the inability to manipulate the independent variables in the current investigation. The objectives of the study were however deemed achievable through the use of an *ex post facto* design.

The primary objective of this study was to establish whether specific causal linkages exist between postulated personal values and the attitude towards cultural diversity as depicted by the structural pathways in Figure 2.2.1 Figure 2.2.2 portrays the postulated structural relationships between selected values and the attitude towards cultural diversity. Thus, the structural SEM model should be interpreted as a generic model explicating the most robust relationship (i.e. trans-situational validity) between values and the attitude towards cultural diversity that is bound to hold true across race, gender, age cohort, societal sector, job level and time. Although it was hypothesised that the effect of values on the attitude towards cultural diversity will be moderated by race and gender, or a combination of both, no interaction effects between latent variables were considered in the generic structural model. The fitting of SEM models that contain interaction effects between latent variables is extremely complicated (Schumacker & Lomax, 1996). More will be said in this regard in section 3.4.

Tables 2.4 and 2.5 examine the moderating effect of race and gender on hypothesised values-attitude relationships, using the complete values framework. Standard regression analysis was utilised to investigate the moderating effects of race and culture on proposed values-attitudes casual relationships.

Broadly speaking, the research objectives can be summed up as follows:

- Validation of the SVS and the CDBS
- Development of a generic SEM model explicating the role of the values on the attitude towards cultural diversity
- Investigating the moderating effect of race and gender on hypothesised values-attitude linkages via regression analyses.

3.3 MEASURING INSTRUMENTS: OPERATIONALISATION

The inclusion of latent variables in theoretical models force researchers to utilise methodology that is able to derive data from observational situations that may lie deeply buried in the minds, attitudes and reactions of people (Behr, 1993). Good measurement is a necessary, but not adequate condition to obtain useful results from SEM. Proposed structural relationships among constructs can not be corroborated in the absence of a measurement model explaining how these variables are constructed. Even if the research claims that certain relationships between values and the attitude towards cultural diversity remain true in nature, this belief can only be verified if the substitute observed measures (measurement models) – rigorously developed and analogous with the constitutive meaning of the construct – reflect substantive research claims empirically. Only then can the researcher claim that research findings (variance explained) are valid representations of some formulated theory and not due to random error. To this end, considerable effort has been directed towards evaluating and subsequently refining measurement instruments used in the SEM and regression analyses.

3.3.1 Values

Building on the earlier work of Rokeach (1973), Schwartz (1992) devised a ten-dimension values theory reflecting a universal set of related motivations (Perrinjaquet, Furrer, Usunier, Cestre & Valette-Florence). The original instrument developed to measure the values theory is known as Schwartz's Value Survey (SVS; Schwartz, 1992, 2005). The SVS consists of two lists of value items that express a motivational aspect of the ten value domains: *Self-direction, Stimulation, Hedonism, Achievement, Power, Security, Conformity, Tradition, Benevolence* and *Universalism.* The most important feature of the integrated values framework is the dynamic relations among the ten values constituting the theory. For example – hedonism values are likely to conflict with traditional values, hence the opposing positions that these two values occupy in the circular structure. On the other hand, the closer two values are to one another in the circular configuration, the closer the pattern of relations and therefore the motivational intent (Schwartz & Boehnke, 2004). The motivational congruence shared by adjacent values dictates conceptual overlap between values grouped together on the circle's circumference but differs sharply from items that operationalise distant values.

Furthermore, value dimensions can be grouped together along two higher-order bipolar dimensions which Schwartz classifies as *Openness to change* vs. *Conservation* values as the first dimension and *self-enhancement* vs. *self-transcendence* values as the second dimension (Schwartz, 2006). The former dimension captures the conflict between values accentuating independence of thoughts, actions and effect (self-direction, stimulation) and those values that emphasise the preservation of tradition and the maintenance of the status quo (security, conformity, tradition). The latter dimension explicates the conflict between values that emphasise concern for the welfare of others (universalism, benevolence) and those values that direct the pursuit of one's own interests and needs (power, achievement) (Schwartz, 1992).

Given the foregoing theoretical model, Schwartz operationalised the ten-value structure with two value item lists, each containing items that describe "desirable end-states in noun form" followed by an explanatory phrase in parentheses to further specify the item's meaning (Schwartz, 2006, p. 12). For example, SOCIAL RECOGNITION (respect, approval by others).

Respondents are asked to rate the importance of each value item "as a guiding principle in MY life, by using a 9-point non-symmetrical scale stretched at the upper end and condensed at the bottom. On the 9-point scale, 7 is regarded as "of supreme importance", 6 "very important", 5 and 4 (unlabelled), 3 "important", 2 and 1 (unlabelled), 0 "not important", -1 "opposed to my values". The number of items that index a specific value dimension varies from a minimum of three (hedonism) to a maximum of eight (universalism) indicating the conceptual scope of individual value dimensions. Only values that have proven to be universally equivalent in meaning across cultures (using multidimensional scaling and confirmatory factor analysis) are included in the value scales (Schwartz & Boehnke, 2004).

3.3.1.1 Reliability & Validity

Two contradictory objectives guided the choice of inclusion of value items that gauge each value dimension: (1) sufficiently covering the full range of meanings associated with the motivational goal of each type, but (2) doing so with the least amount of items. This seemingly contrasting objectives seem to have been resolved reasonably well when examining the internal reliability as well as the test-retest reliability, with the alphas for all ten values ranging between 0.45 and 0.76 (median, 0.66) (Schwartz, 2005).

As can be seen from Table 3.1, the test-retest coefficients across an interval of six weeks in an adult sample (mean age 32) exhibit considerable stability. These coefficients ranged from 0.70 to 0.82, succeeding the recommended 0,70 level (Hair, Anderson, Tatham & Black, 1998) for all value types (see Table 3.1).

The internal consistency of the instrument also showed reasonable reliability with Cronbach's Alfa ranging between 0.60 and 0.75 (Schwartz, 2005).

Table: 3.1: Reliability of the SVS per value dimension

Value Dimensions	**№[c]**	**Test-Retest Reliability**	**Internal reliability**	
			Mean	**Range**
Benevolence	5	0.75	0.70	0.59-0.81
Universalism	8	0.74	0.75	0.68-0.84
Self-Direction	5	0.70	0.68	0.49-0.76
Stimulation	3	0.76	0.72	0.66-0.78
Hedonism	3	0.71	0.74	0.68-0.84

[c] The number of items measuring each value dimension.

Achievement	4	0.70	0.72	0.61-0.78
Power	4	0.76	0.68	0.54-0.76
Security	5	0.76	0.70	0.45-0.80
Conformity	4	0.77	0.72	0.55-0.79
Tradition	5	0.82	0.60	0.47-0.67

(Adapted from Schwartz, 2005, p. 41)

The validity of the theory of basic human values was established by utilising a different method of measurement – the Portrait Values Questionnaire – which is less abstract than the SVS (Schwartz et al., 2001).The multitrait-multimethod (MTMM) technique (Campbell & Fiske, 1959) was utilised to assess the discriminant and convergent validity of the values by comparing the single-trait-multimethod correlations for each value (e.g. tradition measured by the PVQ and by the SVS) with the multitrait-multimethod correlations (e.g. conformity measured by the PVQ and tradition measured by the SVS) and with the multitrait-single method correlations (e.g. conformity and tradition measured both by the PVQ or the SVS) (Schwartz et al., 2001).

For every value, the single trait-multimethod correlations were significant ($p < 0.0001$), additional to being higher than any of its 18 MTMM correlations (Schwartz et al., 2001). This supports the idea that each value has the same motivational intent irrespective of the method of measurement.

Considering the profile of the sample utilised in the current investigation, the evaluation of the external validity of Schwartz’s values measure became a relevant and important matter. Since the sample consisted primarily of university students the generalisability of values results from the university setting to the workplace becomes a source of concern.

The PVQ has been administrated to samples of adults, university students and adolescents from at least seven countries (Schwartz, 2005). Melech (2001) studied the development of value structures among Israeli children ranging between the ages of 10 and 16 with an earlier version of the PVQ. The results indicated that, by age 10, children could discriminate between the four higher order values. By age 16-17, both male and female respondents involved in the study could distinguish the full circular value structure.

In an effort to cross-culturally validate Schwartz' (1994) theory of basic human values, the 29-item version of the PVQ was administrated to a representative sample of South Africans (N = 3493) of whom only 4 % had schooling beyond high school, about 26 % had not completed the sixth grade (Schwartz et al., 2001). Schwartz et al. (2001) admit that the specific South African sample was the least-educated sample on which the values theory has been tested. Nonetheless, seven of the ten value types were confirmed for the PVQ in the study (Schwartz et al., 2001). These results were much more supportive of the value content and theory compared to the results that were obtained in the 1992 study of black South African university students. The SVS was used in the initial South African study and little support was found for the universal value structure. Only one value dimension was identified as clearly discriminated (Schwartz, 1992).

In a similar study, the PVQ was administrated to 422 Ugandan teachers and 840 adolescents. The Ugandan pupils that participated in the study were between 13 and 14 years of age. The theorised value structure was confirmed in the Ugandan sample. This evidence extends the applicability of the theory of basic human values in two important ways. Firstly the evidence suggests that the theory holds, even in non-western societies (which have not been exposed to Western Schooling) and, secondly, it extends to young teenagers.

In addition, Rokeach (1973) found that the value systems of university students are particularly stable (i.e. reliable). Rokeach (1973) made use of 7th-, 9th- and 11th-graders, university students (first year to postgraduate level) and adults in his research on values. Reported reliability coefficients for terminal and instrumental values were the highest for the first-year university sample (0.80 and 0.70 respectively for the two value types), proving university samples to be highly valid in the study of human values. Schwartz et al. (2001) also made use of university student samples in the majority of his research on basic, societal and work values. Therefore, a university student sample seems highly valid in the study of human values.

3.3.2 Attitude towards cultural diversity

The **Cultural Diversity Beliefs Scale (CDBS)** developed by Rentsch, Turban, Hissong, Jenkins and Marrs (1995) will be used in this study to measure three dimensions of the attitude towards cultural diversity. The three dimensions constituting the scale are (a) Valuing Individual Differences (VID), (b) tolerance for Affirmative Action (AA) and (c) diversity as a source of Competitive Advantage (CA). The *valuing individual differences* dimension emphasises that not only cultural differences such as race, religion, national origin and gender are valued, but also individual differences like skills, attitudes and experiences. Cox and Blake (1991) regard organisations to be multicultural when all subcultures are integrated into the larger organisational culture without prejudice and discrimination. In addition, all cultural groups should respect, value and learn from one another in an inclusive organisational climate.

In contrast to valuing individual differences, the second dimension of the **CDBS**, tolerance for *affirmative action*, emphasises the value of some cultural groups at the expense of others. The legal coercion that organisations face in diversifying their workforces (predominantly white in higher job grades) is of particular interest in the contemporary South African business context, since large-scale alienation of white workers can be expected, especially among white males. Whites may feel that they contribute to the efficiency of the economy with a superior skills repertoire, while minority groups (especially blacks and women) feel entitled to preferential treatment in the work context, due to the injustices of the past that inhibited these groups from reaching their full potential.

A third perspective of cultural diversity views valuing cultural diversity as a source of competitive *advantage* (CA). Cox and Blake (1991) identified six areas in which organisations can gain a competitive advantage by valuing diversity: resource acquisition, organisational flexibility, marketing, cost, problem-solving and creativity.

The **CDBS** was developed to tap the three hypothesised cultural diversity dimensions (Rentsch et al., 1995). The initial scale consisting of 23 items was administrated to two university student samples (Total n = 971). Items were rated on a 7-point scale ranging from 1, strongly agree, to 7, strongly disagree.

3.3.2.1 Reliability and Validity

Rentsch et al. (1995) conducted reliability and dimensionality analysis on the original CDBS. Reliability analysis indicated that two items did not contribute to the internal consistency of the *competitive advantage* (CA) sub-scale and these were subsequently dropped. The internal consistency of all three sub-scales was significant and within acceptable ranges in both samples. Reported Cronbach's alphas were as follows, for sample one and two: VID (0.83 and 0.86), AA (0.72 and 0.63) and CA (0.82 and 0.77) (Rentsch et al., 1995).

Principle components factor analyses with varimax rotations were applied in examining the dimensionality of the scales. Initially, five factors had eigenvalues above 1.00. After evaluating the conceptual merit of the generated five factors, it was decided that a three-factor structure seemed more accurate in reflecting the structure of the **CDBS**. An additional six of the original 23 items were dropped, either because they loaded on more than one factor or because they did not load sufficiently on a specific factor (minimum loading set at the 0.40 level).

Factor analysis of the data indicated that *valuing individual differences* accounted for 19 % and 14 % of the variance in the items in Samples 1 and 2, respectively; *affirmative action* explained 16 % and 12 % of the variance in the items in Samples 1 and 2; while *competitive advantage* accounted for 15 % and 18 % of the variance in Samples 1 and 2, respectively (Rentsch et al., 1955).

Since one of the research objectives of the current study was to validate the **CDBS** in the South African context, the complete 23-item version of the instrument was utilised. Furthermore, in an effort to reduce central response tendency, a 6-point Likert scale was utilised, instead of the original 7-point scale adopted by Rentsch et al. (1995) (Noe, Hollenbeck, Gerhart & Wright, 2006).

3.4 SPECIFICATION OF MEASUREMENT MODELS

The measurement models are statistically portrayed as a number of path diagrams (see Figures 3.1 and 3.2), as well as mathematically as a series of equations (Equations 25 and 73). These equations define the parameters of the original models, which correspond to presumed relationships among observed and latent variables as proposed by the original creators of the instruments. However, with the refinement of the measurement models, the structural configurations of the original measurement instruments also changed. The model specification of the refined measurement instruments are reported individually in section 3.5.2.1.

In general, variables in SEM models are either directly observed or latent (abstract) variables. SEM ideology dictates that latent variables manifest themselves (along with a measurement error component) in indicators that can be measured directly (Jöreskog, 2003). The latter is what is commonly referred to as the measurement segment of the structural model.

3.4.1 Endogenous Measurement Model: CDBS

For the purpose of validating the CDBS, the complete instrument, with all 23 items as proposed by Rentsch et al. (1995), was analysed. The instrument can be expressed in terms of the following set of measurement equations:

$Y_1=\lambda_{13}\eta_3+\varepsilon_1$ -- (1)

$Y_2=\lambda_{22}\eta_2+\varepsilon_2$ -- (2)

$Y_3=\lambda_{32}\eta_2+\varepsilon_3$ -- (3)

$Y_4=\lambda_{42}\eta_2+\varepsilon_4$ -- (4)

$Y_5=\lambda_{51}\eta_1+\varepsilon_5$ -- (5)

$Y_6=\lambda_{62}\eta_2+\varepsilon_6$ -- (6)

$Y_7=\lambda_{72}\eta_2+\varepsilon_7$ -- (7)

$Y_8=\lambda_{83}\eta_3+\varepsilon_8$ -- (8)

$Y_9=\lambda_{93}\eta_3+\varepsilon_9$ -- (9)

$Y_{10}=\lambda_{101}+\eta_1\varepsilon_{10}$ -- (10)

$Y_{11}=\lambda_{111}\eta_1+\varepsilon_{11}$ -- (11)

$Y_{12}=\lambda_{122}\eta_2+\varepsilon_{12}$ -- (12)

$Y_{13}=\lambda_{133}\eta_3+\varepsilon_{13}$ -- (13)

$Y_{14}=\lambda_{142}\eta_2+\varepsilon_{14}$ -- (14)

$Y_{15}=\lambda_{151}\eta_{1} + \varepsilon_{15}$ -- (15)

$Y_{16}=\lambda_{162}\eta_{2} + \varepsilon_{16}$ -- (16)

$Y_{17}=\lambda_{173}\eta_{3} + \varepsilon_{17}$ -- (17)

$Y_{18}=\lambda_{182}\eta_{2} + \varepsilon_{18}$ -- (18)

$Y_{19}=\lambda_{192}\eta_{2} + \varepsilon_{19}$ -- (19)

$Y_{20}=\lambda_{201}\eta_{1} + \varepsilon_{20}$ -- (20)

$Y_{21}=\lambda_{212}\eta_{2} + \varepsilon_{21}$ -- (21)

$Y_{22}=\lambda_{221}\eta_{1} + \varepsilon_{22}$ -- (22)

$Y_{23}=\lambda_{232}\eta_{2} + \varepsilon_{23}$ -- (23)

The original endogenous measurement model is schematically depicted in Figure 3.1

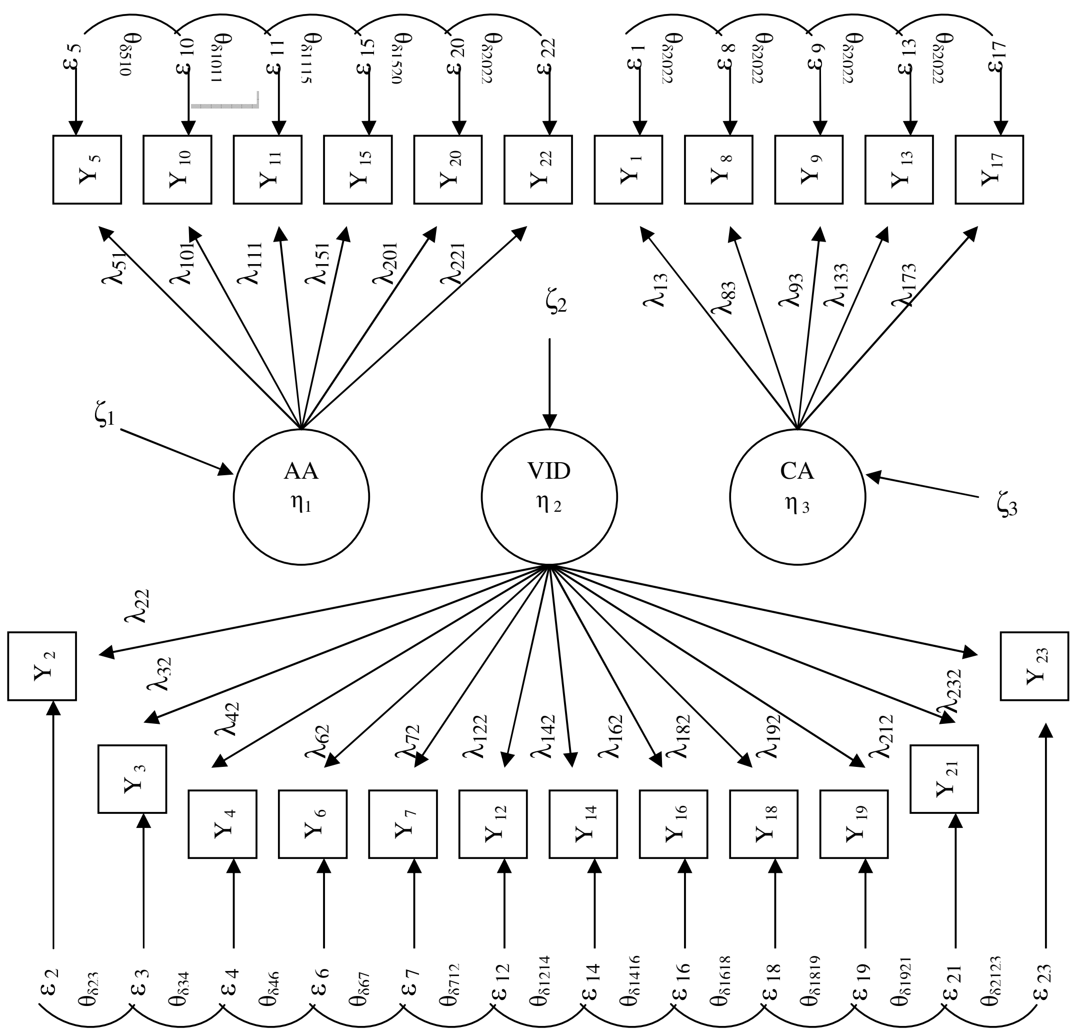


Figure 3.1: Original Endogenous Measurement Model (CDBS)

The original measurement model can alternatively be expressed mathematically as a number of matrices (Equation 24).

$$\begin{pmatrix} Y_1 \\ Y_2 \\ Y_3 \\ Y_4 \\ Y_5 \\ Y_6 \\ Y_7 \\ Y_8 \\ Y_9 \\ Y_{10} \\ Y_{11} \\ Y_{12} \\ Y_{13} \\ Y_{14} \\ Y_{15} \\ Y_{16} \\ Y_{17} \\ Y_{18} \\ Y_{19} \\ Y_{20} \\ Y_{21} \\ Y_{22} \\ Y_{23} \end{pmatrix} = \begin{pmatrix} 0 & 0 & \lambda_{13} \\ 0 & \lambda_{22} & 0 \\ 0 & \lambda_{32} & 0 \\ 0 & \lambda_{42} & 0 \\ \lambda_{51} & 0 & 0 \\ 0 & \lambda_{62} & 0 \\ 0 & \lambda_{72} & 0 \\ 0 & 0 & \lambda_{83} \\ 0 & 0 & \lambda_{93} \\ \lambda_{101} & 0 & 0 \\ \lambda_{111} & 0 & 0 \\ 0 & \lambda_{122} & 0 \\ 0 & 0 & \lambda_{133} \\ 0 & \lambda_{142} & 0 \\ \lambda_{151} & 0 & 0 \\ 0 & \lambda_{162} & 0 \\ 0 & 0 & \lambda_{173} \\ 0 & \lambda_{182} & 0 \\ 0 & \lambda_{192} & 0 \\ \lambda_{201} & 0 & 0 \\ 0 & \lambda_{212} & 0 \\ \lambda_{221} & 0 & 0 \\ 0 & \lambda_{232} & 0 \end{pmatrix} \begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{pmatrix} + \begin{pmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \\ \varepsilon_7 \\ \varepsilon_8 \\ \varepsilon_9 \\ \varepsilon_{10} \\ \varepsilon_{11} \\ \varepsilon_{12} \\ \varepsilon_{13} \\ \varepsilon_{14} \\ \varepsilon_{15} \\ \varepsilon_{16} \\ \varepsilon_{17} \\ \varepsilon_{18} \\ \varepsilon_{19} \\ \varepsilon_{20} \\ \varepsilon_{21} \\ \varepsilon_{22} \\ \varepsilon_{23} \end{pmatrix} \text{-------- (24)}$$

SEM conceptualises the measurement model as a number of matrices which can be compounded as a single equation (Equation 25). In the following compounded equation, the loadings (λ_{ji}) of the observed Y_j variables on the endogenous latent variables (η_i) are reflected in $\mathbf{\Lambda_y}$:

$$\mathbf{Y = \Lambda_y\, \eta + \varepsilon} \text{-- } \mathbf{(25)}$$

Where:

Table 3.2: LISREL convention for interpreting SEM models	
Greek characters	**Description**
Y	Observed, measured or outcome variables

X	Predictors or input variables
ξ [xsi]	Latent exogenous or independent variables
η [eta]	Latent endogenous or dependent variables
Λ_x [lamda]	Regression coefficient describing the strength of the regression of x on η
Λ_y [lamda]	Regression coefficient describing the strength of the regression of y on η
Γ [beta]	Regression coefficient describing the strength of the regression of η on η.
Z [zeta]	Residual error terms reflecting the random error in the structural relationship
ψ [psi]	Describing the variance in and covariance between the residual terms of the endogenous latent variables
δ [delta]	Measurement error terms reflecting the systematic and random error in the observed measure X
ε [epsilon]	Measurement error terms reflecting the systematic and random error in the observed measure Y
Θ [theta]	Describing the variance in and covariance between the residual terms of the measurement error terms
Φ [phi]	Describing the variance in and covariance between the residual terms of the exogenous latent variables

(Adapted from Jöreskog & Sörbom, 1996, p. 2)

3.4.2 Exogenous Measurement Model: SVS

For the purpose of validating the SVS, all 46 items prescribed by Schwartz were included in the analyses. Although the original SVS consists of 57 items, Schwartz prescribes that only 46 specific items should be used when conducting research on the individual level. The rest of the items typically are used to gauge cross-cultural value differences and similarities. The instrument can be expressed in terms of the following set of measurement equations:

$X_1=\lambda_{14}\xi_4 + \delta_1$ ---(26)

$X_3=\lambda_{39}\xi_9 + \delta_3$ ---(27)

$X_4=\lambda_{47}\xi_7 + \delta_4$---(28)

$X_5=\lambda_{55}\xi_5 + \delta_5$---(29)

$X_8=\lambda_{810}\xi_{10} + \delta_8$---(30)

$X_9=\lambda_{96}\xi_6 + \delta_9$---(31)

$X_{11}=\lambda_{111}\xi_1 + \delta_{11}$---(32)

$X_{12}=\lambda_{129}\xi_9 + \delta_{12}$---(33)

$X_{13}=\lambda_{1310}\xi_{10} + \delta_{13}$--(34)

$X_{15}=\lambda_{1510}\xi_{10} + \delta_{15}$--(35)

$X_{16}=\lambda_{165}\xi_{5} + \delta_{16}$--(36)

$X_{17}=\lambda_{174}\xi_{4} + \delta_{17}$--(37)

$X_{18}=\lambda_{182}\xi_{2} + \delta_{18}$--(38)

$X_{20}=\lambda_{201}\xi_{1} + \delta_{20}$--(39)

$X_{22}=\lambda_{2210}\xi_{10} + \delta_{22}$--(40)

$X_{24}=\lambda_{244}\xi_{4} + \delta_{24}$--(41)

$X_{25}=\lambda_{256}\xi_{6} + \delta_{25}$--(42)

$X_{26}=\lambda_{264}\xi_{4} + \delta_{26}$--(43)

$X_{27}=\lambda_{279}\xi_{9} + \delta_{27}$--(44)

$X_{29}=\lambda_{294}\xi_{4} + \delta_{29}$--(45)

$X_{30}=\lambda_{304}\xi_{4} + \delta_{30}$--(46)

$X_{31}=\lambda_{315}\xi_{5} + \delta_{31}$--(47)

$X_{32}=\lambda_{322}\xi_{2} + \delta_{32}$--(48)

$X_{33}=\lambda_{333}\xi_{3} + \delta_{33}$--(49)

$X_{34}=\lambda_{348}\xi_{8} + \delta_{34}$--(50)

$X_{35}=\lambda_{354}\xi_{4} + \delta_{35}$--(51)

$X_{36}=\lambda_{362}\xi_{2} + \delta_{36}$--(52)

$X_{37}=\lambda_{376}\xi_{6} + \delta_{37}$--(53)

$X_{38}=\lambda_{384}\xi_{4} + \delta_{38}$--(54)

$X_{39}=\lambda_{398}\xi_{8} + \delta_{39}$--(55)

$X_{40}=\lambda_{401}\xi_{1} + \delta_{40}$--(56)

$X_{41}=\lambda_{415}\xi_{5} + \delta_{41}$--(57)

$X_{43}=\lambda_{438}\xi_{8} + \delta_{43}$--(58)

$X_{44}=\lambda_{442}\xi_{2} + \delta_{44}$--(59)

$X_{45}=\lambda_{453}\xi_{3} + \delta_{45}$--(60)

$X_{46}=\lambda_{469}\xi_{9} + \delta_{46}$--(61)

$X_{47}=\lambda_{471}\xi_{1} + \delta_{47}$--(62)

$X_{49}=\lambda_{493}\xi_{3} + \delta_{49}$--(63)

$X_{50}=\lambda_{507}\xi_{7} + \delta_{50}$--(64)

$X_{51}=\lambda_{512}\xi_{2} + \delta_{51}$--(65)

$X_{52}=\lambda_{523}\xi_{3} + \delta_{52}$--(66)

$X_{53}=\lambda_{535}\xi_{5} + \delta_{53}$--(67)

$X_{54}=\lambda_{543}\xi_3 + \delta_{54}$--(68)

$X_{55}=\lambda_{558}\xi_8 + \delta_{55}$--(69)

$X_{56}=\lambda_{5610}\xi_{10} + \delta_{56}$--(70)

$X_{57}=\lambda_{577}\xi_7 + \delta_{57}$--(71)

The original exogenous measurement model is schematically depicted in Figure 3.2:

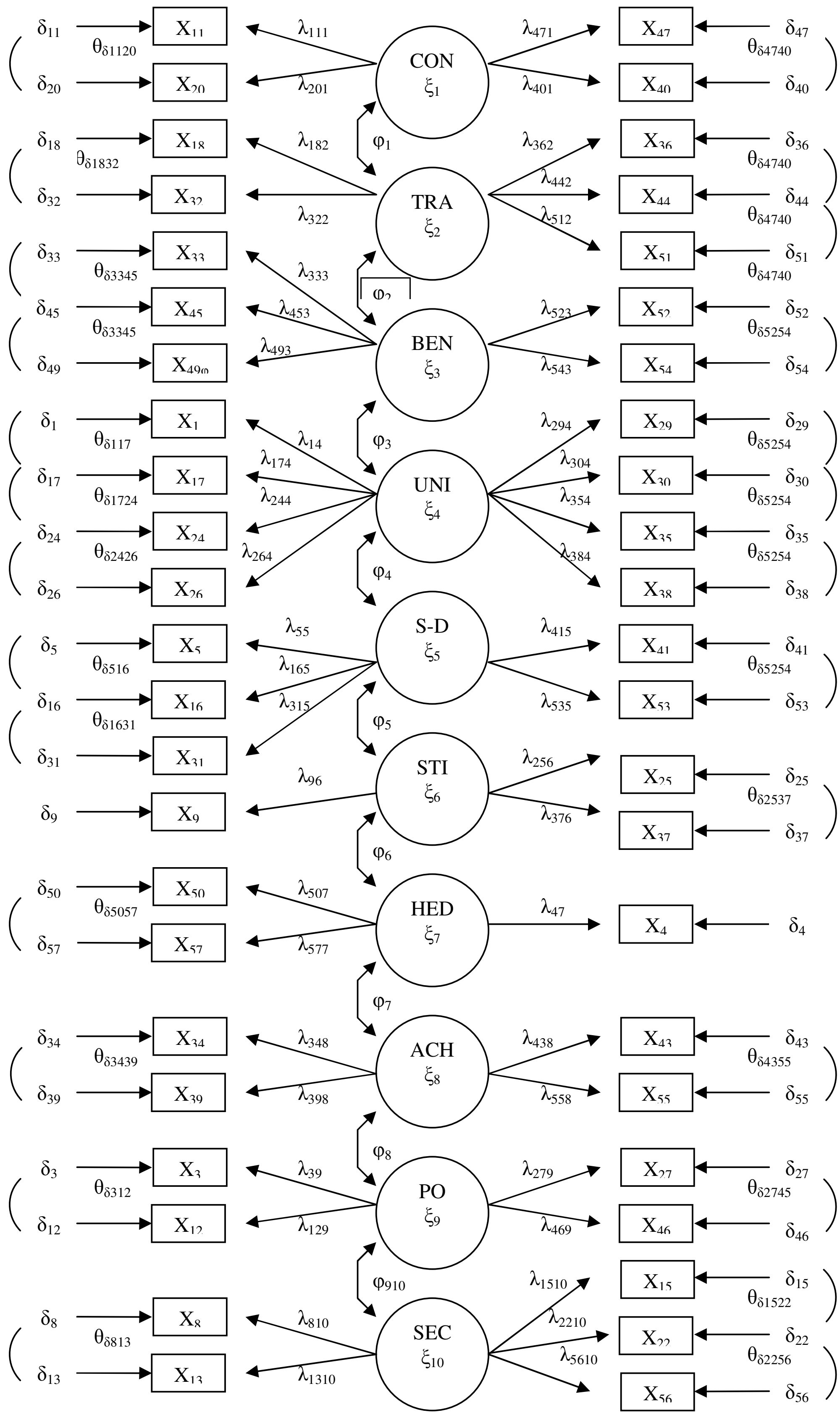


Figure 3.2: Original Exogenous Measurement Model (SVS)

$$
\begin{pmatrix} X_{1} \\ X_{3} \\ X_{4} \\ X_{5} \\ X_{8} \\ X_{9} \\ X_{11} \\ X_{12} \\ X_{13} \\ X_{15} \\ X_{16} \\ X_{17} \\ X_{18} \\ X_{20} \\ X_{22} \\ X_{24} \\ X_{25} \\ X_{26} \\ X_{27} \\ X_{29} \\ X_{30} \\ X_{31} \\ X_{32} \\ X_{33} \\ X_{34} \\ X_{35} \\ X_{36} \\ X_{37} \\ X_{38} \\ X_{39} \\ X_{40} \\ X_{41} \\ X_{43} \\ X_{44} \\ X_{45} \\ X_{46} \\ X_{47} \\ X_{49} \\ X_{50} \\ X_{51} \\ X_{52} \\ X_{53} \\ X_{54} \\ X_{55} \\ X_{56} \\ X_{57} \end{pmatrix}
=
\begin{pmatrix}
0 & 0 & 0 & \lambda_{14} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{39} & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda_{47} & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda_{55} & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{96} & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{810} \\
\lambda_{111} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{129} & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{1310} \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{1510} \\
0 & 0 & 0 & 0 & \lambda_{165} & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & \lambda_{174} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & \lambda_{182} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
\lambda_{201} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{2210} \\
0 & 0 & 0 & \lambda_{244} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & \lambda_{256} & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & \lambda_{264} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{279} & 0 \\
0 & 0 & 0 & \lambda_{294} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & \lambda_{304} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda_{315} & 0 & 0 & 0 & 0 & 0 \\
0 & \lambda_{322} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda_{333} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{348} & 0 & 0 \\
0 & 0 & 0 & \lambda_{354} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & \lambda_{362} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & \lambda_{376} & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & \lambda_{384} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{398} & 0 & 0 \\
\lambda_{401} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda_{401} & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{438} & 0 & 0 \\
0 & \lambda_{442} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda_{453} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{469} & 0 \\
\lambda_{471} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda_{493} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda_{507} & 0 & 0 & 0 \\
0 & \lambda_{512} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda_{523} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda_{535} & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda_{543} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{558} & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{5610} \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda_{577} & 0 & 0 & 0
\end{pmatrix}
\begin{pmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \\ \xi_5 \\ \xi_6 \\ \xi_7 \\ \xi_8 \\ \xi_9 \\ \xi_{10} \end{pmatrix}
+
\begin{pmatrix} \delta_{1} \\ \delta_{3} \\ \delta_{4} \\ \delta_{5} \\ \delta_{8} \\ \delta_{9} \\ \delta_{11} \\ \delta_{12} \\ \delta_{13} \\ \delta_{15} \\ \delta_{16} \\ \delta_{17} \\ \delta_{18} \\ \delta_{20} \\ \delta_{22} \\ \delta_{24} \\ \delta_{25} \\ \delta_{26} \\ \delta_{27} \\ \delta_{29} \\ \delta_{30} \\ \delta_{31} \\ \delta_{32} \\ \delta_{33} \\ \delta_{34} \\ \delta_{35} \\ \delta_{36} \\ \delta_{37} \\ \delta_{38} \\ \delta_{39} \\ \delta_{40} \\ \delta_{41} \\ \delta_{43} \\ \delta_{44} \\ \delta_{45} \\ \delta_{47} \\ \delta_{49} \\ \delta_{50} \\ \delta_{51} \\ \delta_{52} \\ \delta_{53} \\ \delta_{54} \\ \delta_{55} \\ \delta_{56} \end{pmatrix}
$$

The original measurement model alternatively can be expressed mathematically as a number of matrices (Equation 72).

SEM conceptualises the measurement model as a number of matrices which can be compounded as a single equation (Equation 73). In the following compounded equation, the loadings (λ_{ji}) of the observed X_j variables on the exogenous latent variables (ξ_i) are reflected in $\mathbf{\Lambda_x}$:

$$\mathbf{X = \Lambda_x \xi + \delta} \text{--} \mathbf{(73)}$$

The foregoing configurations of the CDBS and the SVS were utilised for the validation of the instruments in the South African sample of university students. A complete account of the analysis procedure and techniques used in the validation and refinement of the measurement models, as well as the fitment of the generic structural model, is provided in the following section.

3.5 DATA ANALYSIS PROCEDURE

An outlay of the data analysis procedure is provided in the subsequent section.

3.5.1 Preparing and Screening of the data

The analysis techniques that will be utilised in this study are quantitative in nature. The correlation design of the study enables the researchers to examine the relationship among various variables through bivariate and multivariate correlation techniques. The following analyses were performed on the data: (a) assessment of internal consistency using SPSS (Version 14), (b) Confirmatory Factor Analysis (CFA) (using LISREL Version 8.72), (c) Exploratory Factor Analysis using SPSS (Version 14), (d) Structural Equation Modelling (SEM) (using LISREL Version 8.72) and (e) regression analysis. Prior to analysis, it was ensured that the model was identified (details follow below). In addition the value responses were centred (Schwartz, Verkasalo, Antonovsky & Sagiv, 1997) to counter the effect of scale usage.

However, some data testing and preparation are needed before the implementation of *Structural Equation Modelling (SEM)*. This typically involves an exercise of (a) testing for univariate and multivariate normality, (b) centring of values data, (c) dealing with missing values, and (d) item parcelling

(a) *Multivariate Normality*: Most estimation methods in SEM assume multivariate normality, which means that (1) all the univariate distributions are normal; (2) bivariate scatter plots are linear and homoscedastic; and (3) the distribution of variable pairs are also bivariate normal (Kline, 2005). LISREL convention dictates that maximum likelihood estimations (MLE) should be used to determine the parameters of the measurement model. However, maximum likelihood requires that the independent variables should follow a multivariate normal distribution. In the absence of multivariate normality, the chi-square fit statistic for the model as a whole is biased toward Type 1 error (i.e. rejecting the model which should not be rejected). Furthermore, when working with non-normal test data, the likelihood of finding too many significant results remains a real danger (Garson, 2006). Therefore it makes sense to evaluate the multivariate normality of the dataset before testing both the measurement and structural models using the SEM methodology.

One way of determining whether data are distributed normally is to examine skewness and kurtosis indicators. Frequency distributions such as normal probability plots show actual *z* scores in relation to ones expected in a normal distribution and were utilised to investigate the normality of the data set.

In the event that data cannot be normalised, weighted least squares (WLS), diagonally weighted least squares (DWLS) and robust maximum likelihood (RML) could be used to estimate models using non-normal data (Du Toit & Du Toit, 2001; Du Toit & Mels, 2002; Mels, 2003). Mels (2003) recommends the use of robust maximum likelihood estimation if the assumption of a multivariate normal distribution does not hold. Consequently, RML was used as default estimation technique in the LISREL analyses, but WLS and DWLS were also used in the fitment of the measurement models.

(b) *Correcting Scale Usage*: Individuals and cultural groups differ in the way that they use the response scale (Schwartz et al, 1997; Smith, 2004).

Epistemologically, it is important to ascertain whether differences in response patterns are attributable to differences in usage of scale or due to unique variance that exists between samples of respondents. Schwartz et al. (1997) are of the opinion that differences in response patterns are due to differences in scale usage and should be statistically controlled, less to avoid drawing erroneous conclusions when using values either as a dependent or independent variable in analyses. Schwartz et al. (1997) furnish two reasons why differences in responses are due to scale usage:

1. The first theoretical ground that supports the hypothesis that differences in mean scores of values are largely due to scale usage is founded on the assumption that on-average values as a whole are of equal importance to all individuals. Some individuals (or groups) view certain values as more important than others but they, on average, are viewed more or less as equally important. This assumption is dependent on a further assumption that the SVS measures the full range of values to which individuals attribute importance (i.e. the instrument is comprehensive). Empirical results support both these assumptions (Schwartz, 1992, 1994; Schwartz et al., 1997, 2001; Smith, 2004). Therefore, if it is indeed true that individuals assign the same importance to values on average, differences in individual mean scores can only be due to usage of scale and not value substance. Of course, some of the mean score differences would be due to value substance but, empirically, analyses indicate that the majority of variance between scores are due to scale use bias (Schwartz et al., 1997).

2. The second theoretical ground underpinning this assumption is founded on the notion that values do not function in isolation but rather in an integrated system of value priorities. For example, any decision in favour of a particular value is bound to have consequences for the attainment or frustration of other values. What is of real importance thus is not the single standing on a particular value per se, but the network of trade-offs relevant to any value decisions (Schwartz, 2006).

Correcting for scale use converts absolute value scores into scores that indicate the relative importance of each value in the value system, i.e. the individual's value priorities. Centred scores have consistently been more supportive of hypotheses in which values are related to other variables, whether it be attitudes, behaviour or background (Schwartz, 2005). Indeed, with raw scores, associations sometimes reverse. Schwartz (2005) maintains that voluminous empirical evidence exists that support the use of centred scores in values related research.

(c) *Missing Data:* A **Pattern Matching** method was used to impute missing values using the PRELIS program of LISREL 8.72 (Jöreskog & Sörbom, 1996). Pattern Matching replaces a missing observation with a score from another case with a similar profile of scores across other variables (Kline, 2005). Typically, one would identify variables that are minimally plagued by missing values (through statistics output options in PRELIS) to serve as matching variables in the missing value imputation process.

(d) *Item parcelling*: Individual items are generated to capture the constitutive meaning of the constructs that measurement scales espouse to gauge. Items are developed to elicit responses that reflect the relatively uncontaminated behavioural expressions of specific latent variables (Theron, 2006). Item analysis methodology evaluates to what extent the generated items succeed in capturing the constitutive meaning of the to-be-measured latent construct comprehensively and in an uncontaminated manner.

By implication, one would expect the individual items that survived the opportunity to be refuted through the process of item analyses to present more homogenous stimulus sets to respondents. The resulting responses would be more a function of the respondents' standing on a latent construct rather than random chance (error) factors.

Since, items that failed to contribute to the internal consistency of the instrument have been revised, substituted or deleted, the remaining items are assumed to present a parsimonious stimulus set that reflect a specific latent variable under consideration. Therefore it would be possible to regress each and every item individually onto the proposed latent variable that the item espouses to operationalise. This was done during the validation of the two individual measurement models (Figures 3.1 and 3.2).

However, due to numerous sub-sections and the large number of indicator variables, the fitting of the comprehensive structural model would be very extensive and voluminous if all items were used as indicators of the latent variables. Item parcelling is normally used to overcome this problem prior to fitting the structural model. Consequently, two indicator variables were created from each sub-scale by calculating the unweighted average of the odd-numbered items and the even-numbered items of each scale (Spangenberg & Theron, 2004). Parcelling will result in estimation of fewer parameters in the measurement model; as a result the estimates will be more stable. These parcels will typically exhibit distributions that more closely approach normal distribution than the original items (Hoyle, 1995).

3.5.2 Statistical Analysis

SEM was used predominantly for the validation of the measurement instruments. The technique is specifically suitable for validating psychological measures, since it has the ability to concurrently estimate multiple (1) regression coefficients, as well as (2) variances and covariances of latent variables in hypothesised models (Bentler, 1995). The theorised relationships between variables are estimated by making use of covariance algebra to produce a population covariance matrix from the sample matrix. The main advantage of this full information technique is the quality of information that the researcher has to his/her disposal when evaluating models. Whereas one traditionally had to conduct multiple analyses when evaluating different facets of measurement instruments, SEM provides a host of analyses which can be used to infer, for example, the internal consistency of measures; dimensionality of latent constructs; as well as strength of relationships between hypothesised structural and measurement terms, among many other things.

The CDBS and the SVS were evaluated, for both the purpose of validating the instruments, as well as for the refinement of the measures, according to three broad criteria. Firstly, the reliability of the measures was assessed using traditional item analysis (using SPSS) and Confirmatory Factor Analysis (using LISREL). Secondly, the dimensionality was assessed through Confirmatory Factor Analysis (using LISREL) and Exploratory Factor Analysis (using SPSS).

Most information generated from the EFA outputs can also be inferred from the CFA. McDonald (2005) argues that EFA can indeed be used in a confirmatory fashion. In general CFA is regarded as a more robust statistical technique when one is interested in the overall fit of a theoretical model to a dataset (Kline, 2005). However, Fabrigar, MacCullum, Strahan and Wegener (1999) concluded that EFA results generated with prespecified conditionalities can provide incremental information regarding key model parameters of the restricted model. In agreement McDonald (2005, p. 171) states the following:

> *There is a case for accompanying a restricted, fully confirmatory factor analysis, in which the pattern of the entire factor loading matrix has been specified on substantive grounds, by a parallel unrestricted factor analysis that is also confirmatory in intention. This allows us to see if anything has been missed by the former. If the two analyses are essentially consistent, the overall weight of evidence is increased. If there are points of inconsistency, these may lead- at least as safely as the use of modification indexes-to modified hypotheses for further test.*

Following this line of argument it seems optimal to conduct restricted and unrestricted factor analytic techniques simultaneously on the same theoretical model.
However, Kline (2005) warrants a stern warning by stating that it is methodological imprudent to specify a CFA model based on EFA results, since this process is fundamentally data-driven and mostly not replicable to diverse datasets. Furthermore, some evidence exist which suggest that factor structures identified from EFA analysis have relatively poor fit to the same data when evaluated with a CFA methodology (Kline, 2005; Van Prooijen & Van der Kloot, 2001). For this reason it seems prudent

to regard restricted and unrestricted factorial results as parallel and supplementary rather than consequential and dependent.

Lastly, model parameters and modification indices were evaluated through Confirmatory Factor Analysis (using LISREL). However, a critical first step prior to conducting confirmatory factor analysis is to assess whether the envisioned dataset meet the assumptions of linearity and normality on which factor analysis is based (De Bruin, 2004). Violation of these basic assumptions underlying factor analysis often leads to attenuated correlations between items, low communalities, low factor loadings and large unique variances relative to shared variance (Bernstein & Teng, 1989; Reise, 1999). These problems are augmented when conducting factor analysis on items (De Bruin, 2004). The problem primarily stems from the fact that relations between items are often non-linear, items are not completely reliable (i.e. item variance reflect true score variance and error variance) and item scales are not continues (i.e. intervals between points of items are not equivalent compared to those of scales) (Bandalos, 2002). Bandalos (2002, p.90) describes the intervals between scale points as "course catagorisations" rather than discreet ratios. For this reason most psychological constructs violates the assumptions underlying factor analysis because few variables are measured on at least an interval scale and are linear (Finch & West, 1997).

However, existing empirical results seems to suggest that when the assumptions of linearity and multivariate normal distributions are violated, standard errors are inflated, chi square indices are inflated and standard errors are reduced (Finch & West, 1997). However, a Monte Carlo study by Muthén and Kaplan (1985) investigated results derived from different estimation techniques (i.e. ML, Generalized Least-Squares, Asymptotically Distribution free, Categorical variable methodology) when applied within a CFA SEM framework on non-normal categorical variables, treated as interval scale (continues) non-normal variables. Results from the stimulation suggested when Likert scales contain at least five categories, the data is specified to be continues, moderately skewed and kurtotic, it is allowable to conduct CFA SEM analysis using ML estimations, as no severe distortion of the parameter, standard error and chi square estimates were observed (Muthén & Kaplan, 1985). For this reasons it seems appropriate to conduct factor analysis on the current dataset since the SVS (7 point scale) and CDBS (6 point scale) have more than five response scale catagories.

Finally, nine basic steps were utilised to assess the internal consistency, dimensionality and CFA model parameters of the CDBS and the SVS. Rather than following a precise order, the steps are iterative in nature, since a problem at later stages of the analyses necessitates one to return to earlier steps. The following ten basic steps were utilised to analyse the data:

1. Internal reliability
2. Dimensionality analysis
3. Specification of the model
4. Model Identification
5. Estimation of measurement models
6. Evaluation of model fit
7. Examination of model parameters
8. Modification of model
9. Alternative models
10. Moderated regression analysis

Steps in the CFA using SEM

Each of these steps will be elaborated on in the subsequent section.

3.5.2.1 Reliability Analysis

Internal Consistency: **Item analysis** was conducted on all the sub-scales of the SVS and the CBDS by means of the SPSS Reliability Procedure (SPSS 14.0, 2005). Measurement instruments – and by implication the items that comprise these measures – are designed to act as a stimulus set that aims to elicit responses that are dependent on the to-be-measured construct. Coefficient alpha (α) is the numerical formula used for determining the internal consistency reliability.

The important question that item analysis attempts to answer concerns the extent to which individual items succeed in capturing the constitutive meaning of the constructs under consideration. If the construct(s) being operationalised by the psychometric measure(s) are assumed to be uni-dimensional, test items as a whole should consistently reflect the construct in a synchronised fashion. If a scale taps a single construct or domain, such as values or attitude towards cultural diversity, then construct validity would be inferred if the scale (a) consists of items that sample the entire domain and (b) does not include items that tap other abilities or constructs. Since classical test theory assumes that the items on a scale are a random sample from the universe of all possible items reflecting a specific domain, then they should inter-correlate highly with one another (Streiner, 2003).

Nunnally (1978) argues that item-total correlations in the excess of 0.20 are high enough to prove acceptable agreement between measurement items. Less agreement exists among scholars with regard to the minimum acceptable coefficient alpha per sub-scale of measures. Nunnally (1978), as well as Anastasi and Urbina (1997), state that the minimum acceptable level of internal consistency is dependent on the intended use of test information. In general, higher coefficients are expected if test information is being used as basis for selection decisions. As a general rule, values in the excess of 0.70 are acceptable for individual sub-scales comprising measures (Nunnaly, 1978). Although higher coefficient alpha values are generally preferred by researchers, Streiner (2003, p. 102) warns that "bigger is not always better", the argument being that α not only measures the homogeneity of items, but also the homogeneity of the underlying dimension reflected by indicators. Often, psychological constructs, although seemingly uni-dimensional, comprise a number of unique factors. For example, the CDBS consists of the Valuing Individual Differences (VID); Cultural Diversity as a source of Competitive Advantage (CA); and tolerance for Affirmative Action (AA) sub-scales that all represent unique dimensions of the construct attitude toward cultural diversity. Therefore we would expect items reflecting different dimensions of the same construct to show some degree of heterogeneity (Steiner, 2003). Based on this logic, we would expect the α score per sub-scale to be higher than α for the total measure, but even when taken per sub-scale, α should not be too high (greater than 0.90). Higher values may reflect unnecessary duplication of content across items and point more to redundancy than to homogeneity; or, as McClelland (1980) put it, "asking the same question many different ways" (p. 30).

In the final analysis, all items should be developed to function as homogenous stimulus sets to which participants respond with behaviour that is a relatively uncontaminated expression of a specific underlying latent variable (Theron, 2007). To this end, item analysis is a technique that is used to identify and eliminate those items from a measure that do not contribute to an internally consistent description of the sub-scale in question. Therefore, reliability can be built into instruments through the arduous selection, substitution, or revision of those stimuli from the stimulus set (i.e. test items) that do not elicit responses that are pure and comprehensive manifestations of the construct(s) to be measured (Anastasi & Urbina, 1997).

The foregoing refers to what is commonly known in psychometric jargon as error variance or random error (Tabachnick & Fidell, 2001). According to classic reliability theory, the consistency of indicator variables is defined as the proportion of true variance relative to total variance (i.e. true variance plus error variance). Therefore, in the classic sense, reliability should be assessed as the proportion of variance in the indicator variables accounted for by the relevant factor (i.e. the squared multiple correlation (R^2)). SMC is denoted by:

$$SMC_{var\,i} = \frac{\lambda_i^2}{\lambda_i^2 + \Theta_{ii}} \qquad \text{(74)}$$

The factor loading *i* is squared and divided by that value plus the residual variance associated with variable *i.* The proportion of variance accounted for by the factor is the squared lambda (λ_i) loading subtracted from 1. Tabachnick and Fidell (2001) warn, however, that the R^2 value is only applicable when there are no complex factor loadings or correlated error terms. For this reason it was decided to examine both the Cronbach's Alpha statistic by way of classical item analysis and the R^2 value generated through the CFA using LISREL (Hair et al., 2006).

After considering all the foregoing information it was decided to accept an absolute lower boundary coefficient alpha of 0.70 per sub-scale and 0.20 as an absolute lower boundary for item-total correlations per individual items. Furthermore, R^2 values in excess of 0.25 were considered indicative of acceptable reliability in so far as indicators proportionally reflect at least 25 % unique variance in the to-be-measured factor. Furthermore, the increase in Cronbach alpha upon deletion of an item was considered *prima facie* evidence that the particular item(s) made no contribution to the internal consistency of the scale and were to be considered for reconceptualisation or deletion, depending on the magnitude of the predicted increase in α upon deletion.

Table 3.3 provides a summary of minimum acceptable criteria and decision-making rules with regard to internal reliability of measurement instruments.

Table 3.3: Minimum acceptable criteria and decision-making rules for the evaluation of the internal consistency of the measurement models

Item Description	Scale	Cronbach's Alpha per sub-scale	Corrected Item-total Correlation	Cronbach's Alpha if item Deleted	Unique Variance Explained by Item (R^2)
		$\alpha > 0.70$	> 0.20	Increase in Cronbach's Alpha upon deletion of item signifies a possible problematic item since it does not contribute towards the internal consistency of the sub-scale and should be considered for re-conceptualisation or deletion	λ^2_x & $\lambda^2_y \geq 0.25$

3.5.2.2 Dimensionality Analysis

When assessing the internal reliability of measures, the fundamental question that the researcher is interested in is whether items (i.e. indicators) successfully (comprehensively and consistently) reflect underlying latent construct(s). When assessing the dimensionality of instruments, the question arises *what* are the underlying domains or dimensions of constructs that items reflect? Fundamentally, factor analytic theory postulates that relationships between variables are the result of the workings of common underlying factors (Nunnally, 1978). Discerning factor structures of constructs is vitally important in the process of construct validation. Obviously, construct validation is intimately related to issues of scientific generalisation. Ultimately researchers are interested in devising theories that hold true over time and diverse settings. Robust construct structures suggest that human behaviour is the result of a complex, yet discernable nomological network of variables.

For this reason it seemed fruitful and prudent to assess the *robustness* of the construct inferences devised by the original authors who developed the SVS and CDBS. The methodology used to assess the dimensionality of constructs depends on the research agenda of the study. Since it was postulated in the current study that the dimensions comprising the attitude towards cultural diversity (i.e. VID, AA and CA) and values (i.e. CON, TRA, BEN, UNI, S-D, STI, HED, ACH, PO and SEC) relate uniquely with one another, it was essential to confirm the uni-dimensionality of the measurement instruments.

Uni-dimensionality was assessed via the Principal-Axis technique with Direct Oblimin rotations using SPSS (version 16, 2007). Prior to performing the EFA, the suitability of the data for factor analysis was assessed by means of the Keiser-Meyer-Olkin (KMO) index of sampling adequacy. Possible KMO index values range between 0 and 1, with 0.60 indicating minimum factorability (Tabachnick & Fidell, 2001). When this minimum requirement was achieved, the factor analysis could proceed.

When looking at adequate EFA factor loadings, Comrey and Lee (1992) suggest that factor loadings can be judged by using the following normative values:

- Loadings of 0.71 and above are considered excellent (50 % overlapping variance)
- Loadings between 0.63 and 0.71 are considered very good (± 40 % overlapping variance)
- Loadings between 0.55 and 0.63 are considered good (± 30 % overlapping variance)
- Loadings between 0.45 and 0.55 are considered fair (± 20 % overlapping variance)

- ❖ Loadings between 0.32 and 0.45 are considered poor (± 10 % overlapping variance

An absolute minimum factor loading boundary of 0.50 was adopted in the current study. This means that if an item was unable to account for at least 25 % of overlapping variance, the item was flagged as a bad item. See Table 3.4 for the summary of minimum acceptable criteria and decision-making rules with regard to uni-dimensionality of measurement instruments.

Table 3.4: Minimum acceptable criteria and decision-making rules for the evaluation of uni-dimensionality of the measurement models

Item Description	Scale	Keiser-Meyer-Olkin (KMO) measure of Sampling Adequacy per sub-scale	Factor loadings	Percentage Variance Explained
		KMO > 0.60	> 0.50	Percentage overlapping variance explained by specific item

3.5.2.3 Model identification

Model identification entails examining the data to ascertain whether it is possible to find unique values for the freed parameters (prior to fitting the structural model to the data) of the specified model. It is necessary to ensure that the model is identified to ensure that sufficient information is available to obtain a unique solution for the freed parameters to be estimated and tested in the model. "To obtain a unique solution of the parameters in a LISREL model, it is necessary that the number of independent parameters being estimated is less than or equal to the number of non-redundant elements of S, the sample matrix of covariance among the observed variables" (Diamantopoulos & Siguaw, 2000, p. 48). This means that for each free parameter there is at least one algebraic function that reflects that parameter as a function of the variance/covariance structure implied by the data (MacCullum, 1995).

This rule of thumb is captured in the following formula:

$$\mathbf{t \leq s/2}$$

Where	T =	the number of parameters to be estimated
	s =	The number of variances and covariances amongst the manifest (observable) variables, calculated as (p + q)(p + q + 1)
	P =	The number of y-variables
	Q =	The number of x- variables

3.5.2.4 Estimation of measurement models (CFA)

Factor analysis is a statistical technique which enables the researcher to identify variables that form coherent subsets but which collectively form part of a larger criterion domain. The objective of factor analysis is to group variables that correlate highly together into factors, since they reflect some underlying phenomenon that has caused the correlation in the first place (Tabachnick & Fidell, 1989). This is typically done to evaluate the uni-dimensionality of each of the factors/dimensions by identifying patterns of correlations among a set of measures – in this case, responses to a set of values and attitudes statements.

Contrary to conventional statistical analysis, it was decided to conduct Confirmatory Factor Analysis (using LISREL 8.72) prior to Exploratory Factor Analysis (EFA). EFA does not require *a priori* hypotheses about how indicators are assumed to relate to latent variables or even the number of factors. Typically, no restrictions are placed on how indicators correlate with factors when conducting an EFA. Hence the term *exploratory*, which suggests that the analysis technique will extract the correct amount of factors along with their corresponding indicators in the absence of any formulated theory dictating the correspondence between indicators and factors (Kline, 2005).

On the other hand, CFA determines the estimated *fit* of the proposed substantive research hypotheses to the data by explicitly adhering to restrictions that the researcher placed on the number of factors being extracted and their individual indicators according to a formulated theory prior to the analysis. CFA places theorising back in its rightful place as the cornerstone of social research by necessitating the building of hypotheses that explicate the expected structure of the theory, rather than permitting analysis techniques to dictate how (and how many) variables should relate to one another. Theron (2007), in agreement, states that a distinction should be made between EFA and CFA, depending on the orientation of the analysis. Since constructs are unobservable, intellectual conceptualisations of their existence and interaction with other variables can only be validated through identification, conceptualisation and linkage with indicator variables (Kline, 2005). This vindication process generally refers to:

> (a) the extent to which the measuring instrument measures the construct it was designed to measure in accordance with its constitutive definition (a deductive perspective on construct validity examined through the EFA approach)
> (b) the extent to which the obtained research results can be attached to the connotative meaning of the construct under consideration (an inductive perspective on construct validity examined through the CFA approach)

Therefore, the objective of the CFA was to determine whether the proposed factor structure of the CDBS and the SVS provided an acceptable explanation for the observed correlation matrix (this forms the measurement model segment of the generic structural model). Secondly, the proposed relationships between constructs have been analysed by attempting to fit the proposed structural model to the data (structural model segment of the generic structural model).

In a further effort to assess the external validity (i.e. generalisability) of the measurement instruments, a *quasi double cross-validation* procedure was utilised in the present study. Studies that confirm construct dimensionality using CFA or EFA run the risk of merely confirming unique response trends in the data, rather than universal associations which remain true over testing times and samples. The cross-validation approach addresses this problem by testing the external robustness of measurement instruments in exposing measurement models to at least two or more testing samples. In the absence of two or more samples and when sufficiently big single-sample data exist, research can implement a quasi double cross-validation procedure by dividing a single sample into two equal sub-samples: (a) a calibration sample and (b) and a validation sample.

All model refinements were done on the calibration sample (training subsample), i.e. evaluating the internal consistency (item analysis), dimensionality (EFA) and refinements (EFA and progressive rounds of CFA) of the two measurement instruments.

Sample two was used as the validation sample (testing subsample), i.e. replicating the factorial structures confirmed in the training subsample for both measurement models (CBDS and SVS), as well as fitting the generic structural model to the data.

Fit indices derived from each of the CFAs conducted on both subsamples were evaluated and compared, using guidelines (mostly rules of thumb) to numerically determine which model provided the best fit for the data.

3.5.2.5 Evaluate model fit

LISREL 8.72 (Jöreskog & Sörbom, 1996) was used to perform CFA on the endogenous as well as the exogenous dimensions of the measurement models. Subsequently, the fit of the generic structural model was analysed.

Data was imported into PRELIS to compute a covariance matrix was subsequently used in the LISREL analysis. Subsequently, the proposed models (measurement and structural models) were fitted to the data and the goodness of fit indices evaluated. Goodness-of-fit indices answer the research question "How valid is the proposed model?" The ability of the model to reproduce the observed covariance matrix is indicative of the construct validity of the proposed theoretical model (Hair, Black, Babin, Anderson & Tatham, 2006). Assessing the fit of SEM models is complicated since there is no single test statistic that best describes the goodness-of-fit of the proposed model relative to the reproduced model. Best practice convention dictates looking at a combination of fit indices in order to get an overall idea of how well the proposed model fits the data (Hair, Black, Babin, Anderson & Tatham, 2006). Model fit should be evaluated on three levels: 1) overall fit, 2) comparative fit to a base model, and 3) model parsimony (Hair, Black, Babin, Anderson & Tatham, 2006).

Over the last decade, considerable research has been dedicated to the topic of SEM model fit (Hu & Bentler, 1993, 1998, 1999). However, no single unambiguous criterion has emerged for testing a hypothesised model and most researchers are forced to adhere to guidelines or rules-of-thumb rather that concrete empirically derived standards. Some of the goodness-of-fit statistics along with proposed guidelines for cut-off levels for those indices that would indicate acceptable fit will be reported next.

- ***Measures of Absolute Fit***

Absolute goodness-of-fit indices represent the most basic assessment of how well the proposed model specified by the researcher is able to reproduce the observed data. Unlike *incremental fit* indices, absolute goodness-of-fit measures do not compare the proposed model to any other model, but rather analyse each model independently (Hair et al., 2006). The following absolute goodness-of-fit measures were considered: Chi-square (χ^2) test statistic, Root Mean Square Error of Approximation (RMSEA), Standardised Root Mean Residual (SRMR), Goodness-of-Fit Index (GFI).

The most frequently used measure for evaluating model fit is the likelihood-ratio **Chi-square statistic** (Tabachnick & Fidell, 1989) and more specifically the Satorra-Bentler Chi-Square when working with non-normal data (used for the evaluation of exact model fit) and the root mean squared error of approximation (RMSEA), typically used to evaluate the close model fit statistic. A statistically significant Chi-square indicates that the discrepancy between the data (variance-covariance matrix) and the model (variance-covariance matrix implied from the maximum-likelihood parameter estimates) is greater than expected by chance. Conversely, a statistically insignificant Chi-square indicates that the model fits the data well (Brannick, 1995).

The χ^2 test statistic tests the null hypothesis that the population covariance matrix is equal to the reproduced covariance matrix implied by the model (Equation 75):

$$\mathbf{H_0: \Sigma = \Sigma\,(\theta)} \text{ -- } \mathbf{(75)}$$

Unlike conventional statistics it is preferable, according to the LISREL denotation, not to reject the null hypothesis, since it indicates either close or exact fit.

Chen and Land (1990), however, postulate that the Chi-Square should not be the only indicator used to evaluate model fit. According to Diamantopoulos and Siguaw (2000) the null hypothesis is "overly rigid" since it hypothesises that the model leads to an implied covariance matrix that exactly reproduces the covariance matrix of the observed variables. In addition, the Chi-Square is very sensitive to sample size and valid judgements require a large sample. If the sample is too small the Chi-Square can indicate good model fit, when in reality the theoretical model is meaningless. According to Jöreskog and Sörbom (1996), the sample size should be no less than 200 to reduce the risk of arriving at erroneous conclusions.

In response to these shortcomings, Jöreskog and Sörbom (1996) advocate interpreting the Chi-Square statistics in conjunction with degrees of freedom (χ^2/df). The degrees of freedom are equal to the number of over-identifying restrictions in the model, and a comparison is made between the constraints imposed by the model and the unrestricted moments matrix (Cadwallader, 1987). Interpreting $\chi2$ in terms of degrees of freedom greatly increases the validity of the interpretation of model fit. Although there is no consensus in literature regarding the interpretation of $\chi2$/df values, generally good fit is indicated by values between 2 and 5. Values lower than 2 should be interpreted as over fitting (Kelloway, 1998).

According to Steiger (as cited in Spangenberg & Theron, 2004), the **Root Mean Squared Error of Approximation (RMSEA)** indicates the difference between the observed and estimated covariance matrices in terms of the degrees of freedom of the model. The RMSEA approach is directed towards the investigation of residuals, where smaller values indicate a better fit to the data (Hair et al., 2006). According to Steiger (1990), values lower than 0,10 are indicative of good fit, while values lower that 0,05 indicate a very good fit. LISREL tests the significance of the obtained value by testing H_0: RMSEA < 0,05 against H_a: RMSEA > 0,05. Herein lays one of the most significant advantages of RMSEA. A confidence interval can be constructed giving the range of RMSEA values for a given level of confidence. Thus, one can report RMSEA values, for example, with 95 % confidence (Hair et al., 2006).

The Root **Mean Square Residual (RMSR)** is a measure of the mean absolute value of the difference between the covariance matrix of the data and the covariance matrix reproduced by the theoretical models (Kelloway, 1998). The standardised RMSR has a lower absolute value of 0 and an upper absolute value of 1. Values lower than 0,05 provide a general indication of good fit to the data (Kelloway, 1998).

The **Goodness-of-fit Index (GFI)** assesses how well the covariances predicted from the parameter estimates reproduce the sample covariance (Spangenberg & Theron, 2004). The adjusted GFI adjusts the GFI for degrees of freedom in the model and both values range between 0 and 1, where 1 indicates perfect fit and 0 poor fit. The GFI and the AGFI do not depend on sample size explicitly and measure how much better the model fits compared to no model at all (Jöreskog & Sörbom, 1993). Values in excess of 0.90 are indicative of good fit.

- ***Incremental Fit Indices***

Whereas *absolute fit* indices reflect the ability of the proposed model to reproduce the observed correlation/covariance matrix, *comparative fit* indices compare the proposed model's fit to an alternative baseline model (Hair et al., 2006). The baseline model (also referred to as the null model) assumes all observed variables to be uncorrelated (i.e. poorest possible fit to the data).

Incremental fit indices commonly related to SEM are: **the Normed Fit Index (NFI),** the **Non-Normed Fit Index (NNFI), Incremental Fit Index (IFI), Adjusted Goodness-of-Fit Index (AGFI), Comparative Fit Index (CFI)** and the **Relative Fit Index (RFI).** All these indices range from 0 to 1, with values closer to 1, but with values greater than 0,9 more specifically being indicative of good fit. NNFI (also known as the Tucker-Lewis Index) can express values greater than 1.

- ***Parsimony Fit Measures***

Parsimonious fit indices aim to provide information about which model among a set of competing models is best, considering its fit relative to its complexity (Hair et al., 2006). Model parsimony is a function of the overall model fit as well as the degree of model complexity. The Parsimony Ratio (PR) is affected in opposite directions by the estimated model parameters and the degrees of freedom. As more model parameters are freed up, the overall fit of the model will increase, but the additional parameters come at the cost of a loss in degrees of freedom (i.e. greater complexity) (Jöreskog, 1993). Parsimonious fit therefore relates the goodness-of-fit of the model to the number of estimated coefficients required to achieve the level of fit (Schlechter, 2006). As far as parsimony is concerned, the optimal model will reflect strong fit without "overfitting" the data with too many coefficients (Hair et al., 2006). Practically, parsimony fit indices necessitate the formulation of equivalent models in order to compare the parsimony of competing models.

The **Parsimony Goodness-of-Fit Index (PGFI)** and the **Parsimony Normed Fit Index (PNFI)** are two of the most prominent parsimony indices and have been utilised to supplement the other indices discussed earlier. The PGFI weighs the GFI with the PR. PGFI values range between 0 and 1 and models with the highest score generally are considered more parsimonious relative to competing models (Hair et al., 2006).

The PNFI adjusts the NFI for model parsimony (Hair et al., 2006). PNFI values range from 0 to 1 and higher values indicate better fit. As with the PGFI, scores on parsimony indices are meant to be used in comparisons between competing models and have no utility in indicating a single model's fit (Kelloway, 1998).

Summary of Goodness-of-fit Indices

All foregoing fit indices will be used in conjunction to establish the acceptability of the proposed SEM model. Table 3.5 summarises the goodness-of-fit indices described above.

Table 3.5: Summary of Goodness-of-Fit Indices used in analyses.	
Absolute Fit Measures	
Minimum Fit Function Chi-Square	a non-significant result indicates model fit
Normal Weighted Least Chi-Square	a non-significant result indicates model fit
p-value for χ2 (i.e. exact fit)	Significant p-value (< 0.05) implies that null hypothesis for exact fit can be rejected
χ2/df	values between 2 and 5 are indicative of good fit
Root Mean Square Error of Approximation (RMSEA)	values smaller than 0.08 indicate acceptable fit, below 0.05 indicate good fit and values smaller that 0.01 indicate exceptionally good fit.
p-value for RMSEA (i.e. close fit)	Non-significant p-value (> 0.05) implies that null hypothesis for close fit can not be rejected
90 % Confidence Interval for RMSEA	Testing the closeness of fit by hand of 90 % confidence interval of RMSEA (i.e. testing the hypothesis H_0: RMSEA < 0.05.
Root Mean Squared Residual (RMR)	Values of 0.08 or lower are indicative of good fit
Standardised RMR	Values of 0.08 or lower are indicative of good fit
Goodness of Fit Index (GFI)	higher values indicate better fit, with values > 0.90 indicating good fit
Incremental Fit Indices	
Normed Fit Index (NFI)	higher values indicate better fit, with values > 0.90 indicating good fit
Non-Normed Fit Index (NNFI)	higher values indicate better fit, with values > 0.90 indicating good fit
Adjusted Goodness-of-Fit Index (AGFI),	higher values indicate better fit, with values > 0.90 indicating good fit
Comparative Fit Index (CFI)	higher values indicate better fit, with values > 0.90 indicating good fit
Incremental Fit Index (IFI),	higher values indicate better fit, with values > 0.90 indicating good fit
Relative Fit Index (RFI).	higher values indicate better fit, with values > 0.90 indicating good fit
Parsimonious Fit Measures	
Parsimony Normed Fit Index (PNFI)	higher values indicate better fit, with values > 0.90 indicating good fit
Parsimony Goodness of fit (PGFI)	higher values indicate better fit, with values > 0.90 indicating good fit

3.5.2.6 Examination of CFA Parameters

It is essential to look at the critical parameter estimates after the model fit to the data has been established. Fundamentally, the same process utilised in the validation of the CDBS and the SVS was adopted for the refinement of the measurement instruments. The following CFA parameters were investigated for the purposes of validating and refining measurement models:

- Examination of residuals
- Lambda-X factor loadings
- Variance explained by items (R^2)
- Completely standardised theta-delta
- Completely standardised phi-matrix
- Modification indices

The following criteria were used to evaluate the integrity of the measurement instruments and to refine measurement models according to the predetermined decision-making rules. In Chapter 4 all fit indices and model parameters are discussed in detail, along with prescribed normative values and general rules of thumb. A summary of these normative fit indices and parameter estimates is presented in Tables 3.5 and 3.6.

Table 3.6: Minimum acceptable criteria and decision-making rules for the evaluation of measurement model parameters via Confirmatory Factor Analyses (CFA)

Test of Multivariate Normality for Continuous Variables		Number of Large Positive and Negative Residuals	Lambda (X&Y) Factor Loadings	Unique Variance Explained by Item (R^2)	Completely Standardised Theta (δ & ε)	Completely standardised Phi (φ)	Modification Indices (MI)
χ^2	P-Value						
	P < 0.05	-2.58 >Z > 2.58	a) Unstandardised lambda factor loadings: t > 1.96 (p<0.05) b) Completely standardised Lambda loading > 0.50	λ^2_x & $\lambda^2_y \geq$ 0.25	θ_δ & θ_ε < 0.75	Factor intercorrelations < 0.90	Expected Parameter Change (EPC) > 6.64 (p<0.01) for Lambda Y

Parameters are deemed statistically sufficient estimators of dimensions of the underlying latent constructs if they are:

- *statistically significant and in the right direction*: greater than zero for a positively proposed relationship and smaller than zero for a negative proposed relationship
- *non-trivial*: magnitude of estimated parameters provides further information of the strength of the hypothesised relationships. Completely standardised loading estimates are examined, but more specifically t-values should be significant.

3.5.2.7 Model Modification

Traditional Exploratory Factor Analysis and Confirmatory Factor Analysis were utilised to adapt the original measurement models. All the foregoing analysis techniques were utilised to evaluate the operational integrity of the chosen measurement models, i.e. the quality with which latent constructs are operationalised. Confirming the quality of measurement models is regarded as *condition sine qua non,* since the interpretation of structural substantive relationships will be problematic in the absence of credible evidence signifying that specific indicators reflect latent constructs that they are conceptually destined to gauge. Therefore modifications to existing measurement instruments are only permissible if the refined models:

(a) Fit the data better; or
(b) are more parsimonious; and
(c) modifications are theoretically justifiable.

Modification of models is only permissible to the extent that the refined model represents the *actual* network of relations among variables, substantiated with sound theoretical arguments. Hair et al. (2006) warn that the temptation of engaging in model modification based purely on data-driven consideration is best avoided. Research has shown that model modification can be very unstable and may not replicate in other samples due to data artefacts unique to the testing sample used to fit the model on.

Of equal importance is clarifying the goal of the intended investigation before embarking on altering the original model. When the objective of the investigation is confirmatory in nature (i.e. to validate a pre-specified model), no modifications may be applied to the original model. However, a suggestion could be made and an adapted version of the model could be validated on an alternative sample. If however, significant modifications are applied to the original model, the analyses are no longer confirmatory, but rather become exploratory. By implication, it is not permissible scientifically to develop and test a model with the same dataset (Diamantopoulos & Siguaw, 2000). The refined model should be evaluated using a new sample.

The Modification Indices (MI) and Expected Parameter Change (EPC) statistics included in the full information LISREL output were investigated along with EFA outputs. MI and EPC indices provide information about the success with which indicators purely and comprehensive reflect the latent construct that they are design to gauge. Since modification indices predict *which* currently fixed parameters would bring about significant model improvements if freed, i.e. indicators are allowed to gauge non-designated factors, parameters with significantly high estimated loadings is indicative of cross-loading. Optimally MI and EFA results should be congruent with regard to which indicators cross load on non-designated factors.

Exploratory factor analyses (EFA) was performed on dimensions of measures that contained items that were scrapped (mainly due to cross loadings and/or poor internal reliability) as well as dimensions with poor fit indices and reported model parameters (See Tables 3.3; 3.4; 3.5 and 3.6 for minimum acceptable criteria and decision-making rules).

Principal Factor analysis (PFA) with oblique rotations was performed on the refined sub-scales of each individual questionnaire. PFA seeks the least number of factors which can account for the common variance (correlation) of a set of variables, as opposed to the more commonly used Principal Components analysis (PCA) which seeks the set of factors which can account for all the common and unique (specific plus error) variance in a set of variables. PFA is preferred for purposes of SEM: PFA accounts for the covariation among variables, whereas PCA accounts for the total variance of variables (Garson, 2006). Because of this difference, it is possible, in theory, to add variables to a model without affecting the factor loadings of the original variables in the model under PFA, but not under PCA (Garson, 2007).

PFA was utilised subsequently to identify items that did not reflect the construct under consideration and to cull heterogeneous dimensions into two or more constitutively meaningful subsets. For example, the Universalism value dimension was split into two theoretically meaningful subsets, namely Ecological welfare and Fairness. The Eigenvalue greater than unity rule of thumb, as well as the graphical scree test, was used to determine the number of factors to extract (Spangenberg & Theron, 2004).

After the dimensions were refined through PFA, the new dimensions were analysed by conducting a second round of CFAs on the data. Once again, model refinements were only suggested if there were reasonable theoretical grounds that justified proposed alterations to the measurement models. To this end, PFAs and CFAs were tools utilised to evaluate the accuracy and effectiveness of the initial theory building processes only and not as a means to 'build theories' in the exploratory sense. Proposed changes were evaluated using the predetermined minimum acceptable criteria and decision-making rules (See Table 3.6). MI and EPC statistics were reviewed after every successive round of model refinements by fitting a new CFA model which incorporated the proposed adaptations.

Modification indices predict *which* currently fixed parameters would bring about significant model improvements if freed. EPC estimates by *how much* model parameters and overall fit will increase (decrease in chi-square) if proposed modifications are made. Large modification index values (> 6.64) would be indicative of parameters that, if set free, would improve the fit of the model significantly ($p < 0.01$) (Diamantopoulos & Siguaw, 2000). The value of examining modification indices and EPC scores simultaneously lies in the fact that small modification indices can still cause large EPC values and would normally not be detected solely by examining EPC scores. Once again, modifications are only permissible if plausible theoretical arguments can be offered to justify proposed refinements. When modifications to measurement models run contrary to other statistical analyses (for example Q-plots, R^2 values, θ_ε, λ_y loadings and PFAs) the integrity of the original proposed theoretical model is threatened from an epistemological point of view.

Before embarking on refining the originally postulated model, one should take into consideration that achieving model parsimony (constraining more parameters) vs increasing overall model fit (freeing more parameters) has very different implications for the model's specification and fit. For example, when the overriding objective of altering the original model is to formulate a more parsimonious model, one would typically fix model parameters that were formerly freed, which would imply that fewer parameters will be estimated and the model's degree of freedom would increase. As a result, the overall model fit will decrease (Chi-square statistic will increase) because fewer parameters have to be estimated by the estimation technique. The decrease in overall model fit is justifiable to the extent that the model becomes more parsimonious (Diamantopoulos & Siguaw, 2000).

When the model is under fitted (S-Σ is large), large positive residuals are reported for covariances. Typically, large positive residuals is a symptom of underestimation of covariance terms in the reproduced covariance matrix. The lack of correspondence between the sample covariance matrix and the implied covariance matrix influences the overall model fit negatively (increase in degrees of freedom and Chi-square statistic). Typically, the model is too vaguely specified and additional pathways should be freed up in order to be estimated in the reproduced covariance matrix. Only when substantive grounds can be offered in favour of such a modification, is it permissible (Diamantopoulos & Siguaw, 2000).

Diamantopoulos and Siguaw (2000) advice that attempts should first be made to increase model fit before trimming away specified pathways.

3.5.2.8 Moderated Regression Analysis

The literature study culminated in an argument with regard to the presumed influence of values on the attitude towards cultural diversity. Initial theorising failed to appreciate the social and psychological complexity of cultural diversity, which caused preliminary hypotheses to overestimate the predictive strength of value main effects on the attitude towards cultural diversity. After consulting various influential scholars (for example Ype Poortinga, Shalom Schwartz and Fons van der Fijver), it became apparent that, in a multicultural society such as South Africa, the relationship between values and the attitude towards cultural diversity will most definitely be moderated by gender and race. Although the initial research objective was to construct a comprehensive structural model that explicated the causal linkages between values main effects and the attitude towards cultural diversity, it was decided to incorporate race and gender into the study as interaction effects.

Since the nature of the research objectives necessarily determines the statistical analyses that are possible and permissible, the envisaged statistical procedures had to be reviewed. A full information analysis technique such as SEM was endorsed from the onset of the study. Unfortunately, capturing the interaction effects between continuous latent variables in a structural model using SEM is extremely complicated. Numerous substitute latent variables have to be created using complex matrix algebra in order to gauge moderating effects between variables.

Therefore it was decided to propose a structural model that captures the generic (i.e. value dimensions which were hypothesised to have particularly strong trans-situational main effects on the attitude towards cultural diversity) value main effects on the attitude towards cultural diversity. The proposed generic structural model, which formed the basis for the study, would be analysed via SEM. In addition, it was decided to rather fall back on moderated regression analysis to gauge the moderating effect of race and gender on values-attitudes linkages. The question fundamentally answered by regression analysis concerns how much significant variance in the dependent variable is explained by the interaction effect when included in a model already containing the value(s) main effect. Regression analysis will be used to answer the basic question of how much significant variance ($p > 0.05$) can be explained by the value-race or value-gender interaction effects not attributable to the values main effect.

The following notational system was used for the purpose of the regression analysis to statistically depict the proposed relationships between latent variables: A single indicator variable was used to represent each latent variable. Indicators (Y_i) that denote endogenous latent variables (η_i) carried the same footnote as the respective latent variable. Indicator variables that denote exogenous latent variables (ξ_i) were presented by X_i. Race was denoted as R and gender as G.

Kahane (2001) states that, when interpreting the regressed relationship of an independent variable on a dependent variable, a distinction should be made between how well the regression model (i.e. theory) fits the data as a whole and how well separate components of the model perform. R^2 provides diagnostic information regarding how well the model fits the data (Kahane, 2001). Kerlinger and Lee (2000) advise researchers to examine the statistical significance of the regression coefficients and the R^2- values.

The R^2-statistic estimate the proportion of variance of the dependent variable Y, accounted for by the independent variables X_j. *R*, the multiple correlation coefficient, is the product of the correlation between the dependent variable and another variable that is produced by a least-squares combination of the independent variables (Kerlinger & Lee, 2000). The variation in the predicted Y values (i.e.$\hat{Y}$) can be explained on the basis of the following equation:

$$TSS = ESS + RSS$$

<u>where:</u>

- TSS represents the behaviour of $\hat{Y}$, which is broken down into two: that which is explained by the model (ESS) and that which is unexplained (RSS).
- ESS represents the Explained Sum of Squares, i.e. the proportion of $\hat{Y}$ explained by the model.
- RSS represents the Residual sum of squares, i.e. the proportion of $\hat{Y}$ not attributable to the model.

R^2 can be interpreted as the proportion of TSS explained by the model, thus:

$$R^2 = \frac{ESS}{TSS}$$

R can be interpreted as a conventional correlation coefficient, except that R values range from 0 to 1.00, whilst *r* values range from -1.00 to 0 and through to 1.00.

The *F*-ratio criterion should be interpreted along with the multiple correlation coefficient (R), since its test the significance of the multiple regression problem (Kerlinger & Lee, 2000). The *F* ratio determines whether the contribution to the regression sum of squares (SSR) made by each independent variable after all the other independent variables have been included in the model is due to the experimental effects or due to error or chance (Berenson, Levine & Goldstein, 1983).

Since regression coefficients can be interpreted as correlation coefficients, Guilford's (cited in Tredoux & Durheim, 2002, p. 184) guidelines for interpretation of the magnitude of significant *r* were adapted for the interpretation of bivariate and multivariate relationships in the current study. Table 3.7 depicts the guidelines that were used for the interpretation of the magnitude of SEM path coefficients.

Table 3.7: Minimum acceptable criteria and decision-making rules for the evaluation of the magnitude of SEM path coefficients.

< 0.19	Slight; almost no relationship
0.20 – 0.39	Low correlation; definite but small relationship
0.40 – 0.69	Moderate correlation; substantial relationship
0.70 – 0.89	High correlation; strong relationship
> 0.90	Very high correlation; very dependable relationship

In addition, beta (β) values, otherwise known as *standard partial regression coefficients,* were reported for all main effects and interaction effects for all 120 derived value-attitude linkages that are moderated by race and gender. According to Kerlinger and Lee (2000, p. 777), beta could be interpreted as follows:

"Standard" means that they would be used if all variables were in standard score form. "Partial" means that the effects of variables other than the one to which the weight applies are held constant.

Standardised β coefficients could be interpreted as the estimated value main effect (X) on the attitude towards cultural diversity (Y), all other things being equal. The value of β could be either positive or negative, depending on the direction regression coefficient (e.g. we would expect the β value to be negative if the attitude towards cultural diversity is regressed on the value of tradition or conformity, but positive if regressed on benevolence or universalism).

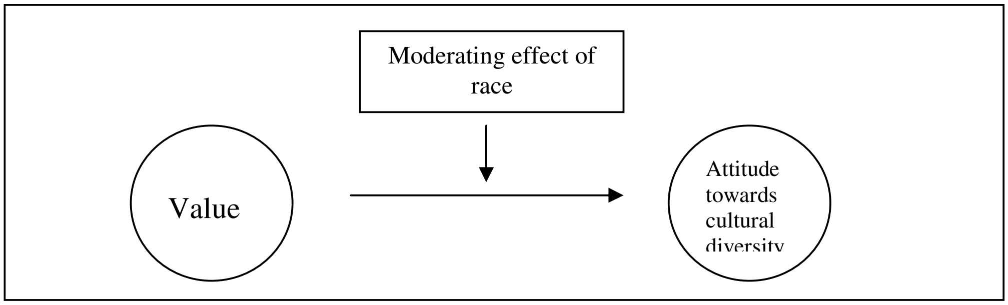
3.5.2.8.1 Interaction effects of race and gender

The regression analysis in the current study is complicated because the interaction effects of interest involve a mixture of categorical and continuous predictors. Values and the attitude towards cultural diversity are both considered continuous variables. Race and gender are by definition categorical in nature and are treated as dichotomous variables in the current research study.

When considering the influence of race on the relationship between values and the attitude towards cultural diversity, one fundamentally is dealing with a one-way interaction effect. In this case, the attitude towards cultural diversity is the outcome variable (dependent variable), values is the focal independent variable, and race is the moderator variable. Race is a categorical variable and is presented by two dummy variables, D_{white} and $D_{non\text{-}white}$. Product terms are generated for each of these dummy variables and value dimensions using D_{white}* value (e.g. D_{white}* Conformity = CONRACED). Dummy variables were coded as follows:

- White respondents were coded 1;
- non-white respondents were coded 0.

The one-way interaction effect of race on the attitude towards cultural diversity can be graphically depicted as follows.



With regard to the gender hypothesis, the interaction effect is considerably more complex since one is working with a two-way interaction effect between race and gender. The following linear transformation formula (Equation 75) was used to generate the codes for the two-way interaction between race and gender:

CELLCODE= RACED*10 + GENDERD--(76)

Where:

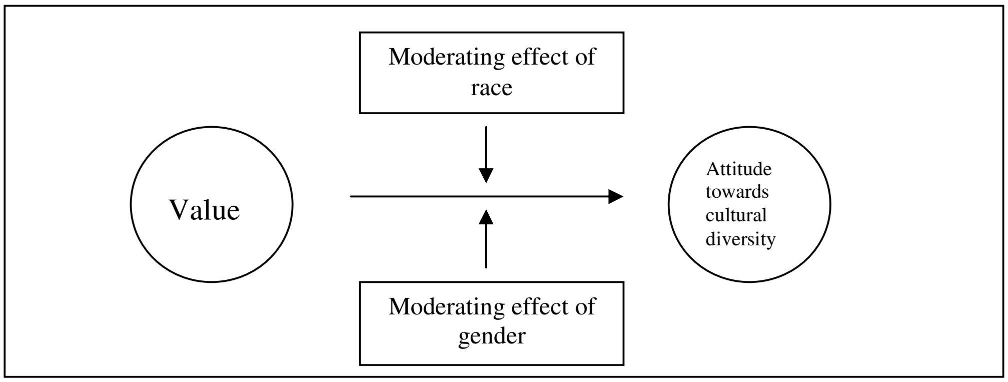
- RACED represents the recoded dichotomised dummy coding for race (white = 1; non-white = 0)
- 10 is a constant
- GENDERD represents the recoded dichotomised dummy coding for gender (males = 1; females = 0)
- CELLCODE represents the recoded two-way interaction effects of race and gender.

Table 3.8 portrays the coding scheme used to categorise the interaction effect between race and gender.

Table 3.8: Coding of the categorical dummy variables of race and gender

GENDER (dichotomized)	**RACE (dichotomized)**	
	Whites [1]	Non-whites [0]
Males [1]	11	1
Females [0]	10	0

The two-way interaction effect of race and gender on the attitude towards cultural diversity can be graphically depicted as follows.



3.6 SAMPLE

The sampling strategy will be discussed in the subsequent section.

3.6.1 Sampling Strategy

The research problem and research hypotheses are formulated with reference to a specific, defined, target population. It is not always practical or possible to obtain measurements from every subject in a target population (N) and the researcher is forced to select a representative sample from such a target population. The extent to which observations can or may be generalised to the target population is a function of the number of subjects in the chosen sample and the representativeness of the sample (SIP, 1998). A sample is considered representative to the extent that the sample accurately reflects the statistical characteristics of the target population (Theron, 2006). Although probability sampling can be regarded as superior to non-probability sampling due to the statistical inferences one is allowed to make from the sample data, this kind of sampling is not always practical or attainable in social research. A non-probability sample was utilised in the present study.

In addition to the representativeness of the sample, sample size is another critical aspect to consider especially when Structural Equation Modelling (SEM) is the chosen technique for analysis. Sample size has been shown to severely influence the results of analyses, especially the Chi-square, when using LISREL (Chen & Land, 1990). The power of inferential statistical tests depends on sample size (Elmes, Kantowitz & Roediger, 1999; Theron, 2006). Although Kelloway (1998) argues that LISREL is a large-sample analysis technique, choosing a too big sample will increase the probability of rejecting the alternative hypotheses (Everitt, 1984).

Determining the correct sample size is critical for power analysis purposes, especially the determination of both Type I and Type II errors. For this reason, the study utilised a non-probability sampling technique in four universities throughout South Africa. Lavee (1988) suggested that a sample of no less than 200 should be used to reduce the risk of drawing erroneous conclusions when utilising SEM as analysis technique.

The MacCullum, Brown and Sugawara (1996) tables indicate that a sample size of 221 respondents is required to ensure a 0,80 probability of correctly rejecting an incorrect model with 59 degrees of freedom when the actual model fits the reproduced model closely (i.e. ε_a = 0,05), if the probability of a Type I error in testing the null hypotheses of exact fit (i.e. ε_a = 0,0) is fixed at 0,05 [i.e., P(reject H_0: RSEA=0|RMSEA=0,05].

Five datasets were utilised in the current study for the purpose of statistical analysis. The original SVS and CDBS datasets were divided into training and testing subsets. In addition, the final merged dataset, which was the smallest of the five datasets, contained 531 cases, well exceeding the minimum recommended sample size for evaluating multivariate relationships in SEM (Lavee, 1988). Nevertheless, one should be cautious when generalising sample results to the target population, especially when making use of a non-probability sample. Please refer to the subsequent section for a full discussion with regard to the criteria used for splitting up the original datasets and details on subset sizes.

3.6.2 Data Collection Procedure

Data for the research project were collected by means of questionnaire type surveys. A survey is a “structured set of questions or statements given to a group of people in order to measure their attitudes, beliefs, values, or tendencies to act" (Goodwin, 2003, p. 398). Surveys hold the advantage of collecting large amounts of information on a large sample in a relatively short period of time.

The questionnaires were distributed to the various universities involved in the research study and collected from them for statistical analysis after completion. The research objectives of the study were explained to the research participants and confidentiality was guaranteed. Although identification numbers were requested, confidentiality was assured by abiding with the conditions agreed upon in the procedures for ethical clearance for research projects as required by the University of Stellenbosch (details of the ethical clearance are presented in Appendix A).

Each of the participants received two questionnaires with different instructions. All instructions were communicated to the test administrators to ensure standardisation over different venues and testing occasions. In addition, each questionnaire had a biographical section.

3.6.3 Sample Profile

A convenience sample of 1357 students from four prominent universities in South Africa (Northwest University, Cape Peninsula University of Technology, University of Stellenbosch, and Nelson Mandela Metropolitan University) participated in the research project. Due to the international scope of the Schwartz project, more data were collected in South Africa for the SVS than for the CDBS. The original SVS dataset contained 1357 cases, whilst 845 respondents completed the CDBS. There was a number of missing values, however, which was dealt with by making use of a combination of classical list-wise deletion and imputation of missing values through a process of pattern matching [Refer to section 3.51 (c) for more detail].

Pattern matching replaces a missing observation with a score from another case with a similar profile of scores across other variables (Kline, 2005). One would typically identify variables that are minimally plagued by missing values (through diagnostic statistic output options in PRELIS) to serve as matching variables in the missing value imputation process. However, due to the relatively large amount of missing values in the original SVS and CDBS datasets, it was decided to initially identify cases in the datasets that clearly had many missing values and to delete them through a process of list-wise deletion. Eighty-nine cases were deleted from the SVS dataset and five from the CDBS dataset using this method.

However, the datasets still included a number of missing values. This was dealt with through imputation using the pattern matching procedure.

In the end, 840 complete cases for the CDBS were collected and 1268 for the SVS. The validation of the two instruments was conducted on the training sub-samples – 419 cases for the CDBS and 633 cases for the SVS – of the two measurement instruments. The testing and training sub-samples were derived from the respective datasets by randomly dividing all the datasets for each instrument in more or less equal halves, using the data filtering procedure in SPSS. The refinements of the original measurement (CFA's) models were also conducted on the training datasets for each instrument respectively.

For the purpose of assessing the moderating effect of race and gender on the relationship between values and attitudes and for the fitment of the generic structural model, a new dataset was extracted from the complete datasets of the two instruments. In order to statistically test the research hypothesis that values influence attitudes, only cases that reported full information on both the SVS and CDBS, were included in the new merged dataset (final merged dataset). Using the respondents' unique identification numbers as matching variable, 531 cases were merged in SPSS. The refined measurement models were fitted on the total merged dataset. Thereafter, the generic structural model was fitted on the data.

In addition, the moderating effects of race and gender on the relationship between values and attitudes towards cultural diversity were assessed on the same dataset via regression analysis. The descriptive statistics of the merged dataset (n = 531) are summarised in Table 3.9.

Table 3.9: Descriptive demographic statistics of the merged dataset (n = 531): Marriage Status, Number of Years of Education and Home Language across Race and Gender.

Demographic variables		Race								Gender			
		White		Non-White						Male		Female	
		White		Black		Coloured		Indian					
		N	% in Sample	N	% in Sample	N	% in Sample	N	% in Sample	N	% in Sample	N	% in Sample
Age (Quartiles)	18-20 Years	99	26.7%	23	6.2%	41	11.1%	5	1.3%	53	10.5%	157	31.0%
	20-21 Years	42	11.3%	16	4.3%	14	3.8%	2	0.5%	29	5.7%	87	17.2%
	21-22 Years	25	6.7%	11	3.0%	8	2.2%	3	0.8%	22	4.3%	48	9.5%
	22+	27	7.3%	40	10.8%	13	3.5%	2	2%	41	8.1%	70	13.8%
	Total	193	52.0%	90	24.3%	76	10.5%	12	3.2%	145	28.6%	362	71.4%
Marriage Status	Single	185	49.6%	91	24.4%	76	20.4%	12	3.2%	144	28.4%	350	69%
	Married	6	1.6%	3	0.8%	0	0%	0	0%	3	0.6%	9	1.8%
	Widowed	0	0%	0	0%	0	0%	0	0%	0	0.0%	1	0.2%
	Divorced	0	0%	0	0%	0	0%	0	0%	0	0.0%	0	0%
	Total	191	51.2%	94	25.2%	76	20.4%	12	3.2%	147	29.0%	360	71%
Education Years	1-12 Years	74	19.9%	25	6.7%	21	5.7%	4	1.1%	39	7.7%	92	18.1%
	13-14 Years	25	6.7%	27	7.3%	20	5.4%	2	0.5%	29	5.7%	64	12.6%
	15-16 Years	55	14.8%	32	8.6%	29	7.8%	3	0.8%	56	11.0%	153	30.2%
	16+	37	10.0%	9	2.4%	5	1.3%	3	0.8%	23	4.5%	51	10.1%
	Total	191	51.5%	93	25.1%	75	20.2%	3.2	3.2%	147	29.0%	360	71.0%
Home Language	Afrikaans	141	37.7%	3	0.8%	12	3.2%	0	0.0%	60	11.9%	182	36.1%
	English	49	13.3%	6	1.6%	62	16.6%	10	2.7%	50	9.9%	123	24.4%
	Xhosa	0	0.0%	54	14.4%	0	0.0%	0	0.0%	17	3.4%	33	6.5%
	Zulu	0	0.0%	2	0.5%	0	0.0%	0	0.0%	1	0.2%	1	0.2%
	Sepedi	0	0.0%	0	0.0%	0	0.0%	1	0.3%	0	0.0%	1	0.2%
	Setswana	0	0.0%	17	4.5%	0	0.0%	0	0.0%	11	2.2%	7	1.4%
	Sesotho	0	0.0%	5	1.3%	0	0.0%	0	0.0%	4	0.8%	1	0.2%
	Siswani	0	0.0%	2	0.5%	0	0.0%	0	0.0%	0	0.0%	2	0.4%
	Tshivenda	0	0.0%	1	0.3%	0	0.0%	0	0.0%	0	0.0%	1	0.25%
	Other	3	0.8%	5	1.3%	0	0.0%	1	0.3%	3	0.6%	7	1.4%
	Total	193	51.6%	95	25.4%	74	19.8%	12	3.2%	146	29.0%	358	71.0%

The demographic profile of the typical respondent participating in the study can be inferred from Table 3.9[d]. Of the 531 respondents, 185 were non-white (76 were coloured, 12 were Indian and 97 were black) and 193 were white. That would mean that 51.1 % of respondents were white and 48.9 % were non-white. Of the 531 respondents, 365 were female (71.2 %) with only 148 male respondents participating in the study (28.8 %). Most respondents were unmarried (95.7 %) and living in urban areas (40.4 % coming from large cities and 40 % coming from small cities). Only 13.1 % of the respondents came from rural (11.6 %) and farming (6.5 %) areas. With regard to home language, most respondents' home language was Afrikaans (48.3 %), followed by English (33.8 %), Xhosa (10.4 %), Setswana (3.5 %), Sesotho (1 %), Zulu (0.4 %), Siswai (0.4 %) and Sepedi (0.2 %). Of the respondents, 25 % were students from Northwest University, 32.6 % were from the Cape Peninsula University of Technology (CPUT), 18.3 % from the Nelson Mandela Metropolitan University and 24.1 % from the University of Stellenbosch.

In general, the typical candidate who participated in the study can be described as white, female, unmarried, Afrikaans speaking and between the ages of 18 and 21.

3.7 REFINEMENT OF THE MEASUREMENT INSTRUMENTS

The next section is dedicated towards describing the strategy that will be used to evaluate and refine the original measurement models.

3.7.1 Specification of the Refined Measurement Models

The validation of the SVS and the CDBS placed restrictions on the researcher with regard to the statistical analyses that were permissible. Both the measurement models had to be analysed in their original configurations as prescribed by the respective authors. However, to arrive at a valid and credible conclusion with regard to the role of values in influencing the attitude towards cultural diversity, measurement

[d] Figures in Table 3.9 differ slightly from reported biographic information for two reasons: (a) Incomplete responses and the (b) cross-tabulation format of Table 3.9, e.g. marriage status should not be interpreted solely in terms of the percentage of respondents that were single, married, widowed or divorced, but should be cross-referenced with regard to race and gender. Therefore, one can infer from Table 3.9, for example, that 185 of 373 (49.6 %) white respondents in the sample were single.

inadequacies identified in the validation of the instruments had to be rectified before they could be used in the generic structural model. Confidence in hypothesised value-attitude structural relations could only be achieved if unambiguous evidence suggested that the SVS and CDBS were valid and reliable measures of values and the attitude towards cultural diversity. The measurement instruments were refined in an attempt to limit extraneous variance in observed test scores not directly attributable to values or the attitude towards cultural diversity. The statistical procedure utilised for the refinement of the measurement instruments was fundamentally the same as for the validation of the instruments and is described in detail in section 3.5.

3.7.1.1 Endogenous Measurement Model: Refined CDBS

For the purpose of constructing a structural model that was able to explicate the influence of values on the attitude towards cultural diversity, the original CDBS was refined (See section 4.2 in Chapter 4 for details of the refinement process). The instrument can be expressed in terms of the following set of measurement equations:

$Y_2=\lambda_{22}\eta_2+\varepsilon_2$ --(77)

$Y_4=\lambda_{42}\eta_2+\varepsilon_4$ --(78)

$Y_6=\lambda_{62}\eta_2+\varepsilon_6$ --(79)

$Y_9=\lambda_{93}\eta_3+\varepsilon_9$ --(80)

$Y_{10}=\lambda_{101}+\eta_1\varepsilon_{10}$ --(81)

$Y_{13}=\lambda_{133}\eta_3+\varepsilon_{13}$ --(82)

$Y_{14}=\lambda_{142}\eta_2+\varepsilon_{14}$ --(83)

$Y_{17}=\lambda_{173}\eta_3+\varepsilon_{17}$ --(84)

$Y_{18}=\lambda_{182}\eta_2+\varepsilon_{18}$ --(85)

$Y_{19}=\lambda_{192}\eta_2+\varepsilon_{19}$ --(86)

$Y_{20}=\lambda_{201}\eta_1+\varepsilon_{20}$ --(87)

$Y_{21}=\lambda_{212}\eta_2+\varepsilon_{21}$ --(88)

$Y_{22}=\lambda_{221}\eta_1+\varepsilon_{22}$ --(89)

The adapted measurement model can alternatively be expressed mathematically as a number of matrices (Equation 88):

$$\begin{pmatrix} Y_2 \\ Y_4 \\ Y_6 \\ Y_9 \\ Y_{10} \\ Y_{13} \\ Y_{14} \\ Y_{17} \\ Y_{18} \\ Y_{19} \\ Y_{20} \\ Y_{21} \\ Y_{22} \end{pmatrix} = \begin{pmatrix} 0 & \lambda_{22} & 0 \\ 0 & \lambda_{42} & 0 \\ 0 & \lambda_{62} & 0 \\ 0 & 0 & \lambda_{93} \\ \lambda_{101} & 0 & 0 \\ 0 & 0 & \lambda_{133} \\ 0 & \lambda_{142} & 0 \\ 0 & 0 & \lambda_{173} \\ 0 & \lambda_{182} & 0 \\ 0 & \lambda_{192} & 0 \\ \lambda_{201} & 0 & 0 \\ 0 & \lambda_{212} & 0 \\ \lambda_{221} & 0 & 0 \end{pmatrix} \begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{pmatrix} + \begin{pmatrix} \varepsilon_2 \\ \varepsilon_4 \\ \varepsilon_6 \\ \varepsilon_9 \\ \varepsilon_{10} \\ \varepsilon_{13} \\ \varepsilon_{14} \\ \varepsilon_{17} \\ \varepsilon_{18} \\ \varepsilon_{19} \\ \varepsilon_{20} \\ \varepsilon_{21} \\ \varepsilon_{22} \end{pmatrix} \text{---------------} (90)$$

3.7.1.2 Exogenous Measurement Model: Refined SVS

The original SVS was further refined for the purpose of fitting the structural model. One the most significant refinements made to the original SVS was the separation of the Universalism dimension into two theoretically meaningful halves. PFA revealed that the Universalism dimension encompassed two distinct sub-dimensions that could be defined as Ecological welfare and Fairness. Individuals who value their natural surroundings and its aesthetic value will actively endorse the value of Ecological welfare. Individuals who have high regard for the value of Fairness strive for equality in their formal and informal interactions with in-group and out-group members. As the original universalism dimension was separated into two sub-dimensions, the refined SVS consisted of 11 dimensions. The theoretical grounds for splitting the Universalism dimension into two sub-dimensions are fully discussed in Chapter 4. The refined instrument can be expressed in terms of the following set of measurement equations:

$X_1=\lambda_{14}\xi_4 + \delta_1$---(91)

$X_3=\lambda_{310}\xi_{10} + \delta_3$---(92)

$X_4=\lambda_{48}\xi_8 + \delta_4$---(93)

$X_9=\lambda_{97}\xi_7 + \delta_9$---(94)

$X_{11}=\lambda_{111}\xi_1 + \delta_{11}$--(95)

$X_{12}=\lambda_{1210}\xi_{10} + \delta_{12}$--(96)

$X_{13}=\lambda_{1311}\xi_{10} + \delta_{13}$--(97)

$X_{16}=\lambda_{166}\xi_6 + \delta_{16}$--(98)

$X_{17}=\lambda_{174}\xi_4 + \delta_{17}$--(99)

$X_{18}=\lambda_{182}\xi_2 + \delta_{18}$--(100)

$X_{20}=\lambda_{201}\xi_1 + \delta_{20}$--(101)

$X_{22}=\lambda_{2211}\xi_{11} + \delta_{22}$--(102)

$X_{24}=\lambda_{245}\xi_5 + \delta_{24}$--(103)

$X_{25}=\lambda_{257}\xi_7 + \delta_{25}$--(104)

$X_{27}=\lambda_{2710}\xi_{10} + \delta_{27}$--(105)

$X_{29}=\lambda_{295}\xi_5 + \delta_{29}$--(106)

$X_{30}=\lambda_{304}\xi_4 + \delta_{30}$--(107)

$X_{31}=\lambda_{316}\xi_6 + \delta_{31}$--(108)

$X_{33}=\lambda_{333}\xi_3 + \delta_{33}$--(109)

$X_{34}=\lambda_{349}\xi_9 + \delta_{34}$--(110)

$X_{36}=\lambda_{362}\xi_2 + \delta_{36}$--(111)

$X_{37}=\lambda_{377}\xi_7 + \delta_{37}$--(112)

$X_{38}=\lambda_{385}\xi_5 + \delta_{38}$--(113)

$X_{40}=\lambda_{401}\xi_1 + \delta_{40}$--(114)

$X_{41}=\lambda_{416}\xi_6 + \delta_{41}$--(115)

$X_{43}=\lambda_{439}\xi_9 + \delta_{43}$--(116)

$X_{45}=\lambda_{453}\xi_3 + \delta_{45}$--(117)

$X_{46}=\lambda_{4610}\xi_{10} + \delta_{46}$--(118)

$X_{47}=\lambda_{471}\xi_1 + \delta_{47}$--(119)

$X_{49}=\lambda_{493}\xi_3 + \delta_{49}$--(120)

$X_{50}=\lambda_{508}\xi_8 + \delta_{50}$--(121)

$X_{51}=\lambda_{512}\xi_2 + \delta_{51}$--(122)

$X_{52}=\lambda_{523}\xi_3 + \delta_{52}$--(123)

$X_{53}=\lambda_{536}\xi_6 + \delta_{53}$--(124)

$X_{54}=\lambda_{543}\xi_3 + \delta_{54}$--(125)

$X_{55}=\lambda_{559}\xi_9 + \delta_{55}$--(126)

$X_{56}=\lambda_{5611}\xi_{11} + \delta_{56}$--(127)

$X_{57}=\lambda_{578}\xi_8 + \delta_{57}$--(128)

$$
\begin{pmatrix} X_1 \\ X_3 \\ X_4 \\ X_9 \\ X_{11} \\ X_{12} \\ X_{13} \\ X_{16} \\ X_{17} \\ X_{18} \\ X_{20} \\ X_{22} \\ X_{24} \\ X_{25} \\ X_{27} \\ X_{29} \\ X_{30} \\ X_{31} \\ X_{33} \\ X_{34} \\ X_{36} \\ X_{37} \\ X_{38} \\ X_{40} \\ X_{41} \\ X_{43} \\ X_{45} \\ X_{46} \\ X_{47} \\ X_{49} \\ X_{50} \\ X_{51} \\ X_{52} \\ X_{53} \\ X_{54} \\ X_{55} \\ X_{56} \\ X_{57} \end{pmatrix}
=
\begin{pmatrix}
0 & 0 & 0 & \lambda_{14} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{310} & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{48} & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda_{97} & 0 & 0 & 0 & 0 \\
\lambda_{111} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{1210} & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{1311} \\
0 & 0 & 0 & 0 & 0 & \lambda_{166} & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & \lambda_{174} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & \lambda_{182} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
\lambda_{201} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{2211} \\
0 & 0 & 0 & 0 & \lambda_{245} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda_{257} & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{2710} & 0 \\
0 & 0 & 0 & 0 & \lambda_{295} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & \lambda_{304} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & \lambda_{316} & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda_{333} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{349} & 0 & 0 \\
0 & \lambda_{362} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda_{377} & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda_{385} & 0 & 0 & 0 & 0 & 0 & 0 \\
\lambda_{401} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & \lambda_{416} & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{439} & 0 & 0 \\
0 & 0 & \lambda_{453} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{4610} & 0 \\
\lambda_{471} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda_{493} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{508} & 0 & 0 & 0 \\
0 & \lambda_{512} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda_{523} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & \lambda_{536} & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda_{543} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{559} & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{5611} \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{578} & 0 & 0 & 0
\end{pmatrix}
\begin{pmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \\ \xi_5 \\ \xi_6 \\ \xi_7 \\ \xi_8 \\ \xi_9 \\ \xi_{10} \\ \xi_{11} \end{pmatrix}
+
\begin{pmatrix} \delta_1 \\ \delta_3 \\ \delta_4 \\ \delta_9 \\ \delta_{11} \\ \delta_{12} \\ \delta_{13} \\ \delta_{16} \\ \delta_{17} \\ \delta_{18} \\ \delta_{20} \\ \delta_{22} \\ \delta_{24} \\ \delta_{25} \\ \delta_{27} \\ \delta_{29} \\ \delta_{30} \\ \delta_{31} \\ \delta_{33} \\ \delta_{34} \\ \delta_{36} \\ \delta_{37} \\ \delta_{38} \\ \delta_{40} \\ \delta_{41} \\ \delta_{43} \\ \delta_{45} \\ \delta_{46} \\ \delta_{47} \\ \delta_{49} \\ \delta_{50} \\ \delta_{51} \\ \delta_{52} \\ \delta_{53} \\ \delta_{54} \\ \delta_{55} \\ \delta_{56} \\ \delta_{57} \end{pmatrix}
\quad \text{--- 129}
$$

The adapted exogenous measurement model can alternatively be expressed mathematically as a number of matrices (See equation 129):

3.8 THE GENERIC STRUCTURAL MODEL

The initial theorising stage resulted in the advancement of a number of substantive research hypotheses that ultimately culminated in the formation of a generic structural model. SEM approaches are specifically suited to transform substantive research hypotheses into operational research hypotheses since it has the potential to statistically estimate every model parameter individually and collectively (Kline, 2005). The generic structural model incorporates a measurement section and a structural section.

The structural segment of the generic structural model specifies the linear structural relationships between latent variables and direction of causality, and gauges the amount of explained variance (Jöreskog, 2003). A distinction is made between exogenous (independent) latent variables and endogenous (dependent) latent variables in the structural model. Typically, two measurement models are assigned to operationalise each set of exogenous and endogenous latent dimensions individually. To this end the refined CDBS and the refined SVS were incorporated in the generic structural model as the endogenous and exogenous measurement components.

3.8.2 Specification of the Generic Structural Model

The generic structural model contains an observed (measurement) and latent (structural) dimension. The assumption is that there is a causal structural relationship among the latent variables and that the observed variables are indicators of the latent variables (Diamantopoulos & Siguaw, 2000). The measurement facet of the generic structural model explicates how successful the chosen measurement instruments were in the operationalisation of latent constructs. On the other hand, the structural section of the generic structural model assumes that the measurement models have successfully operationalised latent constructs and explicitly examines the causal relationship between latent constructs. The nature (i.e. positive, no or negative relationship) and magnitude of the causal relationship are generally denoted by gamma and beta path coefficients.

The proposed generic structural model, which serves as the basis of this study, included only some of the values that were expected to have a strong predictive (robust) effect on the attitude towards cultural diversity. Furthermore, values were included as main effects in the generic structural model. The interaction effect of race and gender on the relationship between values and the attitude towards cultural diversity was not assessed via the generic structural model.

The proposed structural model can be expressed as a set of structural equations:

$$\eta_1 = \gamma_{11}\xi_1 + \gamma_{12}\xi_2 + \gamma_{13}\xi_3 + \gamma_{14}\xi_4 + \gamma_{15}\xi_5 + \gamma_{16}\xi_6 + \gamma_{17}\xi_7 + \beta_{12}\eta_2 + \zeta_1 \text{--------------------} (130)$$

$$\eta_2 = \gamma_{21}\xi_1 + \gamma_{22}\xi_2 + \gamma_{23}\xi_3 + \gamma_{24}\xi_4 + \gamma_{25}\xi_5 + \gamma_{26}\xi_6 + \gamma_{27}\xi_7 + \zeta_2 \text{-----------------------------} (131)$$

$$\eta_3 = \gamma_{31}\xi_1 + \gamma_{32}\xi_2 + \gamma_{33}\xi_3 + \gamma_{34}\xi_4 + \gamma_{35}\xi_5 + \gamma_{36}\xi_6 + \gamma_{37}\xi_7 + \beta_{32}\eta_2 + \zeta_3 \text{------------------} (132)$$

The hypothesised structural relationships can be expressed in matrix form as Equation 133:

$$\begin{pmatrix} \eta_1 \\ \eta_1 \\ \eta_1 \end{pmatrix} = \begin{pmatrix} 0 & \beta_{12} & 0 \\ 0 & 0 & 0 \\ 0 & \beta_{12} & 0 \end{pmatrix} \begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{pmatrix} + \begin{pmatrix} \gamma_{11} & \gamma_{12} & \gamma_{13} & \gamma_{14} & \gamma_{15} & \gamma_{16} & \gamma_{17} \\ \gamma_{21} & \gamma_{22} & \gamma_{23} & \gamma_{24} & \gamma_{25} & \gamma_{26} & \gamma_{27} \\ \gamma_{31} & \gamma_{32} & \gamma_{33} & \gamma_{34} & \gamma_{35} & \gamma_{36} & \gamma_{37} \end{pmatrix} \begin{pmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \\ \xi_5 \\ \xi_6 \\ \xi_7 \end{pmatrix} + \begin{pmatrix} \zeta_1 \\ \zeta_2 \\ \zeta_3 \end{pmatrix} \text{---------} 133$$

The matrices depicted in Equation 133 are based on matrix algebra and represent three matrices and three vectors:

- A 3×7 Γ (gamma) matrix of regression coefficients (γ_{ij}) describing the strength of the regression of η_i on ξ_j in the structural model;
- A 3×3 B (beta) matrix of regression coefficients (β_{ij}) describing the strength of the regression of η_i on η_j in the structural model;
- A 7×7 Φ (phi) matrix of variance and covariance terms describing the variance in (Φ_{ii}) and covariance between (Φ_{ij}) the exogenous latent variables ξ_i and ξ_j;
- A 3×3 Ψ (psi) matrix of variance and covariance terms describing the variance in (Ψ_{ii}) and covariance between (Ψ_{ij}) the structural error terms ζ_i and ζ_j;
- A 7×1 ξ (ksi) column vector of exogenous latent variables;
- A 3×1 η (eta) column vector of endogenous latent variables;
- A 3×1 ζ (zeta) column vector of residual error terms.

The generic structural model

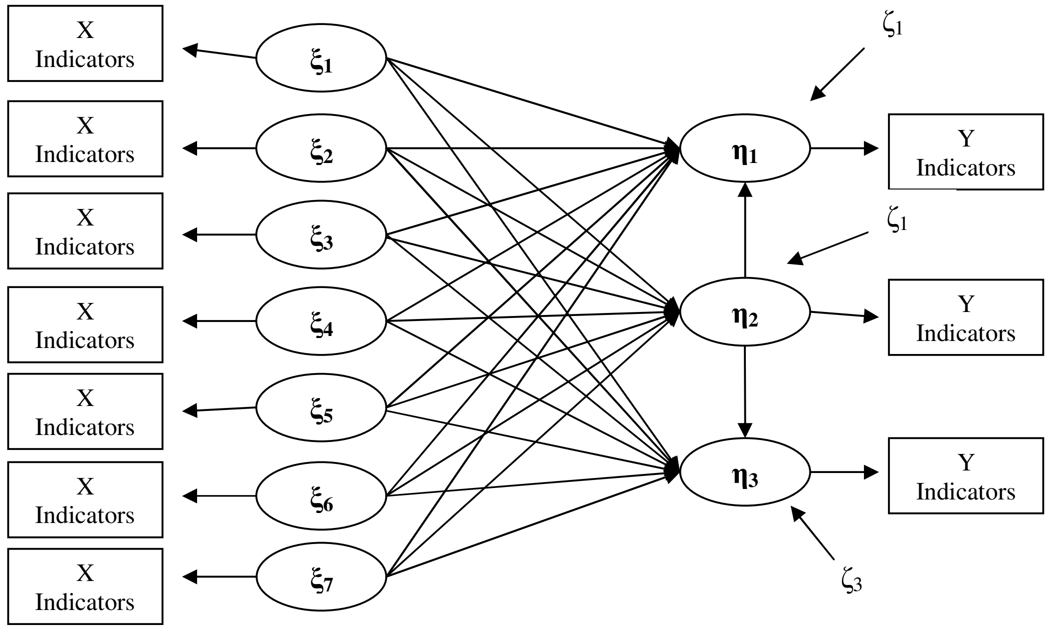
The generic structural model, complete with the measurement and structural components, is mathematically expressed in the following equations:

- The structural model:
  $\eta = B\eta + \Gamma\xi + \zeta$---(134)
- The endogenous measurement model:
  $Y = \Lambda_y\eta + \varepsilon$--(135)
- The exogenous measurement model:
  $X = \Lambda_x\xi + \delta$--(136)

Conventionally, SEM models are assumed to satisfy the following minimum assumptions (Jöreskog, 2003):

- ε is uncorrelated with η;
- δ is uncorrelated with ξ;
- ζ is uncorrelated with ξ; and
- ζ is uncorrelated with δ.

The generic structural model, which serves as the basis of this study, can be schematically depicted as two measurement components and a structural component as in Figure 3.3:



Where:

ξ_1 = Tradition	η_1 = AA
ξ_2 = Benevolence	η_2 = VID
ξ_3 = Ecological Welfare	η_3 = CA
ξ_4 = Fairness	
ξ_5 = Stimulation	
ξ_6 = Hedonism	
ξ_7 = Power	

Figure 3.3: Graphical portrayal of the generic structural model

3.9 STATISTICAL HYPOTHESES

The substantive research hypotheses are subsequently expressed as a set of statistical hypothesis that are tested in Chapter 4.

3.9.1 Review of Research Objectives

The literature study culminated in an argument with regard to the presumed influence of values on the attitude towards cultural diversity. The overarching substantive research hypothesis tested in this study is that the postulated relationships expressed in Tables 2.4 and 2.5 and depicted in Figure 2.2 provide valid accounts of the manner in which value dimensions relate with the attitude towards cultural diversity. The research objectives in a given study necessarily dictate the statistical analyses that are possible and permissible.

Initially it was decided to test the research hypothesis using a multi-group SEM approach. However, fitting a comprehensive structural model that incorporates indirect interaction effects between continuous latent variables proved to be very complicated indeed. Kenny and Judd (1984) developed a procedure to estimate non-linear and interaction effects of latent variables in structural equation models by algebraically creating new latent variables that are incorporated in structural models as substitute variables. The new substitution variables are included in the model to gauge the interaction effects (for e.g. $\xi_3 = \xi_1 + \xi_2$). The implementation of this procedure via LISREL nonetheless remains cumbersome in that some of the non-linear constraints cannot be estimated directly (Schumacker & Lomax, 1996). For this reason it was decided to propose a generic structural model that explicates the influence of value main effects on the attitude towards cultural diversity. In addition, standard regression analysis was used to gauge the moderating effect of gender and race on the relationship between values and the attitude towards cultural diversity.

In sum, the following broad research objectives formed the basis of the current research study:

- Validation of the SVS and the CDBS
- Development of a generic SEM model explicating the influence of values on the attitudes towards cultural diversity
- Investigating the moderating effect of race and gender on hypothesised values-attitude linkages via regression analysis.

3.9.2 Statistical Hypotheses

The overarching substantive research hypothesis tested in this study was that the structural model depicted in Figure 3.3 provides a valid account of the manner in which value main effects affect the attitude towards cultural diversity. The secondary research objective was to evaluate the interaction effect of race and gender on the relationship between values and the attitude towards cultural diversity. The secondary research objective can be dissected in 120 separate research hypotheses, as portrayed in Figures 2.4 and 2.5.

3.9.2.1 Generic Structural Model

Hypothesis 1a:

As far as the generic structural model is concerned; if the overarching substantive research hypothesis would be interpreted to mean that the structural model depicted in Figure 3.3 provides **a perfect** account of the manner in which value dimensions affect the attitude towards cultural diversity, the substantive research hypothesis translates into the following exact fit null hypothesis:

H_{01a}: RMSEA $\leq$ 0,05
H_{a1a}: RMSEA > 0,05

Statistically this would imply that there is no significant discrepancy between the reproduced covariance matrix implied by the model [$\Sigma(\Theta)$] and the observed population covariance matrix (Σ). Therefore the exact fit hypothesis can alternatively be formulated as:

H_{01a}: $\Sigma = \Sigma(\Theta)$
H_{a1a}: $\Sigma \neq \Sigma(\Theta)$

Hypothesis 1b:

If the overarching substantive research hypothesis would be interpreted to mean that the structural model depicted in Figure 3.3 provides **an approximate** account of the manner in which value dimensions affect the attitude towards cultural diversity, the substantive research hypothesis translates into the following close fit null hypothesis:

H_{01b}: RMSEA = 0
H_{a1b}: RMSEA > 0

Statistically this would imply that the reproduced covariance matrix implied by the model ($\Sigma(\Theta)$); see structural model) closely approximates the observed population covariance matrix (Σ).

If H_{01a} and H_{01b} could not be rejected (or if at least reasonable model fit would be obtained) the twenty-three separate substantive research hypotheses as represented by the pathways depicted in Figure 3.3 will be tested by testing the specific null hypothesis depicted in Table 3.10.

Table 3.10: Substantive and Statistical research hypotheses with regard to the influence of value main effects on the attitude towards cultural diversity analysed with SEM

SUBSTANTIVE HYPOTHESIS				STATISTICAL HYPOTHESIS		
SVS	**CDBS**					
VALUES	**VID**	**AA**	**CA**	**VID (η_2)**	**AA (η_1)**	**CA (η_3)**
Γ (gamma) regression coefficients (γ_{ij}) describing the strength of the regression of η_i on ξ_j in the structural model						
Conservation: • Tradition (ξ_1)	Negative (H_{a2})	Negative (H_{a3})	Negative (H_{a4})	$H_{02}: \gamma_{21} = 0$ $H_{a2}: \gamma_{21} < 0$	$H_{03}: \gamma_{11} = 0$ $H_{a3}: \gamma_{11} < 0$	$H_{04}: \gamma_{31} = 0$ $H_{a4}: \gamma_{31} < 0$
Self-Transcendence: • Benevolence (ξ_2)	Positive (H_{a5})	Positive (H_{a6})	Positive (H_{a7})	$H_{05}: \gamma_{22} = 0$ $H_{a5}: \gamma_{22} > 0$	$H_{06}: \gamma_{12} = 0$ $H_{a6}: \gamma_{12} > 0$	$H_{07}: \gamma_{32} = 0$ $H_{a7}: \gamma_{32} > 0$
• Ecological Welfare (ξ_3)	Positive (H_{a8})	Positive (H_{a9})	Positive (H_{a10})	$H_{08}: \gamma_{23} = 0$ $H_{a8}: \gamma_{23} > 0$	$H_{09}: \gamma_{13} = 0$ $H_{a9}: \gamma_{13} > 0$	$H_{010}: \gamma_{33} = 0$ $H_{a10}: \gamma_{33} > 0$
• Fairness (ξ_4)	Positive (H_{a11})	Positive (H_{a12})	Positive (H_{a13})	$H_{011}: \gamma_{24} = 0$ $H_{a11}: \gamma_{24} > 0$	$H_{012}: \gamma_{14} = 0$ $H_{a12}: \gamma_{14} > 0$	$H_{013}: \gamma_{34} = 0$ $H_{a13}: \gamma_{34} > 0$
Openness to Change: • Stimulation (ξ_5)	Positive (H_{a14})	Positive (H_{a15})	Positive (H_{a16})	$H_{014}: \gamma_{25} = 0$ $H_{a14}: \gamma_{25} > 0$	$H_{015}: \gamma_{15} = 0$ $H_{a15}: \gamma_{15} > 0$	$H_{016}: \gamma_{35} = 0$ $H_{a16}: \gamma_{35} > 0$
Hedonism (ξ_6):	Negative (H_{a17})	Negative (H_{a18})	Negative (H_{a19})	$H_{017}: \gamma_{26} = 0$ $H_{a17}: \gamma_{26} < 0$	$H_{018}: \gamma_{16} = 0$ $H_{a18}: \gamma_{16} < 0$	$H_{019}: \gamma_{36} = 0$ $H_{a19}: \gamma_{36} < 0$

Self-Enhancement: • Power (ξ_7)	Negative (H_{a20})	Negative (H_{a21})	Positive (H_{a22})	$H_{020}: \gamma_{27} = 0$ $H_{a20}: \gamma_{27} < 0$	$H_{021}: \gamma_{17} = 0$ $H_{a21}: \gamma_{17} < 0$	$H_{022}: \gamma_{37} = 0$ $H_{a22}: \gamma_{37} > 0$
B (beta) regression coefficients (β_{ij}) describing the strength of the regression of η_i on η_j in the structural model						
Valuing Individual Differences (η_2):		Positive (H_{a23})	Positive (H_{a24})		$H_{023}: \beta_{12} = 0$ $H_{a23}: \beta_{12} > 0$	$H_{024}: \beta_{32} = 0$ $H_{a24}: \beta_{32} > 0$

Table 3.10 (a) contains the indirect effects of ksi on eta via a mediating variable. The relationship between values and the tolerance for the affirmative action sub-scale (η_1), as well as for cultural diversity as a source of competitive advantage sub-scale (η_3), is mediated by the valuing individual differences sub-scale (η_2). The generic structural model contains fourteen indirect effects which were tested through hypotheses 25-38. The substantive research hypotheses as well as the statistical hypotheses are summarised in Table 3.10 (a).

Table 3.10 (a): Substantive and Statistical research hypotheses with regard to the influence of values on AA and CA, mediated by VID

SUBSTANTIVE HYPOTHESIS		STATISTICAL HYPOTHESIS
SVS		
VALUES	**The mediating effect of VID on the relationship between values and AA and CA**	**The mediating effect of VID on the relationship between values and AA and CA**
The influence of ξ_j on η_i as mediated by VID		
Conservation: • Tradition (ξ_1)	H_{a25}: The influence of the tradition value on AA is mediated by VID H_{a26}: The influence of the tradition value on CA is mediated by VID	$H_{025}: \gamma_{21}\beta_{12} = 0$ $H_{a25}: \gamma_{21}\beta_{12} > 0$ $H_{026}: \gamma_{21}\beta_{32} = 0$ $H_{a26}: \gamma_{21}\beta_{32} > 0$

Self-Transcendence: • Benevolence (ξ_2)	H_{a27}: The influence of the benevolence value on AA is mediated by VID	$H_{027}: \gamma_{22}\beta_{12} = 0$ $H_{a27}: \gamma_{22}\beta_{12} > 0$
	H_{a28}: The influence of the benevolence value on CA is mediated by VID	$H_{028}: \gamma_{22}\beta_{32} = 0$ $H_{a28}: \gamma_{22}\beta_{32} > 0$
• Ecological Welfare (ξ_3)	H_{a29}: The influence of the ecological welfare value on AA is mediated by VID	$H_{029}: \gamma_{23}\beta_{12} = 0$ $H_{a29}: \gamma_{23}\beta_{12} > 0$
	H_{a30}: The influence of the ecological welfare value on CA is mediated by VID	$H_{030}: \gamma_{23}\beta_{32} = 0$ $H_{a30}: \gamma_{23}\beta_{32} > 0$
• Fairness (ξ_4)	H_{a31}: The influence of the fairness value on AA is mediated by VID	$H_{031}: \gamma_{24}\beta_{12} = 0$ $H_{a31}: \gamma_{24}\beta_{12} > 0$
	H_{a32}: The influence of the fairness value on CA is mediated by VID	$H_{032}: \gamma_{24}\beta_{32} = 0$ $H_{a32}: \gamma_{24}\beta_{32} > 0$
Openness to Change: • Stimulation (ξ_5)	H_{a33}: The influence of the stimulation value on AA is mediated by VID	$H_{033}: \gamma_{25}\beta_{12} = 0$ $H_{a33}: \gamma_{25}\beta_{12} > 0$
	H_{a34}: The influence of the stimulation value on CA is mediated by VID	$H_{034}: \gamma_{25}\beta_{32} = 0$ $H_{a34}: \gamma_{25}\beta_{32} > 0$
Hedonism (ξ_6):	H_{a35}: The influence of the hedonism value on AA is mediated by VID	$H_{035}: \gamma_{26}\beta_{12} = 0$ $H_{a35}: \gamma_{26}\beta_{12} > 0$
	H_{a36}: The influence of the hedonism value on CA is mediated by VID	$H_{036}: \gamma_{26}\beta_{32} = 0$ $H_{a36}: \gamma_{26}\beta_{32} > 0$
Self-Enhancement: • Power (ξ_7)	H_{a37}: The influence of the power value on AA is mediated by VID	$H_{037}: \gamma_{27}\beta_{12} = 0$ $H_{a37}: \gamma_{27}\beta_{12} > 0$
	H_{a38}: The influence of the power value on CA is mediated by VID	$H_{038}: \gamma_{27}\beta_{32} = 0$ $H_{a38}: \gamma_{27}\beta_{32} > 0$

3.9.2.2 Moderated Regression Analysis

The multiple regression model that follows was fitted on the data using moderated regression analysis in a model that already contained the other main effect to establish whether certain values (X_i) main effects or the value by race (X_i*R) interaction effects each significantly explains unique variance in the attitude towards cultural diversity (hypotheses 39 to 104):

$$E[Y_i|X_i, R*X_i] = \alpha + \beta_1[X_i] + \beta_2[X_i*R]$$

To establish whether certain values (X_i) or the value by race and gender (X_i*R*G) interaction effect each significantly explains unique variance in the attitude towards cultural diversity (hypotheses 105 to 170), in a model that already contains the other main effects, the following multiple regression model was fitted on the data using moderated regression analyses:

$$E[Y_i|X_i, X_i*R*G] = \alpha + \beta_1[X_i] + \beta_2[X_i*R*G]$$

The 131 separate interaction effects of race and gender on the relationship between values and the attitude towards cultural diversity are presented in Table 3.11.

Table 3.11: Substantive and Statistical research hypotheses with regard to the influence of value main effects on the attitude towards cultural diversity moderated by race

SUBSTANTIVE HYPOTHESIS							STATISTICAL HYPOTHESIS ❖ MAIN EFFECTS: VALUES ❖ INTERACTION EFFECT: VALUES*RACE		
RACE AS MODERATING VARIABLE									
SVS	CDBS								
	WHITE			NON-WHITE					
VALUES	VID	AA	CA	VID	AA	CA	VID (η_2)	AA (η_1)	CA (η_3)
One-way interaction effect of Race on the relationship between Values and the Attitude towards cultural diversity									
Conservation: • Conformity (X_1)	Negative	Negative	Negative	Negative	Negative	Negative	$H_{039}: \beta_2[X_1*R] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a39}: \beta_2[X_1*R] \neq 0 \mid \beta_1[X_1] \neq 0$	$H_{041}: \beta_2[X_1*R] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a41}: \beta_2[X_1*R] \neq 0 \mid \beta_1[X_1] \neq 0$	$H_{043}: \beta_2[X_1*R] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a43}: \beta_2[X_1*R] \neq 0 \mid \beta_1[X_1] \neq 0$
							$H_{040}: \beta_1[X_1] = 0 \mid \beta_2[X_1*R] \neq 0$ $H_{a40}: \beta_1[X_1] \neq 0 \mid \beta_2[X_1*R] \neq 0$	$H_{042}: \beta_1[X_1] = 0 \mid \beta_2[X_1*R] \neq 0$ $H_{a42}: \beta_1[X_1] \neq 0 \mid \beta_2[X_1*R] \neq 0$	$H_{044}: \beta_1[X_1] = 0 \mid \beta_2[X_1*R] \neq 0$ $H_{a44}: \beta_1[X_1] \neq 0 \mid \beta_2[X_1*R] \neq 0$
• Tradition (X_2)	Negative	Negative	Negative	Negative	Negative	Negative	$H_{045}: \beta_2[X_2*R] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a45}: \beta_2[X_2*R] \neq 0 \mid \beta_1[X_2] \neq 0$	$H_{047}: \beta_2[X_2*R] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a47}: \beta_2[X_2*R] \neq 0 \mid \beta_1[X_2] \neq 0$	$H_{049}: \beta_2[X_2*R] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a49}: \beta_2[X_2*R] \neq 0 \mid \beta_1[X_2] \neq 0$
							$H_{046}: \beta_1[X_2] = 0 \mid \beta_2[X_2*R] \neq 0$ $H_{a46}: \beta_1[X_2] \neq 0 \mid \beta_2[X_2*R] \neq 0$	$H_{048}: \beta_1[X_2] = 0 \mid \beta_2[X_2*R] \neq 0$ $H_{a48}: \beta_1[X_2] \neq 0 \mid \beta_2[X_2*R] \neq 0$	$H_{050}: \beta_1[X_2] = 0 \mid \beta_2[X_2*R] \neq 0$ $H_{a50}: \beta_1[X_2] \neq 0 \mid \beta_2[X_2*R] \neq 0$
• Security (X_3)	Negative	Negative	Negative	Negative	Negative	Negative	$H_{051}: \beta_2[X_3*R] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a51}: \beta_2[X_3*R] \neq 0 \mid \beta_1[X_3] \neq 0$	$H_{053}: \beta_2[X_3*R] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a53}: \beta_2[X_3*R] \neq 0 \mid \beta_1[X_3] \neq 0$	$H_{055}: \beta_2[X_3*R] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a55}: \beta_2[X_3*R] \neq 0 \mid \beta_1[X_3] \neq 0$
							$H_{052}: \beta_1[X_3] = 0 \mid \beta_2[X_3*R] \neq 0$ $H_{a52}: \beta_1[X_3] \neq 0 \mid \beta_2[X_3*R] \neq 0$	$H_{054}: \beta_1[X_3] = 0 \mid \beta_2[X_3*R] \neq 0$ $H_{a54}: \beta_1[X_3] \neq 0 \mid \beta_2[X_3*R] \neq 0$	$H_{056}: \beta_1[X_3] = 0 \mid \beta_2[X_3*R] \neq 0$ $H_{a56}: \beta_1[X_3] \neq 0 \mid \beta_2[X_3*R] \neq 0$

Self- Transcendence:									
• Benevolence (X_4)	Positive	Positive	Positive	Positive	Positive	Positive	$H_{057}: \beta_2[X_4*R] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a57}: \beta_2[X_4*R] \neq 0 \mid \beta_1[X_4] \neq 0$ $H_{058}: \beta_1[X_4] = 0 \mid \beta_2[X_4*R] \neq 0$ $H_{a58}: \beta_1[X_4] \neq 0 \mid \beta_2[X_4*R] \neq 0$	$H_{059}: \beta_2[X_4*R] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a59}: \beta_2[X_4*R] \neq 0 \mid \beta_1[X_4] \neq 0$ $H_{060}: \beta_1[X_4] = 0 \mid \beta_2[X_4*R] \neq 0$ $H_{a60}: \beta_1[X_4] \neq 0 \mid \beta_2[X_4*R] \neq 0$	$H_{061}: \beta_2[X_4*R] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a61}: \beta_2[X_4*R] \neq 0 \mid \beta_1[X_4] \neq 0$ $H_{062}: \beta_1[X_4] = 0 \mid \beta_2[X_4*R] \neq 0$ $H_{a62}: \beta_1[X_4] \neq 0 \mid \beta_2[X_4*R] \neq 0$
• Ecological Welfare (X_5)	Positive	Positive	Positive	Positive	Positive	Positive	$H_{063}: \beta_2[X_5*R] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a63}: \beta_2[X_5*R] \neq 0 \mid \beta_1[X_5] \neq 0$ $H_{064}: \beta_1[X_5] = 0 \mid \beta_2[X_5*R] \neq 0$ $H_{a64}: \beta_1[X_5] \neq 0 \mid \beta_2[X_5*R] \neq 0$	$H_{065}: \beta_2[X_5*R] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a65}: \beta_2[X_5*R] \neq 0 \mid \beta_1[X_5] \neq 0$ $H_{066}: \beta_1[X_5] = 0 \mid \beta_2[X_5*R] \neq 0$ $H_{a66}: \beta_1[X_5] \neq 0 \mid \beta_2[X_5*R] \neq 0$	$H_{067}: \beta_2[X_5*R] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a67}: \beta_2[X_5*R] \neq 0 \mid \beta_1[X_5] \neq 0$ $H_{068}: \beta_1[X_5] = 0 \mid \beta_2[X_5*R] \neq 0$ $H_{a68}: \beta_1[X_5] \neq 0 \mid \beta_2[X_5*R] \neq 0$
• Fairness (X_6)	Positive	Positive	Positive	Positive	Positive	Positive	$H_{069}: \beta_2[X_6*R] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a69}: \beta_2[X_6*R] \neq 0 \mid \beta_1[X_6] \neq 0$ $H_{070}: \beta_1[X_6] = 0 \mid \beta_2[X_6*R] \neq 0$ $H_{a70}: \beta_1[X_6] \neq 0 \mid \beta_2[X_6*R] \neq 0$	$H_{071}: \beta_2[X_6*R] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a71}: \beta_2[X_6*R] \neq 0 \mid \beta_1[X_6] \neq 0$ $H_{072}: \beta_1[X_6] = 0 \mid \beta_2[X_6*R] \neq 0$ $H_{a72}: \beta_1[X_6] \neq 0 \mid \beta_2[X_6*R] \neq 0$	$H_{073}: \beta_2[X_6*R] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a73}: \beta_2[X_6*R] \neq 0 \mid \beta_1[X_6] \neq 0$ $H_{074}: \beta_1[X_6] = 0 \mid \beta_2[X_6*R] \neq 0$ $H_{a74}: \beta_1[X_6] \neq 0 \mid \beta_2[X_6*R] \neq 0$
Openness to Change:									
• Self-direction (X_7)	Negative	Negative	Negative	Negative	Positive	Negative	$H_{075}: \beta_2[X_7*R] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a75}: \beta_2[X_7*R] \neq 0 \mid \beta_1[X_7] \neq 0$ $H_{076}: \beta_1[X_7] = 0 \mid \beta_2[X_7*R] \neq 0$ $H_{a76}: \beta_1[X_7] \neq 0 \mid \beta_2[X_7*R] \neq 0$	$H_{077}: \beta_2[X_7*R] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a77}: \beta_2[X_7*R] \neq 0 \mid \beta_1[X_7] \neq 0$ $H_{078}: \beta_1[X_7] = 0 \mid \beta_2[X_7*R] \neq 0$ $H_{a78}: \beta_1[X_7] \neq 0 \mid \beta_2[X_7*R] \neq 0$	$H_{079}: \beta_2[X_7*R] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a79}: \beta_2[X_7*R] \neq 0 \mid \beta_1[X_7] \neq 0$ $H_{080}: \beta_1[X_7] = 0 \mid \beta_2[X_7*R] \neq 0$ $H_{a80}: \beta_1[X_7] \neq 0 \mid \beta_2[X_7*R] \neq 0$
• Stimulation (X_8)	Positive	Positive	Positive	Positive	Positive	Positive	$H_{081}: \beta_2[X_8*R] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a81}: \beta_2[X_8*R] \neq 0 \mid \beta_1[X_8] \neq 0$ $H_{082}: \beta_1[X_8] = 0 \mid \beta_2[X_8*R] \neq 0$ $H_{a82}: \beta_1[X_8] \neq 0 \mid \beta_2[X_8*R] \neq 0$	$H_{083}: \beta_2[X_8*R] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a83}: \beta_2[X_8*R] \neq 0 \mid \beta_1[X_8] \neq 0$ $H_{084}: \beta_1[X_8] = 0 \mid \beta_2[X_8*R] \neq 0$ $H_{a84}: \beta_1[X_8] \neq 0 \mid \beta_2[X_8*R] \neq 0$	$H_{085}: \beta_2[X_8*R] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a85}: \beta_2[X_8*R] \neq 0 \mid \beta_1[X_8] \neq 0$ $H_{086}: \beta_1[X_8] = 0 \mid \beta_2[X_8*R] \neq 0$ $H_{a86}: \beta_1[X_8] \neq 0 \mid \beta_2[X_8*R] \neq 0$
Hedonism (X_9)	Negative	Negative	Negative	Negative	Positive	Negative	$H_{087}: \beta_2[X_9*R] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a87}: \beta_2[X_9*R] \neq 0 \mid \beta_1[X_9] \neq 0$ $H_{088}: \beta_1[X_9] = 0 \mid \beta_2[X_9*R] \neq 0$ $H_{a88}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9*R] \neq 0$	$H_{089}: \beta_2[X_9*R] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a89}: \beta_2[X_9*R] \neq 0 \mid \beta_1[X_9] \neq 0$ $H_{090}: \beta_1[X_9] = 0 \mid \beta_2[X_9*R] \neq 0$ $H_{a90}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9*R] \neq 0$	$H_{091}: \beta_2[X_9*R] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a91}: \beta_2[X_9*R] \neq 0 \mid \beta_1[X_9] \neq 0$ $H_{092}: \beta_1[X_9] = 0 \mid \beta_2[X_9*R] \neq 0$ $H_{a92}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9*R] \neq 0$

Self-Enhancement: • Achievement (X_{10})	Negative	Negative	Positive	Negative	Positive	Positive	$H_{093:}\beta_2[X_{10}*R]=0\mid\beta_1[X_{10}]\neq 0$ $H_{a93:}\beta_2[X_{10}*R]\neq 0\mid\beta_1[X_{10}]\neq 0$ $H_{094:}\beta_1[X_{10}]=0\mid\beta_2[X_{10}*R]\neq 0$ $H_{a94:}\beta_1[X_{10}]\neq 0\mid\beta_2[X_{10}*R]\neq 0$	$H_{095:}\beta_2[X_{10}*R]=0\mid\beta_1[X_{10}]\neq 0$ $H_{a95:}\beta_2[X_{10}*R]\neq 0\mid\beta_1[X_{10}]\neq 0$ $H_{096:}\beta_1[X_{10}]=0\mid\beta_2[X_{10}*R]\neq 0$ $H_{a96:}\beta_1[X_{10}]\neq 0\mid\beta_2[X_{10}*R]\neq 0$	$H_{097:}\beta_2[X_{10}*R]=0\mid\beta_1[X_{10}]\neq 0$ $H_{a97:}\beta_2[X_{10}*R]\neq 0\mid\beta_1[X_{10}]\neq 0$ $H_{098:}\beta_1[X_{10}]=0\mid\beta_2[X_{10}*R]\neq 0$ $H_{a98:}\beta_1[X_{10}]\neq 0\mid\beta_2[X_{10}*R]\neq 0$
• Power (X_{11})	Negative	Negative	Positive	Negative	Positive	Positive	$H_{099:}\beta_2[X_{11}*R]=0\mid\beta_1[X_{11}]\neq 0$ $H_{a99:}\beta_2[X_{11}*R]\neq 0\mid\beta_1[X_{11}]\neq 0$ $H_{0100:}\beta_1[X_{11}]=0\mid\beta_2[X_{11}*R]\neq 0$ $H_{a100:}\beta_1[X_{11}]\neq 0\mid\beta_2[X_{11}*R]\neq 0$	$H_{0101:}\beta_2[X_{11}*R]=0\mid\beta_1[X_{11}]\neq 0$ $H_{a101:}\beta_2[X_{11}*R]\neq 0\mid\beta_1[X_{11}]\neq 0$ $H_{0102:}\beta_1[X_{11}]=0\mid\beta_2[X_{11}*R]\neq 0$ $H_{a102:}\beta_1[X_{11}]\neq 0\mid\beta_2[X_{11}*R]\neq 0$	$H_{0103:}\beta_2[X_{11}*R]=0\mid\beta_1[X_{11}]\neq 0$ $H_{a103:}\beta_2[X_{11}*R]\neq 0\mid\beta_1[X_{11}]\neq 0$ $H_{0104:}\beta_1[X_{11}]=0\mid\beta_2[X_{11}*R]\neq 0$ $H_{a104:}\beta_1[X_{11}]\neq 0\mid\beta_2[X_{11}*R]\neq 0$

<table>
<tr><td colspan="3">SUBSTANTIVE HYPOTHESIS</td><td rowspan="4">STATISTICAL HYPOTHESIS:
❖ MAIN EFFECTS: VALUES
❖ INTERACTION EFFECT: VALUES*RACE*GENDER</td></tr>
<tr><td colspan="3">RACE & GENDER AS MODERATING VARIABLE</td></tr>
<tr><td rowspan="2">SVS</td><td colspan="2">CDBS</td></tr>
<tr><td>DOMINANT GROUP</td><td>MINORITY GROUP</td></tr>
</table>

VALUES	VID	AA	CA	VID	AA	CA	VID (η_2)	AA (η_1)	CA (η_3)
Two-way interaction effect of Race and Gender on the relationship between Values and the Attitude towards cultural diversity									
Conservation:									
• Conformity (X_1)	Negative	Negative	Negative	Negative	Negative	Negative	$H_{0105}:\beta_2[X_1*R*G] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a105}:\beta_2[X_1*R*G] \neq 0 \mid \beta_1[X_1] \neq 0$ $H_{0106}:\beta_1[X_1] = 0 \mid \beta_2[X_1*R*G] \neq 0$ $H_{a106}:\beta_1[X_1] \neq 0 \mid \beta_2[X_1*R*G] \neq 0$	$H_{0107}:\beta_2[X_1*R*G] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a107}:\beta_2[X_1*R*G] \neq 0 \mid \beta_1[X_1] \neq 0$ $H_{0108}:\beta_1[X_1] = 0 \mid \beta_2[X_1*R*G] \neq 0$ $H_{a108}:\beta_1[X_1] \neq 0 \mid \beta_2[X_1*R*G] \neq 0$	$H_{0109}:\beta_2[X_1*R*G] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a109}:\beta_2[X_1*R*G] \neq 0 \mid \beta_1[X_1] \neq 0$ $H_{0110}:\beta_1[X_1] = 0 \mid \beta_2[X_1*R*G] \neq 0$ $H_{a110}:\beta_1[X_1] \neq 0 \mid \beta_2[X_1*R*G] \neq 0$
• Tradition (X_2)	Negative	Negative	Negative	Negative	Negative	Negative	$H_{0111}:\beta_2[X_2*R*G] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a111}:\beta_2[X_2*R*G] \neq 0 \mid \beta_1[X_2] \neq 0$ $H_{0112}:\beta_1[X_2] = 0 \mid \beta_2[X_2*R*G] \neq 0$ $H_{a112}:\beta_1[X_2] \neq 0 \mid \beta_2[X_2*R*G] \neq 0$	$H_{0113}:\beta_2[X_2*R*G] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a113}:\beta_2[X_2*R*G] \neq 0 \mid \beta_1[X_2] \neq 0$ $H_{0114}:\beta_1[X_2] = 0 \mid \beta_2[X_2*R*G] \neq 0$ $H_{a114}:\beta_1[X_2] \neq 0 \mid \beta_2[X_2*R*G] \neq 0$	$H_{0115}:\beta_2[X_2*R*G] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a115}:\beta_2[X_2*R*G] \neq 0 \mid \beta_1[X_2] \neq 0$ $H_{0116}:\beta_1[X_2] = 0 \mid \beta_2[X_2*R*G] \neq 0$ $H_{a116}:\beta_1[X_2] \neq 0 \mid \beta_2[X_2*R*G] \neq 0$
• Security (X_3)	Negative	Negative	Negative	Negative	Negative	Negative	$H_{0117}:\beta_2[X_3*R*G] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a117}:\beta_2[X_3*R*G] \neq 0 \mid \beta_1[X_3] \neq 0$ $H_{0118}:\beta_1[X_3] = 0 \mid \beta_2[X_3*R*G] \neq 0$ $H_{a118}:\beta_1[X_3] \neq 0 \mid \beta_2[X_3*R*G] \neq 0$	$H_{0119}:\beta_2[X_3*R*G] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a119}:\beta_2[X_3*R*G] \neq 0 \mid \beta_1[X_3] \neq 0$ $H_{0120}:\beta_1[X_3] = 0 \mid \beta_2[X_3*R*G] \neq 0$ $H_{a120}:\beta_1[X_3] \neq 0 \mid \beta_2[X_3*R*G] \neq 0$	$H_{0121}:\beta_2[X_3*R*G] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a121}:\beta_2[X_3*R*G] \neq 0 \mid \beta_1[X_3] \neq 0$ $H_{0122}:\beta_1[X_3] = 0 \mid \beta_2[X_2*R*G] \neq 0$ $H_{a122}:\beta_1[X_3] \neq 0 \mid \beta_2[X_2*R*G] \neq 0$
Self- Transcendence:									
• Benevolence (X_4)	Positive	Positive	Positive	Positive	Positive	Positive	$H_{0123}:\beta_2[X_4*R*G] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a123}:\beta_2[X_4*R*G] \neq 0 \mid \beta_1[X_4] \neq 0$ $H_{0124}:\beta_1[X_4] = 0 \mid \beta_2[X_4*R*G] \neq 0$ $H_{a124}:\beta_1[X_4] \neq 0 \mid \beta_2[X_4*R*G] \neq 0$	$H_{0125}:\beta_2[X_4*R*G] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a125}:\beta_2[X_4*R*G] \neq 0 \mid \beta_1[X_4] \neq 0$ $H_{0126}:\beta_1[X_4] = 0 \mid \beta_2[X_4*R*G] \neq 0$ $H_{a126}:\beta_1[X_4] \neq 0 \mid \beta_2[X_4*R*G] \neq 0$	$H_{0127}:\beta_2[X_4*R*G] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a127}:\beta_2[X_4*R*G] \neq 0 \mid \beta_1[X_4] \neq 0$ $H_{0128}:\beta_1[X_4] = 0 \mid \beta_2[X_4*R*G] \neq 0$ $H_{a128}:\beta_1[X_4] \neq 0 \mid \beta_2[X_4*R*G] \neq 0$
• Ecological Welfare (X_5)	Positive	Positive	Positive	Positive	Positive	Positive	$H_{0129}:\beta_2[X_5*R*G] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a129}:\beta_2[X_5*R*G] \neq 0 \mid \beta_1[X_5] \neq 0$ $H_{0130}:\beta_1[X_5] = 0 \mid \beta_2[X_5*R*G] \neq 0$ $H_{a130}:\beta_1[X_5] \neq 0 \mid \beta_2[X_5*R*G] \neq 0$	$H_{0131}:\beta_2[X_5*R*G] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a131}:\beta_2[X_5*R*G] \neq 0 \mid \beta_1[X_5] \neq 0$ $H_{0132}:\beta_1[X_5] = 0 \mid \beta_2[X_5*R*G] \neq 0$ $H_{a132}:\beta_1[X_5] \neq 0 \mid \beta_2[X_5*R*G] \neq 0$	$H_{0133}:\beta_2[X_5*R*G] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a133}:\beta_2[X_5*R*G] \neq 0 \mid \beta_1[X_5] \neq 0$ $H_{0134}:\beta_1[X_5] = 0 \mid \beta_2[X_5*R*G] \neq 0$ $H_{a134}:\beta_1[X_5] \neq 0 \mid \beta_2[X_5*R*G] \neq 0$
Fairness (X_6)	Positive	Positive	Positive	Positive	Positive	Positive	$H_{0135}:\beta_2[X_6*R*G] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a135}:\beta_2[X_6*R*G] \neq 0 \mid \beta_1[X_6] \neq 0$ $H_{0136}:\beta_1[X_6] = 0 \mid \beta_2[X_6*R*G] \neq 0$ $H_{a136}:\beta_1[X_6] \neq 0 \mid \beta_2[X_6*R*G] \neq 0$	$H_{0137}:\beta_2[X_6*R*G] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a137}:\beta_2[X_6*R*G] \neq 0 \mid \beta_1[X_6] \neq 0$ $H_{0138}:\beta_1[X_6] = 0 \mid \beta_2[X_6*R*G] \neq 0$ $H_{a138}:\beta_1[X_6] \neq 0 \mid \beta_2[X_6*R*G] \neq 0$	$H_{0139}:\beta_2[X_6*R*G] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a139}:\beta_2[X_6*R*G] \neq 0 \mid \beta_1[X_6] \neq 0$ $H_{0140}:\beta_1[X_6] = 0 \mid \beta_2[X_6*R*G] \neq 0$ $H_{a140}:\beta_1[X_6] \neq 0 \mid \beta_2[X_6*R*G] \neq 0$

Openness to Change: • Self-direction (X_7)	Negative	Negative	Negative	Negative	Positive	Negative	$H_{0141}: \beta_2[X_7*R*G] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a141}: \beta_2[X_7*R*G] \neq 0 \mid \beta_1[X_7] \neq 0$ $H_{0142}: \beta_1[X_7] = 0 \mid \beta_2[X_7*R*G] \neq 0$ $H_{a142}: \beta_1[X_7] \neq 0 \mid \beta_2[X_7*R*G] \neq 0$	$H_{0143}: \beta_2[X_7*R*G] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a143}: \beta_2[X_7*R*G] \neq 0 \mid \beta_1[X_7] \neq 0$ $H_{0144}: \beta_1[X_7] = 0 \mid \beta_2[X_7*R*G] \neq 0$ $H_{a144}: \beta_1[X_7] \neq 0 \mid \beta_2[X_7*R*G] \neq 0$	$H_{0145}: \beta_2[X_7*R*G] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a145}: \beta_2[X_7*R*G] \neq 0 \mid \beta_1[X_7] \neq 0$ $H_{0146}: \beta_1[X_7] = 0 \mid \beta_2[X_7*R*G] \neq 0$ $H_{a146}: \beta_1[X_7] \neq 0 \mid \beta_2[X_7*R*G] \neq 0$
• Stimulation (X_8)	Positive	Positive	Positive	Positive	Positive	Positive	$H_{0147}: \beta_2[X_8*R*G] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a147}: \beta_2[X_8*R*G] \neq 0 \mid \beta_1[X_8] \neq 0$ $H_{0148}: \beta_1[X_8] = 0 \mid \beta_2[X_8*R*G] \neq 0$ $H_{a148}: \beta_1[X_8] \neq 0 \mid \beta_2[X_8*R*G] \neq 0$	$H_{0149}: \beta_2[X_8*R*G] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a149}: \beta_2[X_8*R*G] \neq 0 \mid \beta_1[X_8] \neq 0$ $H_{0150}: \beta_1[X_8] = 0 \mid \beta_2[X_8*R*G] \neq 0$ $H_{a150}: \beta_1[X_8] \neq 0 \mid \beta_2[X_8*R*G] \neq 0$	$H_{0151}: \beta_2[X_8*R*G] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a151}: \beta_2[X_8*R*G] \neq 0 \mid \beta_1[X_8] \neq 0$ $H_{0152}: \beta_1[X_8] = 0 \mid \beta_2[X_8*R*G] \neq 0$ $H_{a152}: \beta_1[X_8] \neq 0 \mid \beta_2[X_8*R*G] \neq 0$
Hedonism (X_9)	Negative	Negative	Negative	Negative	Positive	Negative	$H_{0153}: \beta_2[X_9*R*G] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a153}: \beta_2[X_9*R*G] \neq 0 \mid \beta_1[X_9] \neq 0$ $H_{0154}: \beta_1[X_9] = 0 \mid \beta_2[X_9*R*G] \neq 0$ $H_{a154}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9*R*G] \neq 0$	$H_{0155}: \beta_2[X_9*R*G] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a155}: \beta_2[X_9*R*G] \neq 0 \mid \beta_1[X_9] \neq 0$ $H_{0156}: \beta_1[X_9] = 0 \mid \beta_2[X_9*R*G] \neq 0$ $H_{a156}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9*R*G] \neq 0$	$H_{0157}: \beta_2[X_9*R*G] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a157}: \beta_2[X_9*R*G] \neq 0 \mid \beta_1[X_9] \neq 0$ $H_{0158}: \beta_1[X_9] = 0 \mid \beta_2[X_9*R*G] \neq 0$ $H_{a158}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9*R*G] \neq 0$
Self-Enhancement: • Achievement (X_{10})	Negative	Negative	Positive	Negative	Positive	Positive	$H_{0159}: \beta_2[X_{10}*R*G] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a159}: \beta_2[X_{10}*R*G] \neq 0 \mid \beta_1[X_{10}] \neq 0$ $H_{0160}: \beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R*G] \neq 0$ $H_{a160}: \beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R*G] \neq 0$	$H_{0161}: \beta_2[X_{10}*R*G] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a161}: \beta_2[X_{10}*R*G] \neq 0 \mid \beta_1[X_{10}] \neq 0$ $H_{0162}: \beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R*G] \neq 0$ $H_{a162}: \beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R*G] \neq 0$	$H_{0163}: \beta_2[X_{10}*R*G] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a163}: \beta_2[X_{10}*R*G] \neq 0 \mid \beta_1[X_{10}] \neq 0$ $H_{0164}: \beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R*G] \neq 0$ $H_{a164}: \beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R*G] \neq 0$
• Power (X_{11})	Negative	Negative	Positive	Negative	Positive	Positive	$H_{0165}: \beta_2[X_{11}*R*G] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a165}: \beta_2[X_{11}*R*G] \neq 0 \mid \beta_1[X_{11}] \neq 0$ $H_{0166}: \beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R*G] \neq 0$ $H_{a166}: \beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R*G] \neq 0$	$H_{0167}: \beta_2[X_{11}*R*G] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a167}: \beta_2[X_{11}*R*G] \neq 0 \mid \beta_1[X_{11}] \neq 0$ $H_{0168}: \beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R*G] \neq 0$ $H_{a168}: \beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R*G] \neq 0$	$H_{0169}: \beta_2[X_{11}*R*G] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a169}: \beta_2[X_{11}*R*G] \neq 0 \mid \beta_1[X_{11}] \neq 0$ $H_{0170}: \beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R*G] \neq 0$ $H_{a170}: \beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R*G] \neq 0$

3.10 SUMMARY

In this chapter the research design and methodology utilised in this study were discussed. The research design and methodology should be functions of the underlying theoretical objective of the study. The main objectives of the study were therefore reviewed briefly by examining the substantive research hypothesis. Utilising the objectives of the study as criteria, the aptness of the chosen research design and methodology were evaluated. Details of the measuring instruments used, as well as the statistical analyses performed on the resultant data, were reported. In the following section (Chapter 4), the results of the statistical analysis will be presented, followed by the interpretation of these results in Chapter 5.

CHAPTER 4

RESEARCH RESULTS I: VALIDATION OF MEASURES

4.1 INTRODUCTION

This study was guided by the question that initiated the research, namely, "What influences the attitude towards cultural diversity?" Cultural diversity has emerged as an important theme in the contemporary South African environment and forms part of the larger national research agenda. The theoretical framework presented in Chapter 2 attempts to answer the research initiating question. In partial response to the research initiating question it was hypothesised that personal value orientations influence the attitude towards cultural diversity. In order to empirically quantify this substantive research hypothesis, the research design aims to operationalise the latent constructs that comprise the proposed theoretical model. Redefining the latent constructs comprising the theoretical model in operational terms allows one to statistically assign values to the proposed latent variables. Consequently the researcher is able to empirically investigate the measurement and structural components and relationships between postulated variables in the form of specific statistical hypotheses as presented in Chapter 3. The aim of this process is to ascertain whether the substantive model that culminated from theorising is indeed supported by the data obtained from the sample. This chapter will report the statistical merits of the theoretical proposition that certain values influence the attitude towards cultural diversity.

4.2 VALIDATION OF THE MEASUREMENT MODELS

Since the primary aim of the current study was to validate the exogenous and endogenous measurement models, the factorial configuration should remain the same across testing opportunities and samples as proposed by the original authors. Developers of psychological instruments make certain claims with regard to the latent construct(s) that the measure gauges; how accurately these constructs are measured; and how reliably. When validating a psychological measure in a new sample, one seeks evidence that either corroborates or refutes claims made by the author(s) with regard to the operationalisation of latent constructs. To this end, the validation process serves only as a confirmatory process because the investigator is not permitted to tamper with the original instrument.

4.3 REVIEW OF THE DATA ANALYSIS PROCEDURE

The analysis procedure utilised to validate the measurement models can be summed up as follows:

11. Internal reliability
12. Dimensionality analyses
13. Specification of the model
14. Model identification
15. Estimation of measurement models
16. Evaluation of model fit
17. Examination of model parameters
18. Modification of model

Steps in the CFA using SEM

The Confirmatory Factor Analyses (CFA) implies a number of indices that optimally have to be evaluated in unison. However, due to the large amount of information presented in the SEM application of Confirmatory Factor analysis, only the following key indices and asessement of normality are formally reported in this study:

- Evaluation of multivariate normality
- Overall Goodness-of-fit indices
- Examination of residuals
- Lambda-X factor loadings
- Variance explained by items (R^2)
- Completely standardised theta-delta
- Completely standardised phi-matrix
- Modification indices

In general, when assessing the validity of the SEM models, it is important to look at fit indices and individual parameter estimates (Hair, Black, Babin, Anderson & Tatham, 2006). The validity of the theory increases when parameters are:

- *statistically significant and in the right direction*: greater than zero for a positive proposed relationship and smaller than zero for a negative proposed relationship
- *non-trivial*: the magnitude of estimated parameters provides further information of the strength of the hypothesised relationships. Completely standardised loading estimates are examined, but more specific t-values should be significant.

Overall good model fit should not be interpreted as unequivocal support for the validity of the proposed model. Results from all techniques utilised for analysis in the present study should be viewed collectively. The minimum acceptable criteria and decision-making rules for all the relevant statistical analyses are presented in Tables 3.3 to 3.6 in Chapter 3.

4.4 ENDOGENOUS MEASUREMENT MODEL: CDBS

In the subsequent section the process utilised for the screening and cleaning of the data is presented.

4.4.1 Preparing and Screening of the data

Missing values were dealt with through a combination of conventional list-wise deletion and pattern-matching imputation (See section 3.6.3 for a complete discussion of the procedure that was followed to deal with missing values).

The univariate and multivariate normality was assessed prior to the CFA analysis. One way of determining whether data are distributed normally is to examine skewness and kurtosis indicators. As was expected, the data was not distributed normally and an attempt was subsequently made to normalise the data by using PRELIS (see normalisation results in Table 4.7, p. 212).

Since the normalisation failed, the assumption that the data followed a multivariate normal distribution had to be rejected and alternative SEM estimation techniques which are not dependent on multivariate normal data had to be considered.

It was initially stated that, for the purpose of estimating the reproduced measurement model, the CDBS would be fitted using indicator parcels that resemble relevant latent constructs. Ultimately, however, it was decided that the success with which indicator variables operationalise latent constructs would best be evaluated fitting the model on the item level, since each indicator's unique contribution to the measurement of the latent construct could be evaluated in isolation.

Lastly, before any data were subjected to statistical analysis, some of the original CDBS items had to be reversed. Items are meant to function as homogenous subsets to which respondents reply with behaviour that primarily reveal an uncontaminated expression of a specific underlying variable. Items Var1, Var5, Var10, Var15, Var20 and Var22 were conceptualised negatively and the items had to be reversed during the stages of analysis. Some items had to be reconceptualised, because the CDBS was developed in the American context where dominant and minority group statuses have different connotative meanings (see Chapter 2 for a full discussion).

In short, whites are regarded as the dominant subculture in American as well as South African organisational contexts, but, unlike the situation in the United States, whites make up the minority of the population in South Africa. As a result, it was argued that respondents will be confused if items 11 and 15 were not conceptualised more clearly (see Appendix D for original and adapted items). Since the inter-group dynamic played an important role in the current investigation it was essential that the respondents understood these items clearly.

Although it could be argued that the instrument has been adapted by re-conceptualising some items, it was felt that the instrument could not be evaluated on its professed ability to operationalise the *attitude towards diversity* construct if significant item bias would distort the meaning of specific items in the South African context. Only if respondents were presented with a uniform stimulus set to which their elicited responses were an uncontaminated expression of their standing on an underlying latent construct, could instruments be deemed to successfully measure/operationalise latent constructs. On the basis of this logic, items were adapted in line with the authors' original constitutive intention.

4.4.2 Statistical Analyses

In the subsequent section the statistical analysis results with regard to the validation process is discussed by making specific reference to the internal consistency analysis, dimensionality analysis, model identification, goodness- of-fit indices, model parameter estimations and the modification indices.

4.4.2.1 Internal reliability

The Cronbach's alpha coefficients of the dimensions of the original measurement model as proposed by Rentsch, Turban, Hissong, Jenkins and Marrs (1995) were calculated using the training sub-sample (n= 419). Only the VID sub-scale reported Cronbach's alpha values higher than the prescribed norm of 0, 70 (Nunnully, 1978) (see Table 4.1). Item VID8 was identified as a possible problematic item of the *Valuing Individual Differences* sub-scale since it did not contribute to the homogeneity of the sub-scale. The relatively low (albeit still higher than the normative 0.20 level) corrected item-total correlation (0.252), as well as the increase in Cronbach's alpha (0.01) affected by the removal of the item, signified that the item did not wholly contribute to the internal stability of the VID subscale (See Table 4.32 for full details regarding the internal reliability of subscales).

Table 4.1: Reliability analysis of the endogenous measurement model sub-scales: CDBS

Scale	Number of Items	Alpha	Mean	Variance
Valuing individual differences (VID)	12	0, 777	58.997	52.319
Diversity as a source of Competitive Advantage (CA)	5	0.508	22.983	13.222
Tolerance for Affirmative Action (AA)	6	0.495	24.388	21.333

The Cronbach's alpha coefficient (α = 0.508) of the diversity as a source of competitive advantage (CA) sub-scale did not meet the minimum 0.70 requirement. CA1R was identified as a possible problematic item of the *Competitive Advantage* sub-scale on the basis of the low corrected item-total correlations (0.070), as well as the increase in Cronbach's alpha (0.108) affected by the removal of the item.

A Cronbach's alpha of 0.495 was reported for tolerance for the Affirmative Action (AA) sub-scale, which did not meet the minimum 0.70 requirement. AA1R seems to detract from the Cronbach's alpha (0.017) of the sub-scale, as well as not meet the minimum normative corrected item-total correlation criteria of 0.20 (Hair et al., 2006). The corrected item-total correlation for this item was 0.129. Item AA3 was also identified as a possible problematic item, since the deletion of the item would effect an increase in Cronbach's alpha (0.086), whilst reporting a meagre corrected item-total correlation of 0.012 (See Table 4.32 for additional internal reliability statistics). At this stage none of the items that have been identified as being potentially problematic have been removed from their respective scales.

The low Cronbach's alpha scores for the tolerance for Affirmative Action and Diversity as a Source of Competitive Advantage sub-scales are cumbersome. Items are constructed to act as homogenous subsets to which respondents reply with behaviour primarily representing an uncontaminated expression of a specific underlying variable (and not random error). Low Cronbach's alphas contradict this assumption. Reliability is a necessary but insufficient prerequisite for valid tests (Murphy & Davidshofer, 2001). Considering the low reliability coefficients, validity coefficients derived with this form of the instrument should be interpreted with caution.

4.4.2.2 Dimensionality analyses

During the factor analysis stage, the aim is to identify variables that form coherent subsets but which collectively form part of a larger collective domain. The objective of exploratory factor analysis (EFA) is to group variables that correlate highly into factors since they reflect some underlying phenomenon that has caused the correlation in the first place (Tabachnick & Fidell, 1989). This is typically done to evaluate the uni-dimensionality of each of the factors/dimensions (which are theoretically plausible dimensions of each of the latent variables).

In order investigate the underlying latent variable structure, the original CDBS was subjected to EFA, utilising the Principal-Axis Factoring extraction method and direct Oblimin rotation. Fabrigar, Wegner, MacCullum and Strahan (1999) recommend using Principal-Axis factoring employing Direct Oblimin rotation for psychological research as oblique rotations correspond to a non-orthogonal solution. Oblique rotations are deemed more appropriate in psychological research than Principal Component and Varimax rotation methods, since most psychological constructs are believed to be related.

The EFA was performed on the training subsample (n = 419). When using oblique rotations, Tabachnick and Fidell (2001) recommend reporting both the pattern and structure matrices, but primarily using the pattern matrix to assess the dimensionality of constructs under consideration.

The dimensionality of each sub-scale of the CDBS was assessed and the resulting statistics are reported in Table 4.2. Tabachnick and Fidell (2001) postulate that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy should surpass 0.60. The Eigenvalue greater than unity rule of thumb was used to determine the number of factors to extract (Spangenberg & Theron, 2004). It was disheartening to note that all three dimensions of the CDBS loaded on multiple factors (See Table 4.33).

Table 4.2: Dimensionality analysis of the endogenous measurement model sub-scales: CDBS

Scale	Number of Items	KMO	Number of factors extracted	Cumulative percentage of variance explained by factors with eigenvalues > 1
Valuing individual differences (VID)	12	0.855	2	40.985
Diversity as a source of Competitive Advantage (CA)	5	0.691	2	58.309
Tolerance for Affirmative Action (AA)	6	0.676	2	50.217

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the VID is 0.855, which surpasses the normative 0.60 level. When adhering to the Eigenvalue greater than one rule, the EFA results seem to suggest that two factors emerged for the VID subscale. These factors accounted for 40.9% of the variance of the VID sub-scale (See Table 4.2).

The reported KMO for Diversity as a source of Competitive Advantage (CA) sub-scale did meet the normative 0.60 level. Items comprising the CA sub-scale seemed to load on two factors, in combination explaining 58% of the total variance (see Table 4.2).

As with VID and CA, a KMO score in excess of the normative value of 0.60 emerged in the analysis with regard to the AA dimension. In combination, the two factors explained 50.2% of the total variance of the AA sub-scale (see Table 4.2).

It was cumbersome to have all three dimensions comprising the CDBS loading on multiple factors. No clear factor structure was discernable from these rotated matrices (see Appendix B). Items load in a complex manner on numerous factors. This raised more questions of concern regarding the construct validity of the measure.

Complex EFA results can be due to collinearity among the observed variables. Collinearity among observed variables come about as a result of composite variables – comprising the sum of two or more variables – which are included independently in the covariance matrix (Diamantopoulos & Siguaw, 2000). The completely standardised phi-matrix (Table 4.3) reveals the correlations between the three dimensions constituting the attitude towards cultural diversity.

Table 4.3: Completely standardised phi-matrix of the endogenous measurement model: CDBS

	AA	**VID**	**CA**
AA	1.00		
VID	0.57	1.00	
CA	0.56	0.89	1.00

In general, high correlations between latent variables are preferable, but very high correlations should be interpreted with caution since it could indicate a lack of discriminate validity between latent variables. If two variables correlate very highly, the distinct nature of these constructs and what contribution these variables make in describing different facets of the same construct should be re-evaluated.

VID correlates highly with CA, which could signify collinearity. Even though these two factors correlate strongly, making premature claims of collinearity should be avoided before the covariance matrix has been investigated properly.

4.4.2.3 Model Identification

It is necessary to ensure that the model is identified to ensure that sufficient information is available to obtain a unique solution for the freed parameters to be estimated and tested in the model. To obtain a unique solution of the parameters in a LISREL model, it is necessary that the number of independent parameters being estimated is less than or equal to the number of non-redundant elements of S (Diamantopoulos & Siguaw, 2000).

This rule of thumb is captured in the following formula:

$$\mathbf{t \leq s/2}$$

Where	t =	the number of parameters to be estimated
	s =	The number of variances and covariances amongst the manifest (observable) variables, calculated as (p + q)(p + q + 1)
	p =	The number of y-variables
	q =	The number of x- variables

For the original CDBS the CFA model, the formula reads:

$$49 \leq (23)(23+1)/2$$
$$49 \leq 276$$

This shows the model to be over-identified and the degrees of freedom consequently are positive (227). Stated most simply, enough information is available in the sample covariance matrix (S) to estimate the model parameters.

4.4.2.4 Evaluate model fit

- ***Examination of Residuals***

Differences between observed and fitted covariance/correlation matrices are indicated as residuals in the LISREL output analysis (Jöreskog & Sörbom, 1996). Kelloway (1998) in agreement proclaims that residuals provide important diagnostic information regarding model fit. The argument is based on the notion that each individual covariance or variance term in the covariance/correlation matrix can be regarded as an individual value that needs to be predicted. If one equates good model fit with the collective product of all individual covariance/variance terms being predicted accurately, the assumption would be that individual predictions are relatively devoid of measurement error. Error in measurement creates a residual for each covariance term that detracts from overall model fit (Hair et al., 2006). As a result, one would make the assumption that small residuals are indicative of good fit between the observed and covariance/correlation matrices.

Kelloway (1998) postulates that residuals should be small (-2.58 > Z-score > 2,58) and distributed evenly around the mean to avoid over- and under-predictions of residuals. Standardised residuals can be interpreted as z-scores (i.e. standard deviations above or below the mean) and are depicted in Table 4.4:

Table 4.4: Standardised residuals of the endogenous measurement model: CDBS

	VID1	VID2	VID3	VID4	VID5	CA2
VID1	- -					
VID2	5.01	- -				
VID3	2.70	0.49	- -			
VID4	5.36	0.56	1.87	- -		
VID5	-0.72	-1.61	1.59	-0.85	0.00	
CA2	-0.23	-0.34	0.34	1.23	3.38	- -
CA3	-2.38	-0.01	-0.57	1.30	-1.17	1.28
AA3	1.47	1.62	0.11	1.61	0.30	4.69
VID6	1.21	0.16	-1.09	-0.08	-1.62	1.41
CA4	0.98	0.64	-0.66	0.33	-1.59	-0.81
VID7	-0.10	-0.07	-1.51	-1.78	0.13	-0.64
VID8	-2.24	-0.59	-1.18	-0.48	0.41	2.54
CA5	-2.73	-1.32	-0.33	-2.55	0.39	-1.08
VID9	-2.00	-2.26	-1.07	-1.02	0.22	2.32
VID10	-2.58	0.32	0.47	-2.38	-0.52	-0.79
VID11	-1.64	0.14	-1.45	-1.31	1.17	0.37
VID12	-1.59	2.34	-1.60	0.64	-0.07	-0.62
CA1R	-1.69	-3.85	0.26	0.82	0.41	-2.01
AA1R	-1.81	-3.44	-2.66	-3.33	-1.53	-2.10
AA2R	1.18	-2.36	1.47	1.38	1.16	-3.37
AA4R	-0.72	-1.02	-1.42	-1.23	-0.90	-1.50
AA5R	0.81	-3.09	1.82	1.44	0.97	-2.09
AA6R	-1.66	-0.53	0.16	-0.33	0.35	-1.36

	CA3	AA3	VID6	CA4	VID7	VID8
CA3	**- -**					
AA3	1.81	- -				
VID6	-2.17	3.86	- -			
CA4	0.17	0.95	0.63	- -		

VID7	-1.10	1.27	0.10	2.27	- -	
VID8	1.67	2.56	1.02	1.22	-0.26	- -
CA5	1.50	1.97	0.77	-0.13	-0.55	1.51
VID9	-0.35	3.06	0.36	0.37	-0.64	2.25
VID10	-1.28	1.07	-1.10	-1.50	4.04	-0.95
VID11	0.92	2.50	0.86	-1.51	-0.73	-0.08
VID12	-0.13	2.18	0.87	-0.42	-1.38	0.68
CA1R	-0.42	-0.47	-0.91	-1.37	0.59	0.23
AA1R	-2.33	-0.78	-1.95	-2.46	-2.46	-0.64
AA2R	0.28	-2.35	-0.78	-0.72	0.00	-4.34
AA4R	-2.00	0.83	0.86	-0.73	-1.24	-4.79
AA5R	-0.15	-1.46	-1.17	1.41	1.58	-2.23
AA6R	0.77	0.68	0.30	0.44	-0.44	-1.69

	CA5	**VID9**	**VID10**	**VID11**	**VID12**	**CA1R**
CA5	- -					
VID9	3.70	- -				
VID10	-1.16	0.71	- -			
VID11	-0.97	1.46	2.12	- -		
VID12	1.97	-2.05	1.12	2.09	- -	
CA1R	0.31	1.23	0.30	0.28	0.35	- -
AA1R	-2.39	-1.14	-1.87	-2.76	-0.72	1.25
AA2R	0.11	0.66	0.75	-1.48	-0.35	3.95
AA4R	-1.99	-1.41	-1.63	-1.18	0.28	2.91
AA5R	1.71	0.84	0.96	-0.05	-0.71	4.51
AA6R	-0.92	0.24	-0.64	0.39	0.68	1.67

	AA1R	**AA2R**	**AA4R**	**AA5R**	**AA6R**
AA1R	- -				
AA2R	0.98	- -			
AA4R	2.58	2.62	- -		
AA5R	0.92	-0.33	-3.24	- -	
AA6R	0.12	-0.73	1.56	- -	- -

A summary of the poorly estimated covariance terms (i.e. Z-score ± |2,58|), is listed in Table 4.5:

Table 4.5: Summary statistics for standardised residuals of the endogenous measurement model: CDBS

Largest Negative Standardised Residuals

Residual for CA5 and VID1 -2.73
Residual for VID10 and VID1 -2.58
Residual for CA1R and VID2 -3.85
Residual for AA1R and VID2 -3.44
Residual for AA1R and VID3 -2.66
Residual for AA1R and VID4 -3.33
Residual for AA1R and VID11 -2.76
Residual for AA2R and CA2 -3.37
Residual for AA2R and VID8 -4.34
Residual for AA4R and VID8 -4.79
Residual for AA5R and VID2 -3.09
Residual for AA5R and AA4R -3.24

Largest Positive Standardised Residuals

Residual for VID2 and VID1 5.01

Residual	for	VID3	and	VID1	2.70
Residual	for	VID4	and	VID1	5.36
Residual	for	CA2	and	VID5	3.38
Residual	for	AA3	and	CA2	4.69
Residual	for	VID6	and	AA3	3.86
Residual	for	VID9	and	AA3	3.06
Residual	for	VID9	and	CA5	3.70
Residual	for	VID10	and	VID7	4.04
Residual	for	AA2R	and	CA1R	3.95
Residual	for	AA4R	and	CA1R	2.91
Residual	for	AA4R	and	AA1R	2.58
Residual	for	AA4R	and	AA2R	2.62
Residual	for	AA5R	and	CA1R	4.51

Summary:

Smallest Standardised Residual = -4.79
Median Standardised Residual = 0.00
Largest Standardised Residual = 5.36

In the fitted covariance matrix, the sample covariance structure (**S**) is compared to the implied covariance matrix (Σ). The difference between these two matrices is called the residual matrix (S - Σ). Large positive residual terms in the residual matrix indicate that the implied model underestimates the covariance between variables (i.e. S > Σ). Underestimation is often the result of over-simplistic model specification and could be resolved by specifying additional explanatory paths which could better account for covariance between variables (Diamantopoulos & Siguaw, 2000).

Large negative residual terms in the residual matrix indicate that the implied model overestimates the covariance between variables (i.e. S < Σ). When actual covariances are overestimated by the model, pathways should be reconsidered and optimally modified (delete, redirect or free more model parameters) so that the model can become more parsimonious.

In total, 26 large residuals (i.e. Z-score ± |2,58|), 14 large positive and 12 large negative observed covariance terms in the sample covariance matrix (out of 253 covariance terms) were being poorly estimated by the derived model. The number of statistically significant large residuals was cause for concern and challenged the credibility of the reasonably satisfactory goodness-of-fit indices.

The stem-and-leaf plot (Figure 4.1) and the Q-plot (Figure 4.2) provide additional information regarding the success with which the implied model was reproduced accurately by looking at how much observed model covariances deviate from sample covariances. Good model fit in the stem-and-leaf plot is depicted by the symmetrical distribution of residuals around zero, with most values falling in the middle of the distribution and fewer in the tails (Jöreskog & Sörbom, 1996). A large number of residuals falling at the tail ends of the stem-and-leaf plot suggests that covariances are systematically under- or overestimated by the model (Diamantopoulos & Siguaw, 2000). Figure 4.1 (stem-and-leaf) indicates that the standardised residuals are slightly positively skewed, signifying underestimation of actual covariances.

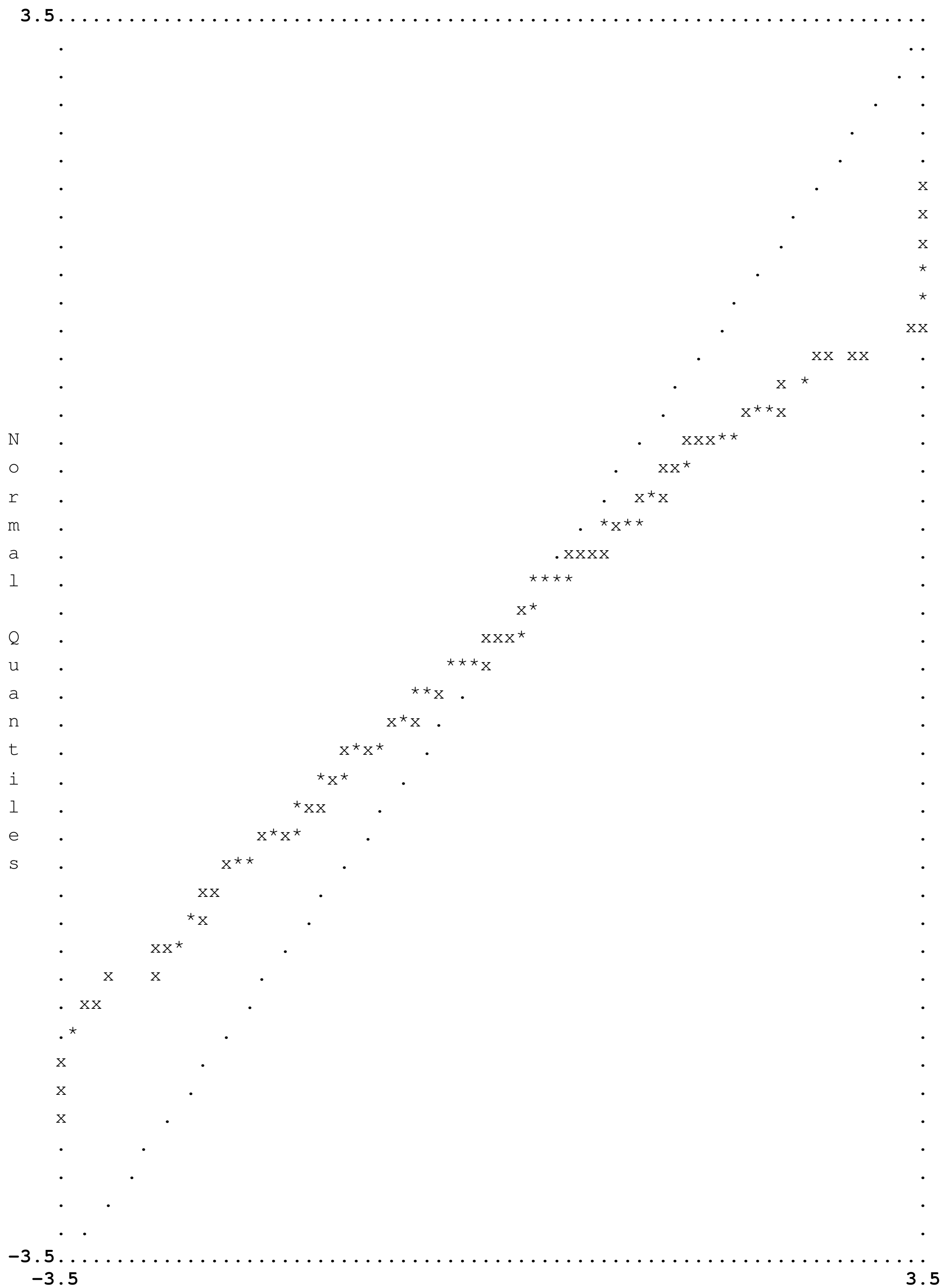
Figure 4.1: Stem-and-leaf for standardized residuals of the endogenous measurement model: CDBS

```
- 4|83
- 3|944321
- 2|877655544444332221110000
- 1|9988777666666655555555444443332222222111111000
  0|9999888887777777776666666555554444333333221111111000000000000000000000000
  0|11111122222223333333333344444444444556666677777788888899999
  1|00000011222222223333444455555566666777889
  2|0011233335566679
  3|14799
  4|057
  5|04
```

Evidence from the stem-and-leaf plot reveals that the fit of the measurement model can be improved by freeing of additional paths only if it makes theoretical sense in order to better account for the covariances between the implied and produced matrices.

The Q-plot plots standardised residuals against the quantiles of normal distribution (Diamantopoulos & Siguaw, 2000). Observed standardised residuals that deviate from the 45-degree reference line are indicative of observed covariance terms being poorly estimated by the derived model parameter estimates. Figure 4.2 reveals that standardised residuals deviate from the reference line on the upper and lower regions of the Q-plot. This is further evidence that there are significant estimation discrepancies between the implied model and the actual model.

Figure 4.2: Q-plot of standardised residuals of the endogenous measurement model: CDBS



- ***Parameter Estimation Method***

Maximum Likelihood (ML) is the recommended parameter estimation technique for SEM. However, ML presumes indicator variables to be multivariate normal distributed (Kelloway, 1998). This is also prerequisite when making use of Generalised Least Squares (GLS) and Full Information Maximum Likelihood (FIML) estimation techniques in SEM (Mels, 2003). Utilising normal-based estimation techniques on non-normally distributed data leads to the underestimation of standard errors and overestimation of the likelihood ratio chi-square statistic (Kaplan, 2000; Olsson, 1979).

Cnsequently, the univariate and multivariate normality of the indicator variables were evaluated via PRELIS (Jöreskog & Sörbom, 1996). The total CDBS sample was randomly divided into two equal subsets for the CFA. The original 23-item CDBS as proposed by Rentsch et al. (1995) was fitted on the training subset (n = 419). Only CFA results conducted on the training subsample are reported for validation purposes. The refined measurement model was validated using the testing sub-sample (see section 4.7).

- ***Evaluation of multivariate normality***

The null hypothesis of univariate normality had to be rejected ($\chi^2 = 1997.254$; $p < 0,05$) in the case of all 23 indicator variables (see Table 4.6). Therefore the data can not be assumed to follow a multivariate normal distribution.

Table 4.6: Test of multivariate normality for continuous variables before normalisation: CDBS

Skewness			Kurtosis			Skewness and Kurtosis	
Value	**Z-Score**	**P-Value**	**Value**	**Z-Score**	**P-Value**	**Chi-Square**	**P-Value**
90.329	40.111	0.000	708.874	19.707	0.000	1997.254	0.000

An attempt was made to normalise the data using PRELIS (see Table 4.7). After the attempted normalisation, the null hypothesis of multivariate normality still had to be rejected (p < 0, 05) although the multivariate normality improved somewhat after the normalisation attempt (χ^2 = 528.863; $p < 0,05$). Therefore, the conclusion can be drawn that the data can not be regarded as multivariate normal and could not be normalised.

Table 4.7: Test of multivariate normality for continuous variables after normalisation: CDBS

Skewness			Kurtosis			Skewness and Kurtosis	
Value	**Z-Score**	**P-Value**	**Value**	**Z-Score**	**P-Value**	**Chi-Square**	**P-Value**
55.634	18.952	0.000	639.859	13.026	0.000	528.863	0.000

According to Mels (2003), the best alternative statistical analysis method to use when using non-normal data is the so-called Robust Maximum Likelihood method (RML). RML dictates that an asymptotic covariance matrix be computed. The sample covariance matrix (S) is compared with the reproduced covariance matrix ($\hat{S}$). Y-variables were set free to estimate designated CDBS latent dimensions. Remaining Λ_x were fixed to zero. Elements of the covariance matrix (Φ) and the diagonal elements of the covariance matrix (θ_δ) were treated by default as zero (Diamantopoulos & Sigauw, 2000; Jöreskog & Sörbom, 1996; Kaplan, 2000).

- ***Evaluating the overall goodness-of-fit of the measurement model***

LISREL 8.30 (Jöreskog & Sörbom, 1996) was used to perform CFA on the criterion dimensions of the model. Data were imputed into PRELIS to compute a covariance matrix which was subsequently used in the LISREL analysis. The complete output of LISREL indices used in the assessment of the absolute and comparative fit of the model is shown in Table 4.8:

Table 4.8: Goodness-of-fit statistics for the endogenous measurement model: CDBS

Degrees of Freedom =	**227**
Minimum Fit Function Chi-Square =	529.17 (P = 0.0)
Normal Theory Weighted Least Squares Chi-Square =	**542.12 (P = 0.0)**
Satorra-Bentler Scaled Chi-Square =	**480.28 (P = 0.0)**
Chi-Square Corrected for Non-Normality =	923.87 (P = 0.0)
Estimated Non-centrality Parameter (NCP) =	253.28

90 Percent Confidence Interval for NCP =	(194.11 ; 320.19)
Minimum Fit Function Value =	1.28
Population Discrepancy Function Value (F0) =	0.61
90 Percent Confidence Interval for F0 =	(0.47 ; 0.78)
Root Mean Square Error of Approximation (RMSEA) =	**0.052**
90 Percent Confidence Interval for RMSEA =	**(0.046 ; 0.058)**
P-Value for Test of Close Fit (RMSEA < 0.05) =	**0.30**
Expected Cross-Validation Index (ECVI) =	1.40
90 Percent Confidence Interval for ECVI =	(1.26 ; 1.56)
ECVI for Saturated Model =	1.34
ECVI for Independence Model =	12.48
Chi-Square for Independence Model with 253 Degrees of Freedom =	5109.85
Independence AIC =	5155.85
Model AIC =	578.28
Saturated AIC =	552.00
Independence CAIC =	5271.45
Model CAIC =	824.54
Saturated CAIC =	1939.14
Normed Fit Index (NFI) =	0.91
Non-Normed Fit Index (NNFI) =	0.94
Parsimony Normed Fit Index (PNFI) =	0.81
Comparative Fit Index (CFI) =	0.95
Incremental Fit Index (IFI) =	0.95
Relative Fit Index (RFI) =	0.90
Critical N (CN) =	241.34
Root Mean Square Residual (RMR) =	**0.11**
Standardized RMR =	**0.065**
Goodness of Fit Index (GFI) =	**0.90**
Adjusted Goodness of Fit Index (AGFI) =	**0.88**
Parsimony Goodness of Fit Index (PGFI) =	0.74

An admissible final solution for parameter estimates for the CDBS measurement model was found after 25 iterations. The most frequently used measure for evaluating model fit is the likelihood ratio Chi-square statistic (Tabachnick & Fidell, 1989), more specifically the Satorra-Bentler chi-square when working with non-normal data (used for the evaluation of exact model fit) and the Root Mean Squared Error of Approximation (RMSEA), typically used to evaluate the close model fit statistic. The χ^2 test statistic tests the null hypothesis that the population covariance matrix is equal to the reproduced covariance matrix implied by the model, indicative of exact fit.

Both the Satorra-Bentler Scaled chi-square ($p = 0{,}0$) and the normal theory weighted least chi-square ($p = 0.0$) indicated that the model (variance-covariance matrix implied from the maximum-likelihood parameter estimates) was not reproducing the data (variance-covariance matrix) perfectly. Consequently, the null hypothesis of exact fit had to be rejected ($p = 0, 00$).

Due to several shortcomings of the chi-square statistic, it was recommended to express χ^2 in terms of degrees of freedom. A χ^2/df value of 2.12 was found in this study, which falls within the generally accepted norm range of between 2 and 5 (Hair et al., 2006).

In addition, a test of close fit (in contrast to exact fit) was performed by LISREL by testing H_0: RMSEA < 0.05 against H_a: RMSEA > 0.05. Thus, if a p-value for close fit > 0.05, then close fit has been achieved. A p-value for test of close fit greater than 0.05 has been achieved ($p = 0.30$), therefore the null hypotheses for close fit could not be rejected, which implied that the model fitted the data reasonably well, but not precisely. Furthermore a RMSEA value of 0, 052 (see Table 4.8) was obtained from the data which was not much larger than the normative value of 0, 05, which illustrated that the model seemed to fit the data well. Steiger (1990) contends that values lower than 0.08 is indicative of good fit and values lower than 0.05 indicate very good (or exceptional fit). The 90% confidence interval for RMSEA shown in Table 4.8 (0.046; 0.058) indicates that the fit of the measurement model could be regarded as good.

The expected cross-validation index (ECVI) expresses the difference between the reproduced sample covariance matrix (Σ^) derived from fitting the model on the present sample and the expected covariance matrix that would be obtained in an independent sample of the same size from the same population (Diamantopoulos & Siguaw, 2000). A model's ECVI index is not informative in itself and must be compared to ECVI values of other models. The model with the smallest ECVI value has the greatest potential for replication. Since the model ECVI (1.40) is smaller than the value obtained for the independence model (12.48), but larger than the ECVI value associated with the saturated model (1.34), a model more closely resembling the saturated model seemed to have a better chance of being replicated in a cross-validation sample than the fitted model.

The Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Parsimony Normed Fit Index (PNFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI) and Relative Fit Index (RFI) utilise a baseline model for comparison with the proposed model. All of these incremental fit indices assume values between 0 and 1, with larger values generally representing better fit (Diamantopoulos and Siguaw, 2000). Incremental fit indices with values in excess of 0.90 are generally regarded as presenting good fit. All of the above-mentioned indices reported values above 0.90 (see Table 4.8), except for PNFI, which was marginally lower with a score of 0.81.

The RMR is a measure of the mean absolute value of the difference between the covariance matrix of the data and the covariance matrix reproduced by the theoretical models (Kelloway, 1998). RMR values ranging between 0.05 and 0.08 are indicative of good fit. The RMR reported for the CDBS was 0,11 which did not fall within the acceptable range indicative of good fit. This statistic is cumbersome.

However, Diamantopoulos and Siguaw (2000) warn that the RMR should not be interpreted in isolation, as the index is sensitive to the scale of the measurement of model variables and therefore makes it difficult to interpret values. It therefore is recommended to examine the RMR statistic in conjunction with the standardised RMR, which has a lower bound of 0 and an upper bound of 1. Values smaller than 0.08 are generally regarded as indicative of good fit to the data (Hair et al., 2006).

The standardised RMR obtained from the analysis boasted a value of 0.065 which is indicative of good to reasonable fit (RMSR < 0, 08).

The GFI assesses how well the covariances predicted from the parameter estimates reproduce the sample covariance (Spangenberg & Theron, 2004). The adjusted GFI adjusts the GFI for degrees of freedom in the model and both values range between 0 and 1, with 1 indicating perfect fit and 0 poor fit. The GFI and AGFI ranges from 0 to 1, with values exceeding 0.90 being indicative of good fit (Kelloway, 1998).

A GFI value of 0.90 was reported, which is indicative of good fit. The AGFI value (0.88) was marginally lower than the generally acceptable norm for good fit.

After interpreting a variety of fit indices, it was possible to deduce that the proposed measurement model fitted the data reasonably well but not perfectly. Consequently, it was necessary to examine the residual (standardised residuals) and modification indices to further evaluate the claim that the model fits the data well (See Table 4.4).

4.4.2.5 Examination of model parameters

The degree to which observed variables successfully reflect (operationalise) respective latent variables is determined by the magnitude and the significance of the slope of the regression of the observed variables on their respective latent variables. Indicators can only be deemed valid representations of underlying latent traits to the extent that the slope of the regression between indicators and latent variables is permissible, substantial and significant (Diamantopoulos & Siguaw, 2000). Ascertaining the quality of measures (reliability and validity) is an important prerequisite for the interpretation and evaluation of substantive relations of interest (i.e. structural relations among latent variables). In the absence of credible evidence signifying that specific indicators reflect latent constructs that they are conceptually destined to gauge, any assessment of substantive relations of interest will be problematic in that the meaning of poor or good structural model fit will become ambiguous. The validity of measures (i.e. the degree to which the indicator measures what it is supposed to measure) is captured in the magnitude and significance of the λ_{ij} loadings between the indicator (y_i) and the latent variable (η_j).

The unstandardised Λ_y matrix (see Table 4.9) contains the factor loadings (regression coefficients) between manifest variables and latent variables that they are assigned to measure. Factor loadings are significant ($p < 0.05$) when reported t-values are in excess of

1.96 in absolute terms (Diamantopoulos & Siguaw, 2000). Significant indicator loadings provide validity evidence in favour of the indicators.

Table 4.9: Unstandardised lambda-X matrix of the endogenous measurement model: CDBS

	AA	VID	CA
VID1		0.47 (0.04) 10.61	
VID2		0.44 (0.06) 7.46	
VID3		0.58 (0.04) 13.40	
VID4		0.56 (0.05) 11.70	
VID5		0.38 (0.04) 8.64	
VID6		0.57 (0.07) 8.76	
VID7		0.64 (0.04) 15.62	
VID8		0.42 (0.08) 5.44	
VID9		0.62 (0.05) 12.66	
VID10		0.68 (0.05) 13.59	
VID11		0.65 (0.05) 13.88	
VID12		0.63 (0.06) 10.22	
CA1R			0.21 (0.09) 2.40
CA2			0.48 (0.07) 7.28
CA3			0.62 (0.06) 9.76
CA4			0.80 (0.05) 14.97

CA5		0.65 (0.05) 12.29
AA1R	0.14 (0.09) 1.54	
AA2R	0.78 (0.07) 10.46	
AA3	0.12 (0.10) 1.27	
AA4R	0.53 (0.08) 6.32	
AA5R	0.97 (0.07) 13.97	
AA6R	0.72 (0.08) 9.45	

All the factor loadings indicated in the lambda-X matrix are significant (t-values>1.96), except for AA3 and AA1R. Diamantopoulos and Siguaw (2000) warn that one should be careful in comparing unstandardised loadings and associated t-values because indicators of the same construct may not be measured on the same scale. In addition, it is recommended to analyse the unstandardised magnitudes of lambda-X loadings by inspecting the completely standardised solutions. In the *Completely Standardised Solution* of LISREL, both the latent and indicator variables are standardised. Values in the standardised solution can be interpreted as the regression of the standardised observed variables on the standardised latent variables (see Table 4.10).

Table 4.10: Completely standardised lambda-Y matrix of the endogenous measurement model: CDBS

AA	VID	CA
VID1	0.51	
VID2	0.37	
VID3	0.61	
VID4	0.56	
VID5	0.47	
VID6	0.44	
VID7	0.67	
VID8	0.28	
VID9	0.58	

VID10		0.61	
VID11		0.58	
VID12		0.47	
CA1R			0.14
CA2			0.41
CA3			0.49
CA4			0.70
CA5			0.60
AA1R	0.10		
AA2R	0.58		
AA3	0.08		
AA4R	0.35		
AA5R	0.76		
AA6R	0.49		

Hair et al. (2006) state that standardised loading estimates should at least be 0.50 or higher, but optimally 0.70 or higher. The reason being that standardised λ^2_y scores express the proportion of variance in the indicator variables that can be explained by each dimension constituting the attitude towards cultural diversity (see Table 4.11). Thus a loading of 0.71 squared equates to 0.50. Thus, only 50% of unique latent variable variance is expressed by the designator indicators. As lambda loadings fall below 0.70, more than half the variance in the measure is due to error variance (systematic and random). However, standardised loading estimates of 0.50 are still acceptable as an absolute normative boundary. When strictly adhering to this rule, 12 items failed to meet the minimum lambda loading criteria (indicated in Table 4.10). Items VID2, VID5, VID6, VID8, VID12, CA1R, CA2, CA3, AAIR, AA3, AA4R, AA6R reported completely standardised lambda loadings smaller than 0.50. The large number of variables that was unable to report lambda loadings of 0.50 cast serious doubt on the construct validity of the CDBS measure.

Table 4.11: Squared Multiple Correlations for Y-variables of the endogenous measurement model: CDBS

VID1	**VID2**	**VID3**	**VID4**	**VID5**	**CA2**	**CA3**	**AA3**	**VID6**	**CA4**
0.26	0.14	0.38	0.31	0.22	0.17	0.24	0.01	0.19	0.49
VID7	**VID8**	**CA5**	**VID9**	**VID10**	**VID11**	**VID12**	**CA1R**	**AA1R**	
0.45	0.08	0.36	0.34	0.37	0.33	0.22	0.02	0.01	
AA2R	**AA4R**	**AA5R**	**AA6R**						
0.34	0.12	0.58	0.24						

Whereas lambda loadings are informative with regard to the validity of indicator variables, squared multiple correlations (R^2) shift the attention to the reliability of indicators (Diamantopoulos & Siguaw, 2000). A high R^2 indicates that the majority of variance explained is a function of the underlying latent variable and not due to error variance (systematic and random). A high R^2 signifies high reliability for the indicators concerned (Diamantopoulos & Siguaw, 2000).

R^2 values shown in Table 4.11 raise some concern about the reliability of the CDBS. In total 13 indicators (highlighted) individually explain less than 30% of the unique variance of the latent variables they are assigned to reflect.

The completely standardised theta-epsilon ($\theta_{\varepsilon ii}$) matrix (see Table 4.12) reflects the proportion of non-relevant item variance (random and systematic variance). Stated most simply, the completely standardised error variance of the i^{th} indicator variable ($\theta_{\varepsilon ii}$) consists of both systematic non-relevant variance and random error variance. Therefore, squared multiple correlations (λ^2_y) scores can be interpreted as variable validity coefficients ($\rho[Y_i,\eta_j]$), indicating how well indicators are reflecting latent variable variance. By implication (λ^2_y + $\theta_{\varepsilon ii}$) should equal unity in the standardised solution. Since reliability is concerned with the consistency of measurement – i.e. systematic variance in indicator variables, irrespective of whether the source of variance is relevant to the measurement intention or not, R^2 values can be interpreted as lower bound estimates of item reliabilities (Diamantopoulos & Siguaw, 2000; Jöreskog & Sörbom, 1996; Kaplan, 2000). Consequently, ρ (Y_i,η_j) can be expressed as follows:

$$\begin{aligned}\rho\,(Y_i,\eta_j) &= \sigma^2_{\text{systematic-relevant}}/\,(\sigma^2_{\text{systematic-relevant}} + \sigma^2_{\text{non-relevant}})\\ &= \lambda_{ij}^2/[\lambda_{ij}^2 + \theta_{\varepsilon ii}]\\ &= 1- (\theta_{\varepsilon i}/[\,\lambda_{ij}^2 + \theta_{\varepsilon ii}])\\ &= 1 - \theta_{\varepsilon ii}\\ &= \lambda_{ij}^2 \text{ ---}(137)\end{aligned}$$

Following this line of argument, one would expect item reliabilities to be underestimated when $\theta_{\varepsilon ii}$ contains the effect of the systematic non-relevant latent influences (Diamantopoulos & Siguaw, 2000).

Table 4.12: Completely standardised theta-epsilon matrix of the endogenous measurement model: CDBS

VID1	VID2	VID3	VID4	VID5	VID6	VID7	VID8	VID9	VID10	VID11
0.74	0.86	0.62	0.69	0.78	0.81	0.55	0.92	0.66	0.63	0.67

VID12	CA1R	CA2	CA3	CA4	CA5	AAIR	AA2R	AA3	AA4R	AA5R	AA6R
0.78	0.98	0.83	0.76	0.51	0.64	0.99	0.66	0.99	0.88	0.42	0.76

The concerns raised by examining the R^2 values are largely confirmed looking at the standardised $\theta_{\varepsilon ii}$ scores. Six items (VID1, VID2, VID5, VID6, VID8, VID12) in the Valuing Individual Differences sub-scale, three items in the Cultural Diversity as a source of Competitive Advantage (CA1R, CA2, CA3) sub-scale and four in the Tolerance for Affirmative Action (AA1R, AA3, AA4R, AA6R) sub-scale were unable to explain more than 30% of unique variable variance. For all practical reasons, these items failed to successfully operationalise the respective latent constructs they were designated to denote. Items VID8, CA1R , AA1R and AA3 failed to represent at least 10% of unique variable variance, i.e. more than 90% of variance expressed was attributable to error. These items were also identified in earlier item analyses for not contributing to the internal stability of designated sub-scales.

In general, reported squared multiple correlations, as well as theta-delta scores, raised some serious concerns regarding the validity and reliability of the CDBS measure. This tends to erode the confidence with which any definite conclusion on the merits of the CDBS potential structural model will be possible.

Given the existing doubt regarding the quality with which indicator variables are able to express unique latent variable variability, Diamantopoulos and Siguaw (2000) suggested conducting an additional assessment of the construct reliability of the measure. Completely standardised indicator loadings and error variances are substituted in the following formula in order to calculate the *composite reliability* score for each sub-scale:

$p_c = (\Sigma\lambda)^2/[(\Sigma\lambda)^2 + \Sigma(\theta)]$---(138)

Where:

p_c = composite reliability;

λ = completely standardised indicator loadings;

θ = completely standardised indicator error variances (i.e. variances of the δ's and ε's);

Σ = summation over the indicators of the latent variable.

Composite reliability is concerned with how well indicators as a set provide reliable measurements of the latent construct that is the attitude towards cultural diversity. Diamantopoulos and Siguaw (2000) suggest that values greater than 0.60 are indicative of reasonable composite reliability. The composite reliability scores for the composite indicators linked to the latent variables are displayed in Table 4.13 below:

Table 4.13: Composite reliability scores for composite indicators for each sub-scale of CDBS

Latent Variable	**Composite Reliability Score**
Tolerance for Affirmative Action	**0.5423**
Valuing Individual Differences	**0.8128**
Diversity as a source of Competitive Advantage	**0.5954**

The only sub-dimension of the CDBS that exceeds the minimum criteria 0.60 on the composite reliability score is VID. Poor indicators explicating relatively small amounts of latent variable variability are bound to force composite reliability scores downwards. Although the VID sub-scale was ridden with poor indicators, the reported composite reliability score still exceeded the minimum 0.60 level. One possible reason may be that the sub-scale had more indicators than the other two sub-scales. Reliability is a function of correlations between items and the number of items measuring a construct (Murphy & Davidshofer, 2001). In principle, the reliability coefficient of any measure is bound to increase when either the inter-item correlations increase or the number of items comprising the measure increase. In the case of the VID sub-scale, the relatively large number of indicators may have attenuated the negative effect that the low-squared multiple correlations for indicator variables had on the reliability of the specific sub-scale.

A supplementary indicator to composite reliability is the *average variance extracted* (p_v). P_v explicates the amount of composite unique variable variance expressed by the sub-scale items compared to the amount of variance explained by error variance. The logical deduction would be that p_v smaller than 0.50 in absolute terms denotes than the majority of variance is explained by error and not the designated indicators. Once again the validity of measures becomes doubtful when error variance explains the majority of variance. The following formula was used to calculate the average variance extracted (Diamantopoulos & Siguaw, 2000, p. 91):

$$p_v = (\Sigma\lambda^2)/[\ \Sigma\lambda^2 + \Sigma(\theta)]$$

Where:

λ, θ and Σ are defined as in equation 138.

The average variance extracted (p_v) for each latent sub-scale is displayed in Table 4.14

Table 4.14: Average variance extracted for composite indicators for each sub-scale of CDBS

Latent Variable	**Average Variance Extracted**
Tolerance for Affirmative Action	**0.274**
Valuing Individual Differences	**0.334**
Diversity as a source of Competitive Advantage	**0.255**

Results from Table 4.14 are in line with results presented thus far. Analysis results raise serious questions about the quality of indicator variables designated to gauge dimensions constituting the CDBS. EFA analysis revealed that the CDBS construct as proposed by Rentsch et al. (1995) may be multidimensional and suffer from a lack of convergent validity. Although model fit can be described as good, individual parameter estimates reveal that the instrument does not successfully operationalise the proposed theoretical construct. Numerous items report very low R^2 values and very high theta-epsilon scores, implying that the indicators are not gauging the proposed theoretical dimensions comprising the attitude towards cultural diversity sufficiently. In general, the instrument operationalises the latent construct poorly (low validity and internal consistency) and, as a result, threatens the construct validity of the hypothesised latent variables. Since reliable and valid measurement is a necessary but insufficient prerequisite for the postulation of structural relations between latent variables, any hypothesis that is corroborated (or refuted) on the basis of measurement results using this specific form of the CDBS will be dubious at best. Stated more simply, if poor structural model fit and relationships were found between latent variables, it would not be possible to unequivocally rule out the possibility that these were due to inherent structural flaws and not to shortcomings in the operationalisation of specific latent variables.

4.4.2.6 Modification indices

Modifications to existing measurement instruments are only permissible if the refined models:

(d) Fit the data better; or
(e) are more parsimonious; and
(f) modifications are theoretically justifiable

Modification indices should best be analysed along with Expected Parameter Change parameters (EPC). Modification indices predict *which* currently fixed parameters would bring about significant model improvements, if freed. EPC estimates by *how much* model parameters and overall fit will increase (decrease in chi-square) if proposed modifications are made. Large modification index values (> 6.64) would be indicative of parameters that, if set free, would improve the fit of the model significantly ($p < 0.01$) (Diamantopoulos & Siguaw, 2000).

When the model is under fitted ($S-\Sigma$ is large), large positive residuals are reported for covariances. Large positive residuals typically are symptoms of underestimation of covariance terms in the reproduced covariance matrix. The lack of correspondence between the sample covariance matrix and the implied population covariance matrix influence the overall model fit negatively (increase in degrees of freedom and chi-square statistic). Typically, the model is too vaguely specified and additional pathways should be freed up in order to be estimated in the reproduced covariance matrix. Only when substantive grounds can be offered in favour of such a modification, is it permissible (Diamantopoulos & Siguaw, 2000). Over-specification accrues when the model is too narrowly defined, i.e. too many pathways are freed up and large negative residuals are the result (i.e. $\Sigma-S$ is large). This result in a relatively good fitting model (relatively few degrees of freedom and low chi-square), but not a very parsimonious one.

The original CDBS is plagued by both underestimation and overestimation of model parameters. Consequently, the lambda-Y modification index (Table 4.15), along with the corresponding Expected Parameter Change (EPC) index, was examined. The EPC index estimates what the resulting standardised solution would be if currently fixed parameters were to be freed up.

Table 4.15: Modification indices for lambda-Y of the endogenous measurement model: CDBS

	VID	AA	CA
VID1	- -	0.07	0.97
VID2	- -	10.91	0.94
VID3	- -	1.82	0.07
VID4	- -	1.06	0.02
VID5	- -	0.90	- -
CA2	- -	9.16	- -
CA3	1.30	0.08	- -
AA3	14.43	- -	14.78
VID6	- -	0.43	0.03
CA4	0.05	0.15	- -
VID7	- -	0.22	0.31
VID8	- -	17.06	13.00
CA5	0.15	0.35	- -
VID9	- -	0.42	2.93
VID10	- -	0.17	1.87
VID11	- -	0.45	0.23
VID12	- -	0.06	0.10
CA1R	- -	32.35	- -
AA1R	24.69	- -	24.39
AA2R	0.00	- -	0.25
AA4R	6.61	- -	6.81
AA5R	4.51	- -	5.20
AA6R	0.17	- -	0.09

Examination of the Λ_y matrix reveals that overall model fit can be significantly improved by freeing marked λ_y paths. After re-examining items comprising proposed pathways, no theoretical rationale could be found for freeing previously constrained parameters. For example, a significant modification index was reported with regard to item CA1R ("the more similar employees are to one another, the more productive the organization will be"), which could be interpreted to mean that this item may potentially load significantly on the AA dimension in addition to the designated CA dimension if allowed to be freely estimated. When examining the substantive content of item CA1R, it seems unlikely that this item was designed to operationalise the tolerance for affirmative action subscale. Therefore it seems imprudent to allow this item to load on the AA dimension.

It did seem, however, that considerable cross-loading existed between the three factors constituting the CDBS. Once again, previously identified items (e.g. VID8, AA1R, AA3, AA4R CA1R and CA2) seemed to be the culprits as far as not contributing to the internal consistency of designated factors were concerned. These items could be considered poor items on the basis of evidence from other analyses.

Although the completely standardised change if the parameter would be freed (Table 4.16) indicated that incremental model fit would accrue if parameters were freed, it seemed to be more prudent to delete these items altogether rather than forging empirical relationships between variables in the absence of sound theoretical grounds.

Table 4.16: Completely standardised expected change for LAMBDA-Y of the endogenous measurement model: CDBS

	VID	AA	CA
VID1	- -	0.02	-0.10
VID2	- -	-0.24	-0.16
VID3	- -	0.08	-0.02
VID4	- -	0.07	0.02
VID5	- -	0.07	- -
CA2	- -	-0.24	- -
CA3	-0.14	-0.02	- -
AA3	0.29	- -	0.31
VID6	- -	-0.05	0.03
CA4	0.02	0.03	- -
VID7	- -	0.03	0.05
VID8	- -	-0.31	1.09
CA5	-0.06	0.05	- -
VID9	- -	0.04	0.18
VID10	- -	0.03	-0.16
VID11	- -	-0.04	-0.04
VID12	- -	-0.02	0.04
CA1R	- -	0.47	- -
AA1R	-0.39	- -	-0.40
AA2R	-0.01	- -	-0.04
AA4R	-0.19	- -	-0.20
AA5R	0.19	- -	0.20
AA6R	-0.03	- -	-0.02

In the last analysis, the modification indices merely confirmed previous evidence that the CDBS did not operationalise the attitude towards cultural diversity effectively. The reliability, construct validity and uni-dimensionality of the instrument could not be substantiated in the current sample. The credibility of any result from the original form CDBS will remain dubious at best. This instrument is unable to operationalise the attitude towards cultural diversity.

4.5 EXOGENOUS MEASUREMENT MODEL: SVS

In the subsequent section the process utilised for the screening and cleaning of the data is presented.

4.5.1 Preparing and screening of the data:

Considerably more cleaning was done on the predictor measure dataset. Due to the complexity of the value construct, in general, and the unique rating scale adopted by the SVS in particular, a number of sequential data preparation steps had to be followed before the data could be exposed to multivariate data analyses.

First, the issue of missing values in the dataset was addressed, using a pattern-matching method to impute missing values via the PRELIS program of LISREL 8.72 (Jöreskog & Sörbom, 1996). The pattern-matching process entailed the imputation of missing values by deriving replacement values via designated matching variables from cases that have a similar response pattern over the matching variables (Jöreskog & Sörbom, 1996). Eighty-eight missing values were successfully imputed for 1268 cases in the complete SVS dataset.

The next step was to centre value ratings to correct for usage of scale. Schwartz et al. (1997) warns that, unless value responses are centred, conclusions drawn from analyses using values either as a dependent or independent variable will be ambiguous insofar as the question remains whether differences in response patterns are attributable to differences in usage of scale, or due to unique variance that exists between samples of respondents.

Furthermore, Tabachnick and Fidell (2001) state that, if variables are perfectly linear combinations of one another or are extremely highly correlated ($r > 0.90$), the necessary matrices can not be inverted. Multivariate analyses flowing from inverted matrices are unstable because the standard errors become very large and the parameter estimates become highly uncertain (Tabachnick & Fidell, 2001).

By centring variables, i.e. converting raw scores to deviation scores by centring value responses on the average scale score per respondent, multicolinearity resulting from the measurement scales of the independent variables can be ameliorated (Schwartz et al., 1997).

It was expected that the centred SVS data would follow a more multivariate normal distribution after the centralisation process. The question may rightfully be asked whether the Robust Maximum Likelyhood estimation method will not correct for the non-normality in the data. However, descriptive statistics reported the centred data to be more skew and heteroscedastic than the non-centred data and the null hypothesis of multivariate normality had to be rejected ($p < 0, 05$), even when the robust ML were utilised.

Because of this, it was decided to fall back on the original non-centred SVS data for the purpose of the Confirmatory Factor Analysis.

4.5.2 Statistical Analyses

4.5.2.1 Internal reliability

The SPSS reliability procedure (SPSS 16.0, 2007) was used to evaluate the extent to which the SVS items reflected latent variables in a coordinated fashion. The Cronbach's alpha coefficients (Table 4.17) of the dimensions of the original measurement model as proposed by Schwartz (1992) were calculated, using the training sub-sample (n = 633).

Table 4.17: Reliability analysis of the exogenous measurement model sub-scales: SVS				
Scale	**Number of Items**	**Alpha**	**Mean**	**Variance**
Conformity	4	0.717	2.105	17.521
Tradition	5	0.613	2.113	33.418
Benevolence	5	0.747	2.612	24.903
Universalism	8	0.748	3.693	67.490
Self-direction	5	0.619	2.495	21.082
Stimulation	3	0.694	1.311	16.084
Hedonism	3	0.661	1.448	14.377
Achievement	4	0.624	2.073	13.414
Power	4	0.663	1.338	29.963
Security	5	0.575	2.384	22.603

All ten SVS factors reported Cronbach's alpha coefficients in excess of 0.50, with six factors reporting alpha coefficients in the 0.60 to 0.70 range (Tradition, Self-direction, Stimulation, Hedonism, Achievement and Power) and three factors (Conformity, Benevolence and Universalism) boasted Cronbach's alpha values higher than the norm of 0, 70 (Nunnully, 1978). Only Security reported an alpha coefficient smaller than 0.60.

Although seven of the original SVS dimensions did not adhere to the minimum normative value of 0.70 for Cronbach's alpha coefficients, no individual items, except for Var39 of the Achievement factor, was identified as possible problematic items on the basis of corrected item-total correlations (norm > 0.20) as well as the increase in Cronbach's alpha affected by the removal of the item. Var39 was the only item in the instrument that reported an increase in Cronbach's alpha coefficient (0.025), if the item were to be deleted.

In general, the internal consistency of the SVS seemed intact, although the generally low Cronbach's alpha coefficients of the sub-scales were reason for concern. All the corrected item-total correlations exceeded the normative 0.20 level and no other items would bring about an increase in the Cronbach's alpha of the specific sub-scales on deletion.

4.5.2.2 Dimensionality analysis

According to Schwartz (1992) it is not recommended to search for factors underlying the value items using EFA procedures. EFA is not suitable for discerning a set of relations among variables that form a circumplex, as the values data do. The first unrotated factor represents scale use or acquiescence. It is not a substantive common factor. A crude representation of the circular structure of values using EFA can be obtained by plotting the locations of the value items on factors 2 x 3 of the unrotated solution (Schwartz, Verkasalo, Antonovsky & Sagiv, 1997). This analysis methodology seems to be appropriate when evaluating the dimensionality of the entire SVS.

However, it was deemed appropriate to evaluate the uni-dimensionality of the *separate subscales* of the original SVS with EFA, utilising the Principal-Axis Factoring extraction method and direct Oblimin rotation.

Exploratory Factor Analysis was performed on each of the SVS subscales that was originally proposed by the authors, using the testing sub-sample (n = 633). The KMO measure of sampling adequacy exceeded the normative 0.60 level for each sub-dimension of the SVS (Tabachnick & Fidell, 2001). The Eigenvalue greater than unity rule of thumb was used to determine the number of factors to extract (Spangenberg & Theron, 2004). Only one of the sub-scales (Universalism) reported two factors with Eigenvalues bigger than one (Figure 4.18).

Table 4.18: Dimensionality analysis of the exogenous measurement model subscales: SVS				
Scale	**Number of Items**	**KMO**	**Number of factors extracted**	**Cumulative percentage of variance explained by factors with eigenvalues > 1**
Conformity (CON)	4	0.745	1	39.511
Tradition (TRA)	5	0.705	1	24.505
Benevolence (BEN)	5	0.786	1	38.353
Universalism (UNI)	**8**	**0.810**	**2**	**34.907**
Self-direction (S-D)	5	0.725	1	25.389
Stimulation (STI)	3	0.675	1	44.041
Hedonism (HED)	3	0.652	1	39.915
Achievement (ACH)	4	0.710	1	32.307
Power (PO)	4	0.715	1	33.891
Security (SEC)	5	0.721	1	23.089

With the exception of item 26, all remaining items comprising the Universalism sub-scale could meaningfully be divided into two sub-scales that were theoretically justifiable. Var1, Var17, Var30 and Var35 all seemed to load on a common factor, which could be defined as *justice* or *fairness.* Conceptually, these items seemed to capture a philanthropic undertone with regards to one's own society and the world at large.

Var24, Var29 and Var38 were concerned with the protection of the environment and living in harmony with nature. A high premium was placed on living in balance with one's natural surroundings, rather than exploiting it for material gain.

In general, sufficient evidence was found for the ten-factor structure of the SVS. The pattern and structure matrices, scree plot and Eigenvalue greater than unity rule all seemed to indicate that ten factors do indeed underlie the current dataset.

Additional support for the factorial structure of the SVS can be found by looking at the completely standardised phi-matrix LISREL output (Table 4.19)

Table 4.19: Completely standardised phi-matrix of the exogenous measurement model: SVS										
	CON	**TRA**	**BEN**	**UNI**	**S-D**	**STI**	**HED**	**ACH**	**PO**	**SEC**
CON	1.00									
TRA	0.96	1.00								
BEN	0.93	0.96	1.00							
UNI	0.72	0.84	0.77	1.00						
S-D	0.75	0.77	0.77	0.83	1.00					
STI	0.48	0.63	0.51	0.72	0.86	1.00				
HED	0.56	0.62	0.57	0.56	0.73	0.66	1.00			
ACH	0.83	0.82	0.85	0.77	0.98	0.72	0.68	1.00		
PO	0.30	0.40	0.25	0.38	0.58	0.60	0.68	0.49	1.00	
SEC	0.90	0.91	0.85	0.90	0.89	0.64	0.76	0.93	0.65	1.00

In general, high correlations between latent variables are preferable, but very high correlations should be interpreted with caution since it could indicate a lack of discriminate validity between latent variables.

A number of SVS constructs correlated highly, as can be seen from Table 4.20. Correlation coefficients in the excess of 0.90 could signify collinearity (Kerlinger & Lee, 2000). Eight phi-matrix correlations reported coefficients higher than 0.90. Even though these factors correlate strongly, making premature claims of collinearity should be avoided before the covariance matrix has not been investigated properly. Diamantopoulos and Siguaw (2000) warn that constructs that correlate excessively highly could face data related problems insofar as LISREL are unable to define the sample covariance matrix (S). Diamantopoulos and Siguaw (2000, p. 76) describe the problem as follows:

> A non-positive definite (or singular) matrix has a determinant of zero and cannot be inverted (i.e. its inverse does not exist). Under these conditions various bits of statistical information related to the matrix cannot be computed or trusted. Since a requirement of several estimation procedures (including maximum likelihood) is that S is positive definite, …). Typical reasons for S not being positive definite is pairwise

deletion of missing data or collinearity (i.e. linear dependency) among observed variables.

In the LISREL output the following warning was issued, "Phi is not positive definite", although the standardised and completely standardised phi matrices were still reproduced. In the current investigation, a non-positive definite matrix is most likely the result of collinearity among observed variables. Examination of the modification indices for lambda-X (see Table 4.30) reveals whether significant lambda loadings are empirically probable between indicator variables. According to Schwartz's (1992, 1994) theory, the circular structure of values dictates a continuum of related motivations. The closer any two values are to one another in the schematic representation, the more similar their underlying motivations; the more distant, the more divergent their motivational intent (Schwartz, 2006). Based on this logic, value constructs that reside close to each other in the circular value structure share conceptual intent – i.e. reflects similar motivational goals (e.g. conformity and tradition).

If adjacent values share conceptual scope, the observed variables that are assigned to express those values, provided they validly and reliably express denoted latent constructs, should gauge at least some unique variance of adjacent non-designated latent variables. Based on this logic, we would expect some observed variables to cross-load on conceptually similar, albeit non-designated latent value constructs. This non-designated latent variance explained by observed variables should be regarded as residuals, since indicators are not exclusively expressing unique variance attributable to latent influences. In agreement, Hair et al. (2006) state that covariance between error terms signify a lack of construct validity, in general, and discriminate validity in particular. Covariance among error terms (expressed as θ_δ or θ_ε) of items indicating different constructs is indicative of cross-loadings, which, by implication, suggest lack of unidimensionality of postulated constructs. Standard regression analyses, lambda-X modification matrices, along with examination of the theta-delta and theta-epsilon matrices, should provide additional information regarding the inter-correlation (and construct validity) between indicators.

4.5.2.3 Model Identification

It is necessary to ensure that the model is identified to ensure that sufficient information is available to obtain a unique solution for the freed parameters to be estimated and tested in the model. To obtain a unique solution of the parameters in a LISREL model, it is necessary that the number of independent parameters being estimated is less than or equal to the number of non-redundant elements of S (Diamantopoulos & Siguaw, 2000).

This rule of thumb is captured in the following formula:

$$\mathbf{t \leq s/2}$$

Where	t =	the number of parameters to be estimated
	s =	The number of variances and covariances amongst the manifest (observable) variables, calculated as (p + q)(p + q + 1)
	p =	The number of y-variables
	q =	The number of x- variables

For the original SVS the CFA model, the formula reads:

$$137 \leq (46)(46+1)/2$$
$$137 \leq 1081$$

This shows the model to be over-identified and consequently the degrees of freedom are positive (944). Stated most simply, enough information is available in the sample covariance matrix (S) to estimate the model parameters.

4.5.2.4 Evaluate model fit

- ***Examination of Residuals***

Differences between observed and fitted covariance /correlation matrices are indicated as residuals in the LISREL output analysis (Jöreskog & Sörbom, 1996). The quantity and magnitude of residual terms provide important diagnostic information regarding overall model fit.

Kelloway (1998) postulates that residuals should be small (Z-score ± |2,58|), and distributed evenly around the mean to avoid over- and under-prediction of residuals.

The presence of large positive and negative residuals (Z-score ± |2,58|) suggests that the observed covariance terms in the observed sample covariance matrix (S) are not being gauged efficiently by the derived model parameter estimates. A summary of all large positive and negative residuals is presented in Table 4.20.

Table 4.20: Summary statistics for standardised residuals of the exogenous measurement model: SVS

Largest negative standardised residuals

```
Residual for     var3 and     var1  -3.87
Residual for     var9 and     var1  -2.66
Residual for    var11 and     var3  -5.22
Residual for    var13 and     var3  -2.67
Residual for    var16 and     var3  -3.64
Residual for    var16 and     var4  -2.93
Residual for    var17 and     var3  -4.56
Residual for    var20 and    var13  -2.76
Residual for    var22 and     var3  -5.58
Residual for    var25 and     var4  -3.33
Residual for    var25 and    var12  -3.25
Residual for    var25 and    var17  -3.02
Residual for    var26 and    var17  -2.96
Residual for    var27 and    var12  -2.61
Residual for    var30 and     var3  -6.38
Residual for    var30 and     var4  -2.75
Residual for    var30 and     var9  -2.89
Residual for    var30 and    var12  -4.46
Residual for    var30 and    var24  -3.04
Residual for    var33 and    var18  -2.74
Residual for    var34 and     var3  -3.37
Residual for    var34 and     var4  -4.13
Residual for    var34 and    var12  -2.99
Residual for    var34 and    var17  -3.00
Residual for    var36 and    var12  -2.99
Residual for    var36 and    var13  -3.36
Residual for    var37 and     var1  -3.17
Residual for    var37 and    var17  -5.03
Residual for    var37 and    var30  -3.81
Residual for    var37 and    var34  -2.97
Residual for    var38 and    var12  -3.89
Residual for    var38 and    var15  -3.05
Residual for    var38 and    var35  -3.07
Residual for    var40 and     var3  -4.14
Residual for    var40 and    var32  -3.04
Residual for    var40 and    var35  -3.06
Residual for    var41 and     var3  -5.08
Residual for    var41 and     var9  -3.36
```

```
Residual for    var41 and    var25  -3.16
Residual for    var41 and    var30  -2.74
Residual for    var41 and    var37  -3.25
Residual for    var43 and     var3  -3.87
Residual for    var43 and     var4  -2.99
Residual for    var43 and    var12  -2.60
Residual for    var43 and    var13  -2.82
Residual for    var43 and    var37  -3.99
Residual for    var44 and    var26  -2.70
Residual for    var45 and     var3  -3.03
Residual for    var45 and    var12  -2.59
Residual for    var45 and    var13  -4.41
Residual for    var45 and    var24  -2.72
Residual for    var45 and    var29  -3.43
Residual for    var45 and    var39  -2.97
Residual for    var47 and     var8  -2.97
Residual for    var47 and    var11  -3.23
Residual for    var47 and    var29  -3.24
Residual for    var49 and     var3  -2.88
Residual for    var49 and    var45  -4.36
Residual for    var50 and    var22  -2.97
Residual for    var51 and     var3  -2.79
Residual for    var51 and    var12  -5.18
Residual for    var51 and    var24  -3.60
Residual for    var51 and    var31  -3.04
Residual for    var51 and    var35  -4.01
Residual for    var52 and     var3  -2.69
Residual for    var52 and    var13  -2.68
Residual for    var52 and    var24  -3.64
Residual for    var52 and    var40  -3.93
Residual for    var53 and    var11  -4.95
Residual for    var53 and    var13  -2.67
Residual for    var53 and    var17  -4.29
Residual for    var53 and    var20  -2.69
Residual for    var53 and    var30  -3.92
Residual for    var53 and    var33  -2.89
Residual for    var53 and    var40  -2.60
Residual for    var53 and    var41  -2.66
Residual for    var53 and    var45  -2.91
Residual for    var54 and     var3  -4.86
Residual for    var54 and     var4  -4.07
Residual for    var54 and    var12  -2.90
Residual for    var55 and     var3  -3.35
Residual for    var55 and     var4  -3.02
Residual for    var55 and    var11  -2.78
Residual for    var55 and    var16  -2.74
Residual for    var55 and    var17  -3.21
Residual for    var55 and    var30  -4.62
Residual for    var55 and    var36  -2.82
Residual for    var55 and    var37  -2.70
Residual for    var55 and    var45  -4.35
Residual for    var56 and     var3  -2.86
Residual for    var56 and     var4  -2.84
Residual for    var56 and    var12  -3.21
Residual for    var56 and    var30  -4.69
Residual for    var57 and     var3  -3.42
Residual for    var57 and    var27  -2.70
```

Largest positive standardised residuals

```
Residual for     var5 and     var4   3.17
Residual for     var9 and     var8   3.98
Residual for    var12 and     var4   2.96
Residual for    var13 and     var1   3.61
Residual for    var15 and     var4   3.09
Residual for    var17 and     var5   2.80
Residual for    var17 and    var13   6.26
Residual for    var18 and    var17   3.37
Residual for    var22 and    var11   5.47
Residual for    var25 and    var24   3.91
Residual for    var26 and     var5   2.73
Residual for    var26 and    var15   2.89
Residual for    var26 and    var20   3.22
Residual for    var26 and    var25   4.17
Residual for    var27 and     var3   3.65
Residual for    var27 and    var24   3.37
Residual for    var27 and    var26   4.67
Residual for    var29 and    var16   2.83
Residual for    var29 and    var24   3.09
Residual for    var30 and     var1   2.77
Residual for    var30 and     var5   3.09
Residual for    var30 and    var17   3.65
Residual for    var32 and    var12   3.25
Residual for    var32 and    var15   2.87
Residual for    var32 and    var24   3.99
Residual for    var32 and    var27   3.85
Residual for    var33 and    var22   2.77
Residual for    var34 and    var33   3.58
Residual for    var35 and    var16   4.25
Residual for    var35 and    var34   2.79
Residual for    var36 and    var26   2.69
Residual for    var36 and    var35   4.23
Residual for    var38 and    var24   4.87
Residual for    var39 and    var26   2.77
Residual for    var39 and    var27   4.74
Residual for    var39 and    var37   3.04
Residual for    var40 and    var11   3.81
Residual for    var40 and    var22   4.02
Residual for    var41 and    var18   2.64
Residual for    var41 and    var20   3.53
Residual for    var41 and    var22   2.86
Residual for    var41 and    var40   5.71
Residual for    var43 and    var26   4.57
Residual for    var44 and    var32   5.20
Residual for    var45 and    var22   3.24
Residual for    var45 and    var33   3.84
Residual for    var46 and     var8   2.72
Residual for    var46 and    var18   3.03
Residual for    var46 and    var24   3.77
Residual for    var46 and    var29   3.04
Residual for    var46 and    var32   5.08
Residual for    var46 and    var33   4.56
Residual for    var46 and    var39   4.96
Residual for    var46 and    var44   5.15
Residual for    var46 and    var45   3.89
Residual for    var47 and     var1   2.67
Residual for    var47 and    var43   3.12
Residual for    var47 and    var45   3.84
Residual for    var47 and    var46   6.51
Residual for    var49 and     var1   3.30
Residual for    var49 and    var17   2.99
```

```
Residual for    var49 and    var30   5.10
Residual for    var49 and    var36   3.93
Residual for    var49 and    var46   5.11
Residual for    var50 and     var4   3.53
Residual for    var50 and     var9   2.58
Residual for    var50 and    var37   2.83
Residual for    var51 and    var45   2.91
Residual for    var52 and    var41   3.50
Residual for    var52 and    var46   3.49
Residual for    var52 and    var51   4.03
Residual for    var53 and    var37   5.30
Residual for    var53 and    var46   3.52
Residual for    var54 and    var49   3.44
Residual for    var54 and    var51   3.15
Residual for    var55 and    var26   3.69
Residual for    var55 and    var41   3.98
Residual for    var55 and    var46   3.21
Residual for    var55 and    var52   3.05
Residual for    var56 and    var32   4.16
Residual for    var56 and    var34   2.58
Residual for    var56 and    var41   2.67
Residual for    var56 and    var46   3.69
Residual for    var56 and    var52   2.82
Residual for    var56 and    var55   3.49
Residual for    var57 and    var24   3.08
Residual for    var57 and    var33   2.92
Residual for    var57 and    var41   4.43
Residual for    var57 and    var44   4.67
Residual for    var57 and    var46   3.68
Residual for    var57 and    var47   4.82
Residual for    var57 and    var55   4.77
Residual for    var57 and    var56   6.89
```

Summary:

Smallest standardised residual = -6. 38
Median standardised residual = 0.00
Largest standardised residual = 6.89

The large number of statistically significant residuals in the residual matrix implies that the observed sample covariance matrix (S) was unable to accurately estimate the reproduced sample covariance matrix (ˆΣ) derived from the model parameter estimates (Jöreskog & Sörbom, 1993).

The stem-and-leaf plot (Figure 4.4) reveals the distribution of residuals around zero. Residuals optimally should be distributed symmetrically around zero with relatively few values at the tails of the plot (Jöreskog & Sörbom, 1996). As can be seen from Figure 4.3, residuals are distributed reasonably symmetrically, but the large number of residuals falling at the tail ends of the stem-and-leaf plot suggests that covariances are systematically under- or overestimated by the model (Diamantopoulos & Siguaw, 2000).

Figure 4.4: Stem-and-leaf for standardised residuals of the exogenous measurement model: SVS

```
 - 6|4
 - 5|62210
 - 4|997665443311100
 - 3|999998666444443322222222111000000000000000
 - 2|99999998888887777777777777766666666655555555555554444444444433333333332222+33
 - 1|9999999999998888888888887777777777777777766666666666666666666666665555555555+00
 - 0|9999999999999999999888888888888888877777777777777776666666666666666655555555+49
   0|1111111111111111111111111111122222222222222223333333333333333333334444444444444+44
   1|00000000000000001111111111111222222222222233333333333333333333344444444444455+68
   2|00000000000000011111111111111111122222222333333333333344444444444445555555556+20
   3|000000111111222223444555555666777788889999
   4|000002222466777889
   5|011112357
   6|359
```

The Q-Plot (see Figure 4.5) revealed severe deviation of standardised residuals on the upper and lower regions of the Q-plot. Deviation from the 45-degree reference line is indicative of observed covariance terms being poorly estimated by the derived model parameter estimates. This was further evidence that there were significant estimation discrepancies between the implied covariance matrix and the actual covariance matrix.

Figure 4.5: Q-plot of standardised residuals of the exogenous measurement model: SVS

```
 3.5..........................................................................
    .                                                                       ..
    .                                                                      . .
    .                                                                    .   .
    .                                                                  .     .
    .                                                                 .      x
    .                                                               .        *
    .                                                             .          *
    .                                                            .           x
    .                                                          .             *
    .                                                        .               x
    .                                                       .                x
    .                                                     .                 xx
    .                                                   .              xx*xx .
    .                                                  .          xx*xxx     .
N   .                                                .         x*xx          .
o   .                                              .        xx*              .
r   .                                             .     xxxxx                .
m   .                                           .   x*xx*                    .
a   .                                         .  *x**                        .
l   .                                        . *x*                           .
    .                                       .xx*x                            .
Q   .                                    *xxx                                .
u   .                                 xx**                                   .
a   .                             **xxx                                      .
n   .                         xx*x* .                                        .
t   .                      xxx*    .                                         .
i   .                   *x**     .                                           .
```

```
l   .                xxx*      .                                             .
e   .             *x*x        .                                              .
s   .         x*x*x         .                                                .
    .      xx*x           .                                                  .
    .    *xx             .                                                   .
    .  *xx             .                                                     .
    xx*x             .                                                       .
    x               .                                                        .
    *             .                                                          .
    x           .                                                            .
    *          .                                                             .
    *        .                                                               .
    x      .                                                                 .
    .     .                                                                  .
    .   .                                                                    .
    . .                                                                      .
-3.5..........................................................................
  -3.5                                                                      3.5
                          Standardized Residuals
```

- ***Parameter Estimation Method***

Several estimation techniques are available to the researcher to estimate each free parameter specified in the model (see section 3.2.1.4 for complete discussion of estimation techniques). Estimation techniques are mathematical algorithms developed to assess overall model fit by estimating the differences between the sample and model-implied covariance matrices. The default estimation technique in LISREL is maximum likelihood estimation (MLE), which is more efficient than most estimation techniques when the assumption of multivariate normality is met (Hair et al., 2006). Alternative estimation techniques which are less sensitive to the normal distribution of data are available, e.g. robust maximum likelihood, weighted least squares (WLS), generalised least squares (GLS) and asymptotically distribution free (ADF) estimation techniques (Hair et al., 2006).

Therefore, it is important to examine the distribution of data before opting for a specific estimation technique.

Consequently, the univariate and multivariate normality of the original 46-item SVS was evaluated via PRELIS (Jöreskog & Sörbom, 1996).

- ***Evaluation of multivariate normality***

The null hypothesis of univariate normality had to be rejected (χ^2 = 1993.476; p < 0,05) in the case of all 46 indicator variables (see Table 4.21). Therefore the data can not be assumed to follow a multivariate normal distribution.

Table 4.21: Test of multivariate normality for continuous variables before normalisation: SVS

Skewness			Kurtosis			Skewness and Kurtosis	
Value	**Z-Score**	**P-Value**	**Value**	**Z-Score**	**P-Value**	**Chi-Square**	**P-Value**
313.023	67.124	0.000	2644.065	32.941	0.000	1993.476	0.000

An attempt was made to normalise the data using PRELIS (see Table 4.22). After the attempted normalisation, the null hypothesis of multivariate normality still had to be rejected (p < 0, 05), although the multivariate normality improved somewhat after the attempted normalisation. Ultimately, the data can not be regarded as multivariate normal and alternative estimation techniques that are not dependent on indicators that are distributed normally should be considered.

Table 4.22: Test of multivariate normality for continuous variables after normalisation: SVS

Skewness			Kurtosis			Skewness and Kurtosis	
Value	**Z-Score**	**P-Value**	**Value**	**Z-Score**	**P-Value**	**Chi-Square**	**P-Value**
267.877	49.614	0.000	2565.427	30.094	0.000	3367.189	0.000

According to Mels (2003), the best alternative statistical analysis method to use when using non-normal data is the so-called Robust Maximum Likelihood method (RML) of estimation.

- ***Evaluating the overall goodness-of-fit of the measurement model***

Confirmatory Factor Analysis enables one to evaluate a proposed measurement theory. Since no valid conclusion can be reached without valid measurements, the importance of CFA can not be stressed enough (Hair et al., 2006).

LISREL 8.30 (Jöreskog & Sörbom, 1996) was used to perform CFA on the exogenous dimensions of the model. Data was imputed into PRELIS to compute a covariance matrix which was subsequently used in the LISREL analysis. The complete output of LISREL indices used in the assessment of the absolute and comparative fit of the model is represented in Table 4.23.

Table 4.23: Goodness-of-fit statistics for the Exogenous Measurement Model: SVS

Degrees of Freedom =	**944**
Minimum Fit Function Chi-Square =	2883.23 (P = 0.0)
Normal Theory Weighted Least Squares Chi-Square =	**3122.45 (P = 0.0)**
Satorra-Bentler Scaled Chi-Square =	**2623.08 (P = 0.0)**
Estimated Non-centrality Parameter (NCP) =	1679.08
90 Percent Confidence Interval for NCP =	(1530.26 ; 1835.50)
Minimum Fit Function Value =	4.56
Population Discrepancy Function Value (F0) =	2.66
90 Percent Confidence Interval for F0 =	(2.42 ; 2.90)
Root Mean Square Error of Approximation (RMSEA) =	**0.053**
90 Percent Confidence Interval for RMSEA =	**(0.051 ; 0.055)**
P-Value for Test of Close Fit (RMSEA < 0.05) =	**0.019**
Expected Cross-Validation Index (ECVI) =	4.58
90 Percent Confidence Interval for ECVI =	(4.35 ; 4.83)
ECVI for Saturated Model =	3.42
ECVI for Independence Model =	70.91
Chi-Square for Independence Model with	
1035 Degrees of Freedom =	44725.76
Independence AIC =	44817.76
Model AIC =	2897.08
Saturated AIC =	2162.00
Independence CAIC =	45068.49
Model CAIC =	3643.80
Saturated CAIC =	8053.96

Normed Fit Index (NFI) =	0.94
Non-Normed Fit Index (NNFI) =	0.96
Parsimony Normed Fit Index (PNFI) =	0.86
Comparative Fit Index (CFI) =	0.96
Incremental Fit Index (IFI) =	0.96
Relative Fit Index (RFI) =	0.94
Critical N (CN) =	253.51
Root Mean Square Residual (RMR) =	**0.17**
Standardised RMR =	**0.061**
Goodness of Fit Index (GFI) =	**0.82**
Adjusted Goodness of Fit Index (AGFI) =	**0.80**
Parsimony Goodness of Fit Index (PGFI) =	0.72

An admissible final solution of parameter estimates for the SVS measurement model was found after 11 iterations.

The χ^2 test statistic tests the null hypothesis that the population covariance matrix is equal to the reproduced covariance matrix implied by the model, implying exact fit.

Both the Satorra-Bentler Scaled Chi-Square (p = 0,0) and the Normal Theory Weighted Least Chi-Square (p = 0.0) indicated that the model (variance-covariance matrix implied from the maximum-likelihood parameter estimates) was not reproducing the data (variance-covariance matrix) perfectly. Consequently, the null hypothesis of exact fit was rejected (p = 0, 00).

Due to several shortcomings of the chi-square statistic, it is recommended to additionally express χ^2 in terms of degrees of freedom. A χ^2/df value of 2.78 was found in this study which falls within the generally accepted norm range of between 2 and 5 (Hair et al., 2006).

In addition, a test of close fit (in contrast to exact fit) is performed by testing H_0: RMSEA < 0.05 against H_a: RMSEA > 0.05. Thus, if a p-value for close fit > 0.05 was recorded, close fit had been achieved. The reported p-value for the test of close fit was not greater than 0.05 (p =

0.019), therefore the null hypotheses for close fit had to be rejected. Based on the foregoing evidence, it could be inferred that the discrepancy between the reproduced covariance matrix implied by the model and the observed population covariance matrix was substantial. Due to the significant p-value ($p < 0.05$), the null hypothesis for close and exact fit had to be rejected.

Furthermore a RMSEA value of 0,053 (see Table 4.23), which was not much larger than the normative value of 0, 05, was obtained from the data, which illustrated that the model seemed to fit the data well. However, this statistic is somewhat arbitrary due to the non-significant p-value that was reported for RMSEA. The 90% confidence interval for RMSEA shown in Table 4.26 (0.051; 0.055) indicates that the fit of the structural model could be regarded as good, since the returned values fall within the 90% confidence interval.

The expected cross-validation index (ECVI) expresses the difference between the reproduced sample covariance matrix ($\hat{\Sigma}$) derived from fitting the model on the present sample and the expected covariance matrix that would be obtained in an independent sample of the same size from the same population (Diamantopoulos & Siguaw, 2000).A model's ECVI index is not informative in itself and must be compared to ECVI values of other models. The model with the smallest ECVI values has the greatest potential for replication. Since the model ECVI (4.58) is smaller than the value obtained for the independence model (70.91), but larger than the ECVI value associated with the saturated model (3.42), a model more closely resembling the saturated model seemed to have a better chance of being replicated in a cross-validation sample than the fitted model.

The RMR is a measure of the mean absolute value of the difference between the covariance matrix of the data and the covariance matrix reproduced by the theoretical models (Kelloway, 1998). RMR values ranging between 0.05 and 0.08 are indicative of good to reasonable fit. The RMR reported for the SVS was 0,17, which did not fall within the acceptable range indicative of good fit. This result was a cause for concern.

However, Diamantopoulos and Siguaw (2000) warned that the RMR should not be interpreted in isolation since the index is sensitive to the scale of the measurement of model variables and therefore makes the interpretation of values difficult. Therefore it is recommended to examine the RMR statistic in conjunction with the standardised RMR, which has a lower bound of 0 and an upper bound of 1. Values smaller than 0.08 are generally regarded as indicative of good fit to the data (Hair et al., 2006).

The standardised RMR obtained from the analysis boasted a value of 0.061, which was indicative of good to reasonable fit (SRMR<0, 08).

The GFI assesses how well the covariances predicted from the parameter estimates reproduce the sample covariance (Spangenberg & Theron, 2004). The adjusted GFI adjusts the GFI for degrees of freedom in the model and both values range between 0 and 1, with 1 indicating perfect fit and 0 poor fit. The GFI and AGFI range from 0 to 1, with values exceeding 0.9 being indicative of good fit (Kelloway, 1998).

Both reported GFI (0.82) and the AGFI (0.80) were marginally lower than the generally acceptable ranges of good fit.

After interpreting a variety of fit indices, the deduction could be made that the proposed measurement model fitted the data reasonably well but not perfectly. Consequently, it was necessary to examine the residual (standardised residuals) and modification indices to further evaluate the claim that the model fitted the data well.

4.5.2.5 Examination of model parameters

In the absence of credible evidence signifying that specific indicators reflect the latent constructs that they are conceptually destined to gauge, any assessment of substantive relations of interest will be problematic in as far as the meaning of poor or good structural model fit will become ambiguous.

The unstandardised Λ_y matrix (see Table 4.24) contained the factor loadings (regression coefficients) between manifest variables and latent variables that they were assigned to measure. Factor loadings are significant ($p < 0.05$) when reported t-values are in excess of 1.96 in absolute terms (Diamantopoulos & Siguaw, 2000). Significant t-values for indicator loadings suggest that indicators effectively operationalise designated latent constructs (i.e. construct validity).

Table 4.24: Unstandardised lambda-X matrix of the exogenous measurement model: SVS

	CON	TRA	BEN	UNI	SD	STI
var1	- -	- -	- -	0.65 (0.07) 9.78	- -	- -
var3	- -	- -	- -	- -	- -	- -
var4	- -	- -	- -	- -	- -	- -
var5	- -	- -	- -	- -	0.53 (0.06) 9.29	- -
var8	- -	- -	- -	- -	- -	- -
var9	- -	- -	- -	- -	- -	0.99 (0.06) 17.06
var11	0.88 (0.05) 16.75	- -	- -	- -	- -	- -
var12	- -	- -	- -	- -	- -	- -
var13	- -	- -	- -	- -	- -	- -
var15	- -	- -	- -	- -	- -	- -
var16	- -	- -	- -	- -	0.85 (0.07) 12.79	- -
var17	- -	- -	- -	0.97 (0.07) 13.98	- -	- -
var18	- -	0.89 (0.07) 12.19	- -	- -	- -	- -
var20	0.86 (0.05) 15.97	- -	- -	- -	- -	- -
var22	- -	- -	- -	- -	- -	- -
var24	- -	- -	- -	1.09 (0.07) 14.64	- -	- -
var25	- -	- -	- -	- -	- -	1.07 (0.07) 16.29
var26	- -	- -	- -	0.73 (0.06) 13.06	- -	- -
var27	- -	- -	- -	- -	- -	- -
var29	- -	- -	- -	1.22 (0.07) 17.68	- -	- -
var30	- -	- -	- -	1.01 (0.06) 18.24	- -	- -
var31	- -	- -	- -	- -	0.70 (0.06) 12.68	- -
var32	- -	0.56 (0.09) 6.34	- -	- -	- -	- -
var33	- -	- -	0.79 (0.04) 17.61	- -	- -	- -
var34	- -	- -	- -	- -	- -	- -
var35	- -	- -	- -	0.67 (0.08)	- -	- -

				8.81		
var36	– –	0.94 (0.06) 14.99	– –	– –	– –	– –
var37	– –	– –	– –	– –	– –	1.29 (0.08) 17.10
var38	– –	– –	– –	1.12 (0.07) 16.85	– –	– –
var39	– –	– –	– –	– –	– –	– –
var40	0.88 (0.05) 18.37	– –	– –	– –	– –	– –
var41	– –	– –	– –	– –	0.74 (0.05) 14.94	– –
var43	– –	– –	– –	– –	– –	– –
var44	– –	0.96 (0.09) 10.80	– –	– –	– –	– –
var45	– –	– –	0.89 (0.04) 20.68	– –	– –	– –
var46	– –	– –	– –	– –	– –	– –
var47	1.05 (0.06) 18.42	– –	– –	– –	– –	– –
var49	– –	– –	1.00 (0.06) 16.59	– –	– –	– –
var50	– –	– –	– –	– –	– –	– –
var51	– –	1.02 (0.07) 15.39	– –	– –	– –	– –
var52	– –	– –	0.83 (0.05) 18.21	– –	– –	– –
var53	– –	– –	– –	– –	0.94 (0.07) 14.45	– –
var54	– –	– –	0.97 (0.06) 16.36	– –	– –	– –
var55	– –	– –	– –	– –	– –	– –
var56	– –	– –	– –	– –	– –	– –
var57	– –	– –	– –	– –	– –	– –

	HED	**ACH**	**PO**	**SEC**
var1	– –	– –	– –	– –
var3	– –	– –	1.02 (0.09) 11.50	– –
var4	1.02 (0.07) 14.16	– –	– –	– –
var5	– –	– –	– –	– –
var8	– –	– –	– –	0.74 (0.06) 12.70
var9	– –	– –	– –	– –
var11	– –	– –	– –	– –
var12	– –	– –	1.15 (0.08) 14.45	– –

var13	- -	- -	- -	0.92
				(0.07)
				12.56
var15	- -	- -	- -	0.62
				(0.07)
				8.95
var16	- -	- -	- -	- -
var17	- -	- -	- -	- -
var18	- -	- -	- -	- -
var20	- -	- -	- -	- -
var22	- -	- -	- -	0.65
				(0.04)
				15.91
var24	- -	- -	- -	- -
var25	- -	- -	- -	- -
var26	- -	- -	- -	- -
var27	- -	- -	1.19	- -
			(0.07)	
			16.91	
var29	- -	- -	- -	- -
var30	- -	- -	- -	- -
var31	- -	- -	- -	- -
var32	- -	- -	- -	- -
var33	- -	- -	- -	- -
var34	- -	0.79	- -	- -
		(0.04)		
		17.48		
var35	- -	- -	- -	- -
var36	- -	- -	- -	- -
var37	- -	- -	- -	- -
var38	- -	- -	- -	- -
var39	- -	0.81	- -	- -
		(0.07)		
		12.07		
var40	- -	- -	- -	- -
var41	- -	- -	- -	- -
var43	- -	0.83	- -	- -
		(0.05)		
		17.58		
var44	- -	- -	- -	- -
var45	- -	- -	- -	- -
var46	- -	- -	1.08	- -
			(0.09)	
			12.22	
var47	- -	- -	- -	- -
var49	- -	- -	- -	- -
var50	0.98	- -	- -	- -
	(0.06)			
	16.04			
var51	- -	- -	- -	- -
var52	- -	- -	- -	- -
var53	- -	- -	- -	- -
var54	- -	- -	- -	- -
var55	- -	0.68	- -	- -
		(0.04)		
		16.28		
var56	- -	- -	- -	0.85
				(0.06)
				14.96
var57	1.11	- -	- -	- -
	(0.06)			
	17.59			

All factor loadings in the lambda-X matrix reported significant t-values. Significant indicator loadings implies that the indicators are accurately (validly) expressing denoted latent constructs. However, unstandardised lambda-X matrices should never be used in isolation to judge the quality of measures. It is recommended that the magnitudes of lambda-X loadings be analysed by inspecting the standardised solutions as well. In the *Completely Standardised Solution*, both the latent and indicator variables are standardised. Values in the standardised solution can be interpreted as the regression of the standardised observed variables on the standardised latent variables (see Table 4.25)

Table 4.25: Completely standardised lambda-X matrix of the exogenous measurement model: SVS

	CON	TRA	BEN	UNI	SD	STI
var1	- -	- -	- -	0.39	- -	- -
var3	- -	- -	- -	- -	- -	- -
var4	- -	- -	- -	- -	- -	- -
var5	- -	- -	- -	- -	0.40	- -
var8	- -	- -	- -	- -	- -	- -
var9	- -	- -	- -	- -	- -	0.67
var11	0.63	- -	- -	- -	- -	- -
var12	- -	- -	- -	- -	- -	- -
var13	- -	- -	- -	- -	- -	- -
var15	- -	- -	- -	- -	- -	- -
var16	- -	- -	- -	- -	0.52	- -
var17	- -	- -	- -	0.54	- -	- -
var18	- -	0.49	- -	- -	- -	- -
var20	0.61	- -	- -	- -	- -	- -
var22	- -	- -	- -	- -	- -	- -
var24	- -	- -	- -	0.57	- -	- -
var25	- -	- -	- -	- -	- -	0.66
var26	- -	- -	- -	0.53	- -	- -
var27	- -	- -	- -	- -	- -	- -
var29	- -	- -	- -	0.66	- -	- -
var30	- -	- -	- -	0.64	- -	- -
var31	- -	- -	- -	- -	0.52	- -
var32	- -	0.29	- -	- -	- -	- -
var33	- -	- -	0.62	- -	- -	- -
var34	- -	- -	- -	- -	- -	- -
var35	- -	- -	- -	0.41	- -	- -
var36	- -	0.60	- -	- -	- -	- -
var37	- -	- -	- -	- -	- -	0.66
var38	- -	- -	- -	0.62	- -	- -
var39	- -	- -	- -	- -	- -	- -
var40	0.67	- -	- -	- -	- -	- -
var41	- -	- -	- -	- -	0.58	- -
var43	- -	- -	- -	- -	- -	- -
var44	- -	0.47	- -	- -	- -	- -
var45	- -	- -	0.71	- -	- -	- -
var46	- -	- -	- -	- -	- -	- -
var47	0.67	- -	- -	- -	- -	- -
var49	- -	- -	0.61	- -	- -	- -
var50	- -	- -	- -	- -	- -	- -
var51	- -	0.56	- -	- -	- -	- -
var52	- -	- -	0.66	- -	- -	- -

var53	- -	- -	- -	- -	0.57	- -
var54	- -	- -	0.61	- -	- -	- -
var55	- -	- -	- -	- -	- -	- -
var56	- -	- -	- -	- -	- -	- -
var57	- -	- -	- -	- -	- -	- -

	HED	**ACH**	**PO**	**SEC**
var1	- -	- -	- -	- -
var3	- -	- -	0.50	- -
var4	0.60	- -	- -	- -
var5	- -	- -	- -	- -
var8	- -	- -	- -	0.49
var9	- -	- -	- -	- -
var11	- -	- -	- -	- -
var12	- -	- -	0.61	- -
var13	- -	- -	- -	0.50
var15	- -	- -	- -	0.37
var16	- -	- -	- -	- -
var17	- -	- -	- -	- -
var18	- -	- -	- -	- -
var20	- -	- -	- -	- -
var22	- -	- -	- -	0.57
var24	- -	- -	- -	- -
var25	- -	- -	- -	- -
var26	- -	- -	- -	- -
var27	- -	- -	0.66	- -
var29	- -	- -	- -	- -
var30	- -	- -	- -	- -
var31	- -	- -	- -	- -
var32	- -	- -	- -	- -
var33	- -	- -	- -	- -
var34	- -	0.63	- -	- -
var35	- -	- -	- -	- -
var36	- -	- -	- -	- -
var37	- -	- -	- -	- -
var38	- -	- -	- -	- -
var39	- -	0.50	- -	- -
var40	- -	- -	- -	- -
var41	- -	- -	- -	- -
var43	- -	0.64	- -	- -
var44	- -	- -	- -	- -
var45	- -	- -	- -	- -
var46	- -	- -	0.54	- -
var47	- -	- -	- -	- -
var49	- -	- -	- -	- -
var50	0.60	- -	- -	- -
var51	- -	- -	- -	- -
var52	- -	- -	- -	- -
var53	- -	- -	- -	- -
var54	- -	- -	- -	- -
var55	- -	0.59	- -	- -
var56	- -	- -	- -	0.56
var57	0.70	- -	- -	- -

Standardised loading estimates (λ^2_x) should be at least 0.50, but optimally 0.70 or higher (Hair et al., 2006). The accuracy of measurement, i.e. how much unique variance is reflected by designated observed variables, is a function of the magnitude of lambda-X loadings (λ^2_x). The amount of unique variance explained by indicator variables increase as lambda-X magnitudes increase. When lambda loadings fall below 0.70, more than half the variance in measures are not explained by designated latent variables but by residuals. However, standardised loading estimates of 0.50 are still acceptable as an absolute minimum normative boundary (Hair et al., 2006).

Eight (Table 4.25) of the forty-six completely standardised lambda-X loadings reported loadings lower than 0.50. Roughly one-third (33%) of λ^2_x loadings fell in the 0.50 to 0.60 range, whilst the majority of λ^2_x estimations ranged between 0.60 and 0.70 (45%). Two indicator variables reported lambda loading in excess of 0.70.

Squared lambda X scores (Table 4.26) reflects how much unique variance are attributable to the influence of the designated latent variable(s). Although only seven indicators reported squared lambda X loadings smaller than 0.25; the majority of indicators were unable to manifest more than 50% unique latent variance. Stated inversely, the majority of indicator variance is due to residual influences. In essence this means that the SVS failed to operationalise the postulated latent value constructs underlying Schwartz's (1992) value theory.

Table 4.26: Squared multiple correlations for X-variables of the exogenous measurement model: SVS

var1	var3	var4	var5	var8	var9
0.15	0.25	0.36	0.16	0.24	0.46
var11	**var12**	**var13**	**var15**	**var16**	**var17**
0.40	0.37	0.25	0.14	0.27	0.29
var18	**var20**	**var22**	**var24**	**var25**	**var26**
0.24	0.37	0.33	0.32	0.43	0.28
var27	**var29**	**var30**	**var31**	**var32**	**var33**
0.43	0.44	0.42	0.27	0.09	0.38
var34	**var35**	**var36**	**var37**	**var38**	**var39**
0.40	0.17	0.37	0.43	0.39	0.25
var40	**var41**	**var43**	**var44**	**var45**	**var46**

	0.45	0.33	0.42	0.22	0.50	0.29
	var47	var49	var50	var51	var52	var53
	0.45	0.38	0.36	0.31	0.43	0.33
var54	var55	var56	var57			
0.37	0.34	0.31	0.50			

Since the majority of variance explained by observed variables was due to error, one would have expected the completely standardised theta-delta ($\theta_{\delta ii}$) matrix (Table 4.27) scores to be high. The completely standardised theta-delta ($\theta_{\delta ii}$) matrix reflects the proportion of non-relevant item parcel variance (random and systematic variance). Stated most simply, the completely standardised error variance of the i^{th} indicator variables ($\theta_{\delta ii}$) consisted of both systematic non-relevant variance and random error variance. Therefore, squared multiple correlations (λ^2_y) scores could be interpreted as variable validity coefficients ($\rho[Y_i,\eta_j]$), indicating how well indicators were reflecting latent variable variance. By implication, ($\lambda^2_y + \theta_{\delta ii}$) should equal unity in the standardised solution. Since reliability is concerned with the consistency of measurement – i.e. systematic variance in indicator variables, irrespective of whether the source of variance is relevant to the measurement intention or not, R^2 values can be interpreted as lower bound estimates of item reliabilities (Diamantopoulos & Siguaw, 2000; Jöreskog & Sörbom, 1996; Kaplan, 2000). Consequently ρ (Y_i,η_j) can be expressed as follows: Kan oorweeg om hierdie gedeelte uit te haal a.g.v. herhalling in vorige seksies- maar dit maak vir my baie sin om net weereens vir die leser te verduidelik wat al die terminologie van formule 139 behels.

$$\rho\,(Y_i,\eta_j) = \sigma^2_{\text{systematic-relevant}} / (\sigma^2_{\text{systematic-relevant}} + \sigma^2_{\text{non-relevant}})$$
$$= \lambda_{ij}^2/[\lambda_{ij}^2 + \theta_{\delta ii}]$$
$$= 1- (\theta_{\delta i}/[\lambda_{ij}^2 + \theta_{\delta ii}])$$
$$= 1 - \theta_{\delta ii}$$
$$= \lambda_{ij}^2 \text{ --- } (139)$$

Following this line of argument, one would expect item reliabilities to be underestimated when $\theta_{\delta ii}$ contains the effect of the systematic non-relevant latent influences (Diamantopoulos & Siguaw, 2000).

Table 4.27: Completely standardised theta-delta matrix of the exogenous measurement model: SVS

var1	var3	var4	var5	var8	var9
0.85	0.75	0.64	0.84	0.76	0.54

var11	var12	var13	var15	var16	var17
0.60	0.63	0.75	0.86	0.73	0.71

var18	var20	var22	var24	var25	var26
0.76	0.63	0.67	0.68	0.57	0.72

var27	var29	var30	var31	var32	var33
0.57	0.56	0.58	0.73	0.91	0.62

var34	var35	var36	var37	var38	var39
0.60	0.83	0.63	0.57	0.61	0.75

var40	var41	var43	var44	var45	var46
0.55	0.67	0.58	0.78	0.50	0.71

var47	var49	var50	var51	var52	var53
0.55	0.62	0.64	0.69	0.57	0.67

var54	var55	var56	var57
0.63	0.66	0.69	0.50

In general, reported squared multiple correlations, as well as theta-delta scores, raised serious concerns regarding the validly and reliability of the SVS measure. Sixteen out of forty-six indicators reported theta-delta scores higher than 0.70 (i.e. these indicators reflected less than 30% unique latent variance individually). Furthermore, not one indicator was able to account for the majority of latent construct variance. This tended to erode the confidence with which any definite conclusion regarding the construct validity of the SVS could be made.

Given the existing doubt regarding the quality with which indicator variables are able to express unique latent variable variability, Diamantopoulos and Siguaw (2000) suggest conducting an additional assessment of the construct reliability of the measure. Completely standardised indicator loadings and error variances are substituted in the following formula in order to calculate the *composite reliability* score for each sub-scale:

$p_c = (\Sigma\lambda)^2/[(65\Sigma\lambda)^2 + \Sigma(\theta)]$---(140)

Where:

p_c = composite reliability;

λ = completely standardised indicator loadings;

θ = completely standardised indicator error variances (i.e. variances of the δ's and ε's);

Σ = summation over the indicators of the latent variable.

Composite reliability is concerned with how well indicators as a set (i.e. homogenously) provide reliable measurement of the latent values constructs. Diamantopoulos and Siguaw (2000) suggest that values greater than 0.60 is indicative of reasonable composite reliability. The composite reliability scores for the composite indicators linked to the latent variables are displayed in Table (4.28) below:

Table 4.28: Composite reliability scores for indicators for each sub-scale of the SVS

Latent Variable	**Composite Reliability Score**
Conformity	**0.740**
Tradition	**0.606**
Benevolence	**0.780**
Universalism	**0.770**
Self-direction	**0.650**
Stimulation	**0.700**
Hedonism	**0.670**

Achievement	**0.683**
Power	**0.680**
Security	**0.674**

Poor indicators explicating relatively small amounts of latent variable variability are bound to force the composite reliability score downwards. All composite reliability scores of SVS sub-dimensions exceed the minimum criterion of 0.60. However, six of the ten SVS sub-dimensions reported composite reliability scores exceeding the minimum normative 0.60 value, but not by much, especially Tradition. The success with which indicators comprising these SVS sub-dimensions were able to operationalise respective latent constructs were moderately to reasonably good.

A supplementary indicator of composite reliability is the *average variance extracted* (p_v). P_v explicates the amount of composite unique variable variance expressed by the sub-scale items compared to the amount of variance explained by error variance. The logical deduction would be that p_v smaller than 0.50 in absolute terms denotes than the majority of variance is explained by error and not by the designated indicators. Once again the validity of measures becomes doubtful when error variance explains the majority of variance. The following formula (Equation141) was used to calculate the average variance extracted (Diamantopoulos & Siguaw, 2000, p. 91):

$$p_v = (\Sigma\lambda^2)/[\ \Sigma\lambda^2 + \Sigma(\theta)] \text{---} (141)$$

Where:

λ, θ and Σ are defined as in equation 140

The average variance extracted (p_v) for each latent sub-scale is displayed in Table 4.29:

Table 4.29: Average variance extracted for composite indicators for each sub-scale of SVS	
Latent Variable	**Average Variance Extracted**
Conformity	**0.410**
Tradition	**0.244**

Benevolence	**0.413**
Universalism	**0.306**
Self-direction	**0.272**
Stimulation	**0.440**
Hedonism	**0.400**
Achievement	**0.352**
Power	**0.336**
Security	**0.300**

Results from Table 4.29 are in line with previous analysis results. Serious measurement deficiencies are affecting the quality of indicator variables designated to gauge dimensions constituting the SVS. Not one of the SVS sub-dimensions was able to exceed the normative value of 0.50. In truth, only four of the ten sub-dimensions were able to exceed the 0.400 mark. From a measurement point of view, this means that most of the variance explained by the SVS is due to error and not the designated latent constructs. It would be imprudent at best (and unrealistic) to promote the use of a measurement instrument which is unable to account for most of the unique variance.

Although overall model fit and dimensionality analyses can be described as good, individual parameter estimates revealed that the instrument explains little unique variable variance. In general, the instrument has operationalised the latent construct poorly (low validity and internal consistency), with the result that the construct validity of hypothesised latent variables was not confirmed. Since reliable and valid measurement is a necessary but insufficient prerequisite for the postulation of structural relations between latent variables, any hypothesis corroborated (or refuted) on the basis of measurement results using this specific form of the SVS will be dubious at best. Stated more simply, if poor structural model fit and relationships were to be found between latent variables, it would not be possible to unequivocally rule out the possibility these are due to inherent structural flaws rather than to shortcomings in the operationalisation of specific latent variables. Kan oorweeg om hierdie gedeelte uit te haal a.g.v. herhalling.

4.5.2.6 Modification indices

In general, modifications to an already estimated model have two desirable outcomes:

(a) improvement of the fit of the model; or

(b) More parsimonious model.

Modification of models is only permissible to the extent that the refined model represents the *actual* network of relations among variables, substantiated with sound theoretical arguments.

It is recommended to use modification indices along with Expected Parameter Change parameters (EPC). Modification indices predict *which* currently fixed parameters would bring about significant model improvements, if freed. EPC estimates by *how much* model parameters and overall fit will increase (decrease in chi-square) if proposed modifications are made. Large modification index values (> 6.64) would be indicative of parameters that, if set free, would improve the fit of the model significantly ($p < 0.01$) (Diamantopoulos & Siguaw, 2000).

Diamantopoulos and Siguaw (2000) advise that an attempt should first be made to increase model fit, before trimming away specified pathways. Since the original SVS is plagued by both underestimation and overestimation of model parameters; ways of improving model fit were investigated before attempts were made to improve model parsimony.

Consequently, the Lambda-Y modification index (Table 4.30) along with the corresponding expected parameter change (Table 4.31) index was examined.

Table 4.30: Modification indices for LAMBDA-X of the exogenous measurement model: SVS

	CON	TRA	BEN	UNI	SD	STI
var1	10.50	4.17	11.27	- -	0.26	12.94
var3	33.54	30.40	32.57	32.25	32.50	12.43
var4	20.73	16.73	25.18	13.58	36.37	4.38
var5	3.12	6.11	1.20	33.45	- -	5.42
var8	6.70	0.19	4.76	6.04	2.19	13.93
var9	5.00	3.06	1.96	0.01	2.40	- -
var11	- -	0.17	2.36	0.27	5.59	1.42
var12	13.47	16.24	15.40	11.57	10.70	7.71
var13	13.55	10.68	18.23	4.71	8.28	1.29
var15	9.13	2.13	7.99	1.73	9.01	16.42
var16	8.42	2.85	7.25	28.45	- -	24.92
var17	6.83	1.74	1.72	- -	15.94	30.59
var18	0.13	- -	1.92	5.79	1.02	1.95
var20	- -	1.25	0.56	3.72	5.50	6.05
var22	9.02	3.70	9.02	0.03	0.07	3.09
var24	3.96	0.30	7.95	- -	2.40	20.67

var25	0.04	0.01	0.22	3.10	1.47	– –
var26	13.00	15.00	12.36	– –	147.43	40.77
var27	5.08	6.40	4.58	11.39	9.57	10.09
var29	9.56	4.28	7.92	– –	1.14	8.82
var30	0.00	0.40	0.01	– –	20.18	26.73
var31	0.01	0.63	0.02	0.84	– –	3.15
var32	– –	– –	– –	– –	17.96	6.79
var33	0.16	0.37	– –	0.20	1.89	1.29
var34	1.01	0.05	1.33	0.50	0.97	3.63
var35	1.28	– –	1.59	– –	– –	23.26
var36	0.25	– –	0.17	3.49	1.38	1.36
var37	5.04	2.83	2.96	2.51	5.52	– –
var38	1.85	0.60	0.23	– –	3.53	0.58
var39	0.20	13.48	1.01	24.37	218.07	32.17
var40	– –	15.57	– –	0.65	0.89	2.41
var41	29.85	12.49	22.95	4.44	– –	31.95
var43	1.48	0.92	2.36	0.23	0.18	1.42
var44	– –	– –	– –	7.35	0.12	0.04
var45	1.37	0.09	– –	8.01	4.20	5.48
var46	50.19	48.98	54.29	29.70	35.31	9.62
var47	– –	0.54	2.90	1.10	0.33	0.11
var49	0.04	4.47	– –	24.07	2.01	8.26
var50	7.54	2.95	2.76	0.16	0.06	2.77
var51	0.62	– –	2.25	6.19	4.95	11.58
var52	0.28	4.53	– –	3.54	1.24	0.40
var53	16.76	5.63	9.03	5.63	– –	26.93
var54	0.64	0.05	– –	0.15	2.25	0.27
var55	3.37	6.56	3.79	5.41	0.00	0.19
var56	8.68	0.81	10.39	29.56	0.28	13.24
var57	45.45	27.09	36.87	11.96	20.46	0.02

	HED	**ACH**	**PO**	**SEC**
var1	0.01	1.92	6.53	1.09
var3	15.80	35.98	– –	34.84
var4	– –	46.68	13.69	16.20
var5	5.15	– –	0.86	– –
var8	0.23	0.25	7.16	– –
var9	20.26	3.35	6.18	6.94
var11	0.74	12.36	1.01	1.76
var12	2.08	11.28	– –	11.64
var13	1.29	20.63	1.04	– –
var15	4.96	0.06	9.27	– –
var16	17.67	– –	1.90	26.26
var17	1.38	3.93	2.60	0.50
var18	0.09	0.13	0.67	1.37
var20	0.65	5.80	0.00	0.02
var22	2.43	3.65	10.04	– –
var24	11.19	0.60	22.06	1.20
var25	22.40	1.06	8.35	0.00
var26	12.87	110.16	11.29	33.65
var27	0.10	7.22	– –	7.36
var29	2.64	0.49	7.63	0.15
var30	22.92	12.58	23.20	4.19
var31	1.09	0.89	0.07	0.00
var32	13.07	– –	35.84	– –
var33	9.16	0.49	4.49	2.68
var34	8.05	– –	10.17	1.64
var35	0.19	– –	0.07	– –
var36	4.38	0.59	4.33	0.45
var37	0.18	6.45	0.09	5.67
var38	2.03	4.52	4.18	5.05
var39	5.63	– –	29.15	31.35

var40	1.92	0.33	1.30	0.44
var41	1.18	13.43	3.56	11.55
var43	0.09	- -	4.67	0.13
var44	9.45	- -	6.73	- -
var45	1.06	1.66	1.56	1.95
var46	42.18	44.76	- -	46.34
var47	6.53	0.49	3.90	1.68
var49	0.03	0.16	1.88	3.69
var50	- -	2.19	0.96	3.36
var51	2.63	1.29	12.56	3.56
var52	0.42	4.52	0.10	0.00
var53	2.37	6.01	4.52	15.06
var54	5.85	3.16	5.75	3.74
var55	2.91	- -	2.06	1.10
var56	1.21	4.87	4.21	- -
var57	- -	48.46	2.91	20.74

Examination of the Λ_x matrix reveals that overall model fit can be significantly improved by freeing marked λ_x paths. The existence of numerous pathways that would greatly improve overall model fit if they were to be freed, but which were not originally hypothesised, is indicative of a model that is “under fitted”. Modification indices reveal that numerous indicators would load significantly on non-designated constructs, if freed. This could be regarded as additional evidence that the SVS could be suffering from multidimensionality. Furthermore, it was hypothesised that, if the modification indices happened to indicate that manifest variables of conceptually similar, albeit non-designated, constructs did indeed explain unique variance in these constructs, a case could be made out for multicollinearity among indicator variables.

Upon examination of significant modification indices, it became apparent that the original hypothesis regarding multicollinearity may have merit. For example, Var46 is designated to gauge unique variance of the Power subscale, but Table 4.30 reveals that this indicator also would have reflected considerable variance of two adjacent sub-scales, namely Security (Expected change λ_x = 0.37) and Achievement (Expected change λ_x = 0.36), as well as Hedonism (Expected change λ_x = 0.53), if these Lambda-X parameters had been freed up in LISREL. Countless examples of cross-loadings can be depicted from Tables 4.30 and 4.31:

Table 4.31: Completely standardised expected change for LAMBDA-X of the exogenous measurement model: SVS

	CON	TRA	BEN	UNI	SD	STI

var1	0.21	0.15	0.23	– –	−0.04	−0.23
var3	−0.25	−0.25	−0.24	−0.27	−0.30	−0.21
var4	−0.29	−0.28	−0.30	−0.23	−0.55	−0.16
var5	0.16	0.33	0.11	0.99	– –	−0.36
var8	−0.22	−0.04	−0.18	0.21	0.13	0.23
var9	0.12	0.10	0.08	0.01	0.14	– –
var11	– –	0.05	−0.32	0.05	−0.21	−0.07
var12	−0.16	−0.18	−0.17	−0.16	−0.17	−0.16
var13	−0.35	−0.40	−0.40	0.22	−0.30	−0.08
var15	−0.40	−0.30	−0.34	0.17	0.54	0.29
var16	−0.24	−0.19	−0.24	0.68	– –	0.66
var17	0.19	0.11	0.10	– –	−0.34	−0.36
var18	−0.05	– –	−0.19	0.22	0.09	0.08
var20	– –	0.16	0.22	0.15	0.18	0.13
var22	0.22	0.15	0.22	−0.01	0.02	−0.11
var24	−0.13	−0.04	−0.20	– –	0.13	0.31
var25	0.01	0.01	0.03	0.13	0.11	– –
var26	0.28	0.42	0.29	– –	1.60	0.52
var27	0.10	0.12	0.09	0.17	0.18	0.21
var29	−0.21	−0.16	−0.19	– –	0.08	0.18
var30	0.00	−0.04	0.01	– –	−0.31	−0.30
var31	0.00	−0.06	−0.01	−0.08	– –	−0.15
var32	– –	– –	– –	– –	1.06	0.19
var33	−0.03	0.05	– –	0.03	0.08	0.05
var34	0.07	0.02	0.08	−0.05	−0.07	−0.11
var35	−0.16	– –	0.25	– –	– –	0.50
var36	−0.07	– –	0.06	0.15	0.10	0.07
var37	−0.11	−0.09	−0.09	−0.10	−0.18	– –
var38	−0.09	−0.06	−0.03	– –	−0.15	−0.05
var39	−0.05	0.47	−0.11	0.48	9.10	0.45
var40	– –	−0.81	– –	−0.06	−0.07	−0.08
var41	0.40	0.32	0.36	−0.19	– –	−0.47
var43	0.09	0.09	0.12	0.04	−0.04	−0.08
var44	– –	– –	– –	−0.55	0.06	0.01
var45	0.10	−0.02	– –	−0.16	−0.11	−0.11
var46	0.32	0.32	0.32	0.27	0.34	0.20
var47	– –	0.06	0.16	−0.06	0.03	0.02
var49	0.02	0.18	– –	0.32	0.09	0.14
var50	−0.14	−0.09	−0.08	−0.02	−0.01	0.09
var51	0.06	– –	0.11	−0.15	−0.14	−0.18
var52	−0.05	−0.19	– –	−0.12	0.07	−0.03
var53	−0.29	−0.19	−0.22	−0.20	– –	0.42
var54	−0.08	−0.02	– –	0.03	−0.09	−0.02
var55	−0.11	−0.16	−0.12	−0.14	0.00	−0.02
var56	0.25	0.10	0.28	−0.60	−0.06	−0.28
var57	0.42	0.34	0.37	0.21	0.34	−0.01

	HED	**ACH**	**PO**	**SEC**
var1	−0.01	0.10	−0.13	0.08
var3	−0.28	−0.30	– –	−0.30
var4	– –	−0.59	0.28	−0.32
var5	0.21	– –	0.06	– –
var8	0.03	−0.05	0.15	– –
var9	0.33	0.14	0.15	0.19
var11	−0.05	−0.48	−0.05	−0.12
var12	−0.10	−0.17	– –	−0.17
var13	−0.08	−0.48	0.06	– –
var15	0.21	−0.06	0.19	– –
var16	−0.40	– –	−0.09	−1.40
var17	−0.07	−0.17	−0.08	0.06
var18	0.02	0.04	0.04	0.13
var20	−0.05	0.26	0.00	0.01
var22	−0.11	0.16	−0.18	– –
var24	0.19	−0.06	0.22	0.09
var25	−0.32	0.07	−0.18	0.00

var26	0.22	1.17	0.17	0.66
var27	-0.02	0.14	- -	0.14
var29	0.09	-0.06	0.13	-0.03
var30	-0.25	-0.26	-0.22	-0.13
var31	-0.08	0.10	0.02	0.01
var32	0.29	- -	0.32	- -
var33	0.15	0.05	0.09	0.10
var34	-0.17	- -	-0.16	-0.09
var35	0.03	- -	0.01	- -
var36	-0.14	0.08	-0.11	-0.06
var37	0.03	-0.16	0.02	-0.15
var38	-0.08	-0.17	-0.09	-0.17
var39	0.19	- -	0.30	0.82
var40	-0.08	-0.05	-0.05	-0.06
var41	0.08	0.40	-0.11	0.33
var43	-0.02	- -	-0.12	0.03
var44	0.23	- -	0.13	- -
var45	-0.05	-0.08	-0.05	-0.09
var46	0.53	0.36	- -	0.37
var47	0.13	0.05	0.09	0.08
var49	-0.01	0.03	0.06	0.14
var50	- -	-0.09	-0.06	-0.10
var51	-0.09	-0.08	-0.18	-0.12
var52	0.03	0.16	0.01	0.00
var53	0.11	-0.26	0.12	-0.35
var54	-0.12	-0.13	-0.10	-0.14
var55	0.10	- -	0.07	-0.06
var56	0.09	0.24	-0.12	- -
var57	- -	0.54	-0.11	0.29

In the light of the foregoing evidence, it comes as no surprise that relatively little unique variance is captured by indicators denoted to reflect latent constructs, since significant proportions of variance are explained by non-designated indicators. Statistically these non-designated relationships are regarded as between-construct error.

In the last analysis the modification indices merely confirm previous evidence that the SVS does not operationalise the ten value dimensions effectively, primarily because of excessive multicollinearity of indicator variables. The reliability of the instrument seems to be intact but the construct validity of the instrument could not be substantiated in the current sample. The credibility of any result from the original form of SVS will remain dubious at best. This instrument is inappropriate for operationalising value constructs in its current format.

RESEARCH RESULTS II: REFINEMENT OF MEASURES

4.6 INTRODUCTION

In sections 4.1 to 4.5 the exogenous and endogenous measurement models were evaluate in the South African environment. The ability of the respective measures to purely, comprehensively and consistently operationalise the latent constructs under consideration was assessed. Numerous measurement inadequacies were identified in both the exogenous and endogenous measurement models. Mention was made earlier that the quality of measures (reliability and validity) are regarded as a *condition sine quo non* for the unambiguous interpretation of hypothesised relations between values and the attitude towards cultural diversity.

Therefore, given the shortcomings of the two measurement instruments assessed in section 4.2, an attempt was made to refine the original measurement models. Although the primary aim of section 4.1 to 4.5 was to assess whether the SVS and the CDBS provides credible measures of the latent constructs they are destined to measure (i.e. construct-validity interpretation), ultimately the emphasis in this section shifts towards the predictive validity of values in explaining the attitude towards cultural diversity (i.e. criterion-validity interpretation). Substantively this stands to mean that values (ζ) can be used to predict the attitude towards cultural diversity (η) for certain in-group and out-group members. However, in order to empirical validate this research claim that the attitude towards cultural diversity (η) is a linear function of values [operationalised by the SVS, i.e. (X)] it needs to be shown that (a) Y is a pure and comprehensive measure of the attitude towards cultural diversity (η), (b) X is a pure and comprehensive measure of values (ζ), (c) the valid and reliable measures (Y) of the criterion (η) is systematically related to the valid and reliable measures (X) of the predictor (ζ) to ensure criterion-related validity (Guion, 1991).

The ability of the SVS and CDBS to provide pure and comprehensive sets of stimuli that elicits behavioural responses that are fundamentally a function of the underlying latent construct were rigorously evaluated in section 4.1 to 4.5. The quality of the stimulus set presented by the measurement models were evaluated according to three broad criteria. Firstly, the internal reliability of measures was evaluated. Thereafter the successes with which measurement instruments capture the conceptual meaning of latent construct (i.e.

dimensionality of the latent constructs) were assessed. Lastly, the CFA were used to evaluate the validity of the refined measurement models and the generic structural model, by investigating numerous fit indices and model parameter estimations. The analyses techniques provided substantial information regarding not only how successful measurement instruments purely and comprehensively captured the conceptual meaning of latent constructs, but also the validity of hypothesised values-attitude relations. Items that did not sufficiently (validly and reliably) express latent dimensions they are designed to measure were altered (reconceptualised or removed) according to predetermined decision making rules.

4.7 REFINEMENT OF THE MEASUREMENT MODELS

Whereas sections 4.1 to 4.5 was fundamentally concerned with investigating the merits of the two measurement models in operationalising the constructs, “the attitude towards cultural diversity” and “values”, in their original configurations, this section is dedicated towards the refinement of the original measurement models so as to best meet the broad criteria listed in Chapter 3. Contrary to the validation process, it is generally assumed that measurement instruments may (and should) be adapted/refined for the purpose of fitting the measurement models in a structural model. By implication the research methodology adopted in this section is more *exploratory* in contrast to the *confirmatory* approach adopted in sections 4.1 to 4.5. In establishing the measurement integrity of instruments on the measurement level-researchers attempt to control (or optimally remove) sources of possible ambiguity surrounding inferences made on operationalised indicators of latent constructs and subsequent linkages with criterion measures. For this reason it is permissible to refine measurement models so that they ultimately express the variables they are destined to reflect. However, in the final analyses refinements are only permissible to the extent that it makes theoretical and methodological sense. Decision–making rules devised in the foregoing section will guide decisions regarding the refinement of measurement models. All refinements will be done on the training sample (N = 419).

4.8 REVIEW OF THE DATA ANALYSIS PROCEDURE

Fundamentally the same process utilised for the validation of the CDBS and the SVS was adopted for the refinement of the measurement instruments. As in sections 4.4.2 and 4.5.2 the following individual analyses constitute the research methodology utilised for the refinement of the exogenous and endogenous measures. The analysis procedure utilised to refine the measurement models can be summed up as follow:

19. Internal reliability
20. Dimensionality analyses
21. Specification of the model
22. Model Identification
23. Estimation of measurement models
24. Evaluation of model fit
25. Examination of model parameters
26. Modification of model

Steps in the CFA using SEM

The Confirmatory Factor Analyses (CFA) implies a number of indices that optimally have to be evaluated in unison. However, due to the myriad of information presented in the SEM application of Confirmatory Factor analysis, only the following key indices were formally reported in this study:

- Evaluation of multivariate normality
- Overall Goodness-of-fit indices
- Examination of residuals
- Lambda-X factor loadings
- Variance explained by items (R^2)
- Completely standardised theta-delta
- Completely standardised phi-matrix
- Modification indices

The minimum acceptable criteria and decision-making rules for the evaluation of measurement models are presented in Chapter 3. However it is important to note that no items will be removed (merely identified) from the measurement instruments until all statistical results have been evaluated collectively. It was argued that a more informed decision about the quality of items will be reached when results from aforementioned statistical techniques is considered collectively. Items that were consistently identified as possible problematic items were considered for deletion at the end of the section.

4.9 ENDOGENOUS MEASUREMENT MODEL: CDBS

The following section describes the process that was utilised for the refinement of the endogenous measurement model.

4.9.1 Preparing and Screening of the data:

No additional data preparation other than the processes discussed in section 4.4.1 was conducted on the CDBS data before being submitted to statistical analyses. Please refer to this section for a full discussion on the steps taken in the preparation of the CDBS data.

4.9.2 Statistical Analyses

4.9.2.1 Internal reliability

The following table (Table 4.32) provides a summary of the internal reliability per subscale of the CDBS.

Table 4.32: Internal Reliability of the endogenous measurement model: Original CDBS

Item	Description	Abbreviation	Cronbach's Alpha per sub-scale	Corrected Item-total Correlation	Cronbach's Alpha if item Deleted
Valuing Individual Differences Subscale (α = 0.777)					
2.	People who value diversity respect others' individual differences	VID1	0, 777	0.409	0.762
3.	Organizations that value diversity provide advancement and career development opportunities for all high quality employees.	VID2	0, 777	0.327	0.770
4.	Employees would feel free to express their diverse backgrounds in an organization that	VID3	0, 777	0.525	0.751

	values diversity.				
6.	Valuing diversity means to value individual differences	VID4	0, 777	0.478	0.755
7.	Organizations that value diversity should offer equal employment opportunities to all people regardless of race, national origin, religion, sex or age.	VID5	0, 777	0.379	0.765
12.	Employees would be allowed to observe their own religious and ethnic holidays in organizations that value diversity.	VID6	0, 777	0.374	0.766
14.	Valuing diversity in the workplace means understanding people who are different from you.	VID7	0, 777	0.550	0.749
16.	One would expect ethnic foods to be served in an organization that values diversity.	VID8	0, 777	0.252	0.786
18.	Your unique characteristics should be valued in an organization that values diversity.	VID9	0, 777	0.483	0.753
19.	In an organization that values diversity, employees from diverse backgrounds would feel comfortable working with each other.	VID10	0, 777	0.493	0.752
21.	You could be yourself in an organization that values diversity.	VID11	0, 777	0.477	0.754
23.	You would have equal employment opportunities in an organization that values diversity.	VID12	0, 777	0.392	0.764
Cultural Diversity as a Source of Competitive Advantage Subscale (α = 0.508)					
1.	The more similar employees are to one another, the more productive the organization will be	CA1R	0.508	0.70	0.616
8.	Organizations that value diversity are likely to require diversity training for all employees	CA2	0.508	0.224	0.485
9.	An organization that hires may different types of people (e.g. different races, sexes, national backgrounds) will have a competitive edge over organizations that hire only one type of person	CA3	0.508	0.374	0.389

13.	Valuing diversity is crucial to organizational success.	CA4	0.508	0.420	0.368
17.	Organizations should capitalize on a diverse workforce	CA5	0.508	0.480	0.381
Tolerance for Affirmative Action (α = 0.495)					
5.	Organizations will benefit most by selecting high quality employees who represent the majority of the population	AA1R	0.495	0.129	0.512
10.	Valuing diversity refers to valuing only members of the workforce who are different from their white male counterparts.	AA2R	0.495	0.372	0.390
11.	Organizations that value diversity are as committed to black male employees as they are to minority employees.	AA3	0.495	0.012	0.581
15.	Valuing diversity is just another name for meeting employment equity targets.	AA4R	0.495	0.331	0.405
20.	The concept of diversity is just a fad and organizations would be wise to ignore it.	AA5R	0.495	0.403	0.379
22.	The cost of recruiting, hiring and training a diverse workforce is far too costly to be beneficial to most organizations.	AA6R	0.495	0.350	0.395

Items VID8, CA1R, AA1R en AA3 were identified in section 4.4.2.1 as possible problematic items since they do not contribute to the internal consistency of their respective subscales. The low item-total correlations as well as the increase in Cronbach's alpha upon deletion of the item are prevalent when one examines Table 4.32. Consequently these items are flagged (shaded rows in table) as problematic items that could be reconceptualised or deleted depending on the magnitude of the increase in Cronbach's alpha upon deletion. Taken from this perspective item VID8 poses less of a threat to the internal consistency of the instrument than the other flagged items.

4.9.2.2 Dimensionality Analysis

Table 4.33 present results of the dimensionality analyses (EFA) done on the training subsample (n = 419). The principal axis extraction method with oblique rotations was utilised in this analysis. When the dimensionality of the CDBS was assessed in Section 4.4.2.2, it was found that two factors underlie each of the three sub-dimensions comprising the CDBS. However, it was decided to maintain the original three dimension configuration of the CDBS as proposed by the original authors since no sound theoretical rationale could be found for culling each of the original dimensions into sub-dimensions. Therefore, as a start, it was decided to extract only one factor per dimension as postulated by the original authors, just to see if a discernable factor structure emerged from the data. Subsequently, all items that loaded sufficiently high (>0.45) on the extracted factor were regarded as valid indicators of the latent dimension, since a substantial part of the variance in the indicator is still attributable to the latent construct it is designated to gauge.

Factor loadings of the three dimension solution of the original CDBS are presented in Table 4.33. Please refer to Appendix B for the rotated EFA results.

Table 4.33: Assessing the Uni-dimensionality of the endogenous measurement sub-scales: Original CDBS

Item	Description	Abbreviation	Factor loadings
Valuing Individual Differences Subscale (VID)			
2.	People who value diversity respect others' individual differences	VID1	0.514
3.	Organizations that value diversity provide advancement and career development opportunities for all high quality employees.	VID2	0.366
4.	Employees would feel free to express their diverse backgrounds in an organization that values diversity.	VID3	0.628
6.	Valuing diversity means to value individual differences	VID4	0.553
7.	Organizations that value diversity should offer equal employment opportunities to all people regardless of race, national origin, religion, sex or age.	VID5	0.455
12.	Employees would be allowed to observe their own religious and ethnic holidays in organizations that value diversity.	VID6	0.403
14.	Valuing diversity in the workplace means understanding people who are different from you.	VID7	0.635
16.	One would expect ethnic foods to be served in an organization that values diversity.	VID8	0.271

18.	Your unique characteristics should be valued in an organization that values diversity.	VID9	0.547
19.	In an organization that values diversity, employees from diverse backgrounds would feel comfortable working with each other.	VID10	0.591
21.	You could be yourself in an organization that values diversity.	VID11	0.540
23.	You would have equal employment opportunities in an organization that values diversity.	VID12	0.421
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Valuing Individual Differences (VID) subscale			**0.855**
Percentage Variance Explained by two factors with Eigenvalues > 1			**30.186**
Cultural Diversity as a Source of Competitive Advantage Subscale (CA)			
1.	The more similar employees are to one another, the more productive the organization will be	CA1R	0.105
8.	Organizations that value diversity are likely to require diversity training for all employees	CA2	0.365
9.	An organization that hires may different types of people (e.g. different races, sexes, national backgrounds) will have a competitive edge over organizations that hire only one type of person	CA3	0.553
13.	Valuing diversity is crucial to organizational success.	CA4	0.625
17.	Organizations should capitalize on a diverse workforce.	CA5	0.606
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Cultural Diversity as a Source of Competitive Advantage Subscale (CA)			**0.691**
Percentage Variance Explained by two factors with Eigenvalues > 1			**29.195**
Tolerance for Affirmative Action (AA)			
5.	Organizations will benefit most by selecting high quality employees who represent the majority of the population	AA1R	0.177
10.	Valuing diversity refers to valuing only members of the workforce who are different from their white male counterparts.	AA2R	0.648
11.	Organizations that value diversity are as committed to black male employees as they are to minority employees.	AA3	0.009
15.	Valuing diversity is just another name for meeting employment equity targets.	AA4R	0.399
20.	The concept of diversity is just a fad and organizations would be wise to ignore it.	AA5R	0.658
22.	The cost of recruiting, hiring and training a diverse workforce is far too	AA6R	0.516

	costly to be beneficial to most organizations.		
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Tolerance for Affirmative Action Subscale (AA)			**0.676**
Percentage Variance Explained by two factors with Eigenvalues > 1			**26.556**
Extraction method: Principle Axis Factoring Rotation Method: Direct Oblimin with Kaiser Normalisation Rotation converged in 4 iterations			

Items, VID2, VID6, VID8, VID12, CA1R, CA2, AA1R, AA3 and AA4R do not adhere to the minimum acceptable factor loading value of 0.45 (shaded rows in Table 4.33). Items VID8, CA1R, AA1R and AA3 were already identified as poor items during the evaluation of internal consistency of the CDBS in section 4.4.2.1. Moreover, mention was made that the instrument might be suffering from multicollinearity. The high correlation between the VID and CA subscales (See Completely Standardised Phi-matrices in Table 4.3) provides additional evidence that the instrument might suffer from low construct validity. No items were formally removed from the CDBS at this stage.

4.9.2.3 Model Identification

It is necessary to ensure that the model is identified to ensure that sufficient information is available to obtain a unique solution for the freed parameters to be estimated and tested in the model. To obtain a unique solution of the parameters in a LISREL model, it is necessary that the number of independent parameters being estimated is less than or equal to the number of non-redundant elements of S (Diamantopoulos & Siguaw, 2000).

This rule of thumb is captured in the following formula:

$$\mathbf{t \leq s/2}$$

Where	t =	the number of parameters to be estimated
	s =	The number of variances and covariances amongst the manifest (observable) variables, calculated as (p + q)(p + q + 1)
	p =	The number of y-variables
	q =	The number of x- variables

For the original CDBS the CFA model, the formula reads:

$$49 \leq (23)(23+1)/2$$
$$49 \leq 276$$

This shows the model to be over-identified and consequently the degrees of freedom are positive (227). Stated most simple, enough information is available in the sample covariance matrix (S) to estimate the model parameters.

4.9.2.4 Examination of model parameters and modification indices

Table 4.34 provides a summary of the most important parameter estimates for the CDBS.

Table 4.34: Evaluation of SEM model parameters of the original CDBS via Confirmatory Factor Analyses

Item	Description	Abbreviation	Standardised Lambda Y Factor Loadings	Unique Variance Explained by Item (R^2)	Completely Standardised Theta-epsilon	Modification Indices for Lambda Y
			Completely standardised Lambda loading > 0.50	$\lambda^2_y \geq 0.25$	$\theta_\varepsilon < 0.75$	Modification Indices (MI) > 6.64 (p<0.01) for Lambda Y
	Valuing Individual Differences Subscale (VID)					
2.	People who value diversity respect others' individual differences	VID1	0.51	0.26	0.74	
3.	Organizations that value diversity provide advancement and career development opportunities for all high quality employees.	VID2	0.37	0.14	0.86	AA (10.91)
4.	Employees would feel free to express their diverse backgrounds in an organization that values diversity.	VID3	0.61	0.38	0.62	
6.	Valuing diversity means to value individual differences	VID4	0.56	0.31	0.69	

7.	Organizations that value diversity should offer equal employment opportunities to all people regardless of race, national origin, religion, sex or age.	VID5	0.47	0.22	0.78	
12.	Employees would be allowed to observe their own religious and ethnic holidays in organizations that value diversity.	VID6	0.44	0.19	0.81	
14.	Valuing diversity in the workplace means understanding people who are different from you.	VID7	0.67	0.45	0.55	
16.	One would expect ethnic foods to be served in an organization that values diversity.	VID8	0.28	0.08	0.92	AA (17.06) CA (13.00)
18.	Your unique characteristics should be valued in an organization that values diversity.	VID9	0.58	0.34	0.66	
19.	In an organization that values diversity, employees from diverse backgrounds would feel comfortable working with each other.	VID10	0.61	0.37	0.63	
21.	You could be yourself in an organization that values diversity.	VID11	0.58	0.33	0.67	
23.	You would have equal employment opportunities in an organization that values diversity.	VID12	0.47	0.22	0.78	
Cultural Diversity as a Source of Competitive Advantage Subscale (CA)						
1.	The more similar employees are to one another, the more productive the organization will be.	CA1R	0.14	0.02	0.98	AA (32.35)
8.	Organizations that value diversity are likely to require diversity training for all employees	CA2	0.41	0.17	0.83	AA (9.16)
9.	An organization that hires may different types of people (e.g. different races, sexes, national backgrounds) will have a competitive edge over organizations that hire only one type of person	CA3	0.49	0.24	0.76	
13.	Valuing diversity is crucial to organizational success.	CA4	0.70	0.49	0.51	
17.	Organizations should capitalize on a diverse workforce	CA5	0.60	0.36	0.64	
Tolerance for Affirmative Action (AA)						
5.	Organizations will benefit most by selecting high quality employees who represent the majority of the population	AA1R	0.10	0.01	0.99	VID (24.69) CA (24.39)

10.	Valuing diversity refers to valuing only members of the workforce who are different from their white male counterparts.	AA2R	0.58	0.34	0.66	VID (14.43) CA (14.78)
11.	Organizations that value diversity are as committed to black male employees as they are to minority employees.	AA3	0.08	0.01	0.99	
15.	Valuing diversity is just another name for meeting employment equity targets.	AA4R	0.35	0.12	0.88	CA (6.81)
20.	The concept of diversity is just a fad and organizations would be wise to ignore it.	AA5R	0.79	0.58	0.42	
22.	The cost of recruiting, hiring and training a diverse workforce is far too costly to be beneficial to most organizations.	AA6R	0.49	0.24	0.76	
Test of Multivariate Normality for Continues Variables					χ^2	**P-Value**
					528.863	**0.000**
Number of large positive standardised residuals **Number of large negative standardised residuals**						**14** **12**
Smallest standardised residual **Median standardised residual** **Largest standardized Residual**						**-4.79** **0.00** **5.36**
Training Sub-sample **Solution converged in 25 iterations**						

From Table 4.34 it can be inferred that the same items (VID2, VID5, VID6, VID8, VID12, CA1R, CA2, AA1R, AA3, AA4R) identified earlier in the reliability analyses (Table 4.33) and dimensionality analyses (Table 4.34) as poor items, also reported low lambda Y loadings (shaded rows in Table 4.34). Items VID5, CA3 and AA6R reported lambda loadings marginally lower than 0.50, but as far as dimensionality and reliability is concerned still adhered to the prerequisite minimum acceptable criteria. Since both CA3 and AA6R reported marginally lower lambda loadings of 0.49 coupled with the fact that relatively few items comprise the Cultural Diversity as a Source of Competitive Advantage Subscale (CA) and Tolerance for Affirmative Action (AA) sub-scales, it was decided to retain these two items, but to deleted item VID5. Furthermore, all identified poor items reported R^2 loadings lower than 0.25 and theta-epsilon loading in excess of 0.75. Further confirmation that identified items may not contribute to the validity and internal reliability of the instrument was found by closer examination of the modification indices. Items VID2, VID8, CA1R, CA2, AA1R and AA4R reported significant Modification Indices scores (λ_y >6.64, p<0.01), explicating that these items would load significantly on non-designated dimensions (i.e. cross-load).

By implication, these items will reduce the overall reliability and validity of the measure and was subsequently removed from the refined version of the CDBS along with other flagged items. The aforementioned ten items (VID2, VID5, VID6, VID8, VID12, CA1R, CA2, AA1R, AA3, AA4R) were consistently identified throughout successive rounds of analysis as problematic indicators and the decision was finally made to delete the items from the CDBS. Psychometric properties of the final refined CDBS measure that will be used for the fitment of the structural model is presented in Table 4.35.

Table 4.35: Refined CDBS: Internal Consistency, Uni-dimensionality and Confirmatory Factor Analyses

Description		Internal Reliability			Uni-dimensionality		CFA Parameters			
Item	**Abbreviation**	**Cronbach's Alpha per sub-scale**	**Corrected Item-total Correlation**	**Cronbach's Alpha if item Deleted**	**KMO**	**Factor loadings**	**Standardised Lambda Y Factor Loadings**	**Unique Variance Explained by Item (R^2)**	**Completely Standardised Theta-epsilon**	**Modification Indices**
		$\alpha > 0.70$	> 0.20		KMO > 0.60	> 0.450	Completely standardised Lambda loading > 0.50	$\lambda^2_y \geq 0.25$	$\theta_\varepsilon < 0.75$	Modification Indices (MI) > 6.64 (p<0.01) for Lambda Y

Valuing Individual Differences Subscale (VID)										
2.	VID1	0.766	0.415	0.750	0.823	0.488	0.51	0.26	0.74	
4.	VID3	0.766	0.547	0.725	0.823	0.640	0.61	0.38	0.62	
6.	VID4	0.766	0.476	0.739	0.823	0.558	0.56	0.31	0.69	
14.	VID7	0.766	0.543	0.726	0.823	0.631	0.67	0.45	0.55	
18.	VID9	0.766	0.474	0.739	0.823	0.543	0.58	0.34	0.66	
19.	VID10	0.766	0.515	0731	0.823	0.606	0.61	0.37	0.63	

21.	VID11	0.766	0.440	0.748	0.823	0.504	0.58	0.33	0.67	
Cultural Diversity as a Source of Competitive Advantage Subscale (CA)										
9.	CA3	0.622	0.410	0.559	0.646	0.549	0.49	0.24	0.76	
13.	CA4	0.622	0.442	0.506	0.646	0.621	0.70	0.49	0.51	
17.	CA5	0.622	0.445	0.506	0.646	0.625	0.60	0.36	0.64	
Tolerance for Affirmative Action (AA)										
10.	AA2R	0.630	0.436	0.535	0.629	0.591	0.58	0.34	0.66	
20.	AA5R	0.630	0.505	0.446	0.629	0.753	0.79	0.58	0.42	
22.	AA6R	0.630	0.385	0.616	0.629	0.489	0.49	0.24	0.76	
									χ^2	**P-Value**
Test of Multivariate Normality for Continues Variables									1576.162	**0.000**
Test of Multivariate Normality on items after attempted normalisation									346.792	**0.000**

Number of large positive standardised residuals	**4**
Number of large negative standardised residuals	**1**
Smallest standardised residual	**-2.85**
Median standardised residual	**0.00**
Largest standardized Residual	**5.49**
Training Sub-sample	
Solution converged in 25 iterations	

After reviewing the final refined version of the CDBS, it was decided to remove item VID1 (shaded row in Table 4.35) from the instrument due to the cross-loading of the item on an alternative second factor in the VID subscale. The removal of the item was possible due to the large amount of items comprising the VID subscale. In the final analyses the decision to remove the item from the scale was based on concerns of multidimensionality in the VID subscale of the instrument.

4.9.2.5 Evaluate model fit

The fit indices of the original CDBS have been discussed in detail in section 4.4.2.4 (See Table 4.8). Refer to this section for detailed analyses of the most prominent fit indices of the CDBS. The original CDBS boasted good fit indices suggesting that the population covariance matrix reproduced the covariance matrix implied by the model relatively good (Kelloway, 1998).

The fit indices of the refined CDBS were examined after the refinements that have been made to the original instrument in the foregoing sections.

The overall fit indices of the original as well as the refined CDBS are reported (for comparative reasons) in the following Table (See Table: 4.36). As can be seen, all fit indices (i.e. absolute fit indices, incremental fit indices and parsimonious fit indices) of the refined CDBS increased dramatically when compared to the original CDBS. Furthermore all fit indices of the refined CDBS comply with normative guidelines (See Table 3.3) except for Parsimony Goodness of Fit Index (PGFI) which decreased when compared to the original CDBS.

Table 4.36: Comparative Goodness-of-fit Statistics for the original and refined Endogenous Measurement Model: CDBS

	Original CDBS	**Refined CDBS**
Degrees of Freedom	**227**	**62**
Minimum Fit Function Chi-Square	**529.17 (P = 0.0)**	**144.65(P=0)**
Normal Theory Weighted Least Squares Chi-Square	542.12 (P = 0.0)	148.85(P=0)

Satorra-Bentler Scaled Chi-Square	**480.28 (P = 0.0)**	**124.58(P=0)**
Chi-Square Corrected for Non-Normality	923.87 (P = 0.0)	140.63(P=0)
Estimated Non-centrality Parameter (NCP)	253.28	62.58
90 Percent Confidence Interval for NCP	(194.11 ; 320.19)	(34.58; 98.37)
Minimum Fit Function Value	1.28	0.35
Population Discrepancy Function Value (F0)	0.61	0.15
90 Percent Confidence Interval for F0	(0.47 ; 0.78)	(0.084; 0.24)
Root Mean Square Error of Approximation (RMSEA)	**0.052**	**0.049**
90 Percent Confidence Interval for RMSEA	**(0.046 ; 0.058)**	**(0.037; 0.062)**
P-Value for Test of Close Fit (RMSEA < 0.05)	**0.30**	**0.51**
Expected Cross-Validation Index (ECVI)	1.40	**0.44**
90 Percent Confidence Interval for ECVI	(1.26 ; 1.56)	**(0.37; 0.53)**
ECVI for Saturated Model	1.34	**0.44**
ECVI for Independence Model	12.48	**7.09**
Chi-Square for Independence Model with (253; 78) Degrees of Freedom	5109.85	**2904.18**
Independence AIC	5155.85	**2930.18**
Model AIC	578.28	**182.58**
Saturated AIC	552.00	**182.00**
Independence CAIC	5271.45	**2995.51**
Model CAIC	824.54	**328.33**
Saturated CAIC	1939.14	**639.35**
Normed Fit Index (NFI)	0.91	**0.96**
Non-Normed Fit Index (NNFI)	0.94	**0.97**
Parsimony Normed Fit Index (PNFI)	0.81	**0.76**
Comparative Fit Index (CFI)	0.95	**0.98**
Incremental Fit Index (IFI)	0.95	**0.98**
Relative Fit Index (RFI)	0.90	**0.95**
Critical N (CN)	241.34	**302.01**
Root Mean Square Residual (RMR)	**0.11**	**0.049**
Standardized RMR	**0.065**	**0.043**
Goodness of Fit Index (GFI)	**0.90**	**0.95**
Adjusted Goodness of Fit Index (AGFI)	**0.88**	**0.92**
Parsimony Goodness of Fit Index (PGFI)	0.74	**0.65**

The refinement of measurement models generally has two desirable outcomes:

(a) Bettering the fit of the model; or
(b) a more parsimonious model

However, Diamantapolous and Siguaw (2000) warn that both considerations are only permissible if plausible theoretical arguments can be offered to justify proposed refinements. Since no sound theoretical arguments could be found for freeing up model parameters that were originally fixed, the core ideology adopted in the refinement of the CDBS was to create a more parsimonious model (i.e. population covariance matrix resembles the reproduced covariance matrix closer). Normally one would expect the degree of freedom to increase and fit indices to improve when fixing more parameters and making the model more parsimonious. The evidence in Table 4.36 indicate quite the contrary, given that the refined CDBS is more parsimonious (degrees of freedom have decreased from 227 to 62) whilst fitting the data better. All fit indices show better model fit, especially the Minimum Fit Function Chi-Square [improved from 529.17 (P= 0.0) to 144.65(P=0)] Satorra-Bentler Scaled Chi-Square (improved from 480.28 [p=0.0) to 124.58(p=0)] and Root Mean Square Error of Approximation (0.052 to 0.049). Given the RMSEA value of 0.052, which can be classified as reasonable model fit, the new RMSEA value for the refined model (0.049) indicates that the refined model fits the data exceptionally good.

4.10 EXOGENOUS MEASUREMENT MODEL: SVS

The following section describes the process that was utilised for the refinement of the exogenous measurement model.

4.10.1 Preparing and Screening of the data:

No additional data preparation other than the processes discussed in section 4.5.1 was conducted on the SVS data before being submitted to statistical analyses. Please refer to this section for a full discussion on the steps taken in the preparation of the SVS data.

4.10.2 Statistical Analyses

4.10.2.1 Internal reliability

The following table (Table 4.37) provides a summary of the internal reliability per subscale of the SVS.

Table 4.37: Internal Reliability of the exogenous measurement model: Original SVS

Item	Description	Abbreviation	Cronbach's Alpha per sub-scale	Corrected Item-total Correlation	Cronbach's Alpha if item Deleted
Conformity (α = 0.717)					
11.	POLITETENESS (Courtesy, good manners)	VAR11	0.717	0.508	0.652
20.	SELF-DISCIPLINE (self-restraint, resistance to temptation)	VAR20	0.717	0.490	0.663
40.	HONOURING OF PARENTS AND ELDERS (showing respect)	VAR40	0.717	0.560	0.625
47.	OBEDIENT (dutiful, meeting obligations)	VAR47	0.717	0.469	0.680
Tradition (α = 0.613)					
18.	RESPEECT FOR TRADITION (preservation of time-honoured customs)	VAR18	0.613	0.376	0.554
32.	MODERATE (avoiding extremes of feeling & action)	VAR32	0.613	0.323	0.582
36.	HUMBLE (modest, self-effacing)	VAR36	0.613	0.370	0.561
44.	ACCEPTING MY PORTION IN LIFE (submitting to life's circumstances)	VAR44	0.613	0.429	0.524
51.	DEVOUT (holding to religious faith and belief)	VAR51	0.613	0.346	0.569
Benevolence (α = 0.747)					

33.	LOYAL (faithful to my friends, group)	VAR33	0.747	0.519	0.701
45.	HONEST (genuine, sincere)	VAR45	0.747	0.558	0.688
49.	HELPFUL (working for the welfare of others)	VAR49	0.747	0.558	0.688
52.	RESPONSIBLE (dependable, reliable)	VAR52	0.747	0.512	0.703
54.	FORGIVING (willing to pardon others)	VAR54	0.747	0.518	0.702
Universalism (α = 0.748)					
1.	EQUALITY (equal opportunity for all)	VAR1	0.748	0.300	0.748
17.	A WORLD AT PEACE (free of war and conflict)	VAR17	0.748	0.442	0.722
24.	UNITY WITH NATURE (fitting into nature)	VAR24	0.748	0.472	0.717
26.	WISDOM (a mature understanding of life)	VAR26	0.748	0.391	0.732
29.	A WORLD OF BEAUTY (beauty of nature and the arts)	VAR29	0.748	0.542	0.702
30.	SOCIAL JUSTICE (correcting injustice, care for the weak)	VAR30	0.748	0.580	0.698
35.	BROADMINDED (tolerant of different ideas and beliefs)	VAR35	0.748	0.307	0.745
38.	PROTECTING THE ENVIRONMENT (preserving nature)	VAR38	0.748	0.521	0.706
Self-Direction (α = 0.619)					
5.	FREEDOM (freedom of action and thought)	VAR5	0.619	0.289	0.604
16.	CREATIVITY (uniqueness, imagination)	VAR16	0.619	0.413	0.543
31.	INDEPENDENT (self-reliant, self sufficient)	VAR31	0.619	0.417	0.545
41.	CHOOSING OWN GOALS(selecting own	VAR41	0.619	0.396	0.556

	purposes)				
53.	CURIOUS (interested in everything, exploring)	VAR53	0.619	0.364	0.573
Stimulation (α = 0.694)					
9.	AN EXCITING LIFE (stimulating experiences)	VAR9	0.694	0.517	0.605
25.	A VARIED LIFE (filled with challenge, novelty and change)	VAR25	0.694	0.519	0.592
37.	DARING (seeking adventure, risk)	VAR37	0.694	0.518	0.611
Hedonism (α = 0.661)					
4.	PLEASURE (gratification of desires)	VAR4	0.661	0.501	0.526
50.	ENJOYING LIFE (enjoying food, sex, leisure, etc.)	VAR50	0.661	0.490	0.542
57.	SELF-INDULGENT (doing pleasant things)	VAR57	0.661	0.429	0.621
Achievement (α = 0.624)					
34.	AMBITIOUS (hard-working, aspiring)	VAR34	0.624	0.459	0.517
39.	INFLUENTIAL (having an impact on people and events)	VAR39	0.624	0.307	0.649
43.	CAPABLE (competent, effective, efficient)	VAR43	0.624	0.446	0.524
55.	SUCCESSFUL (achieving goals).	VAR55	0.624	0.442	0.533
Power (α = 0.663)					
3.	SOCIAL POWER (control over others, dominance)	VAR3	0.663	0.440	0.599
12.	WEALTH (material possessions, money)	VAR12	0.663	0.470	0.578
27.	AUTHORITY (the right to lead or command)	VAR27	0.663	0.499	0.560

46.	PRESERVING MY PUBLIC IMAGE (protecting my "face")	VAR46	0.663	0.372	0.644
Security (α = 0.575)					
8.	SOCIAL ORDER (stability of society)	VAR8	0.575	0.354	0.508
13.	NATIONAL SECURITY (protection of my nation from enemies)	VAR13	0.575	0.385	0.489
15.	RECIPROCATION OF FAVOURS (avoidance of indebtness)	VAR15	0.575	0.268	0.559
22.	FAMILY SECURITY (safety for loved ones)	VAR22	0.575	0.408	0.499
56.	CLEAN (neat, tidy)	VAR56	0.575	0.297	0.539

Table 4.37 reveals that Var39 (shaded row in Table 4.37) was the only item in the instrument that reported an increase in Cronbach's alpha coefficient (0.025) if the item were to be deleted. Seven of the original 10 SVS subscales reported Cronbach's alpha values lower than 0.70. In general, the internal consistency of the SVS seems intact, although the generally low Cronbach's alpha coefficients of the subscales are reason for concern. All the corrected item-total correlations exceeded the normative 0.20 level and no other items upon deletion reported an increase in the Cronbach's alpha of the specific subscales. Var 39 was identified as a potentially problematic item during the validation of the SVS. No items were formally deleted from the scales at this stage of the analysis, potentially problematic items were merely identified.

4.10.2.2 Dimensionality analyses

Table 4.38 present results of the dimensionality analyses (EFA) done on the training subsample (n = 633). The principle axis extraction method with oblique rotations was utilised in this analysis.

Table 4.38: Assessing the Uni-dimensionality of the exogenous measurement sub-scales:

Original SVS			
Item	**Description**	**Abbreviation**	**Factor loadings**
	Conformity (CON)		
11.	POLITETENESS (Courtesy, good manners)	VAR11	0.630
20.	SELF-DISCIPLINE (self-restraint, resistance to temptation)	VAR20	0.601
40.	HONOURING OF PARENTS AND ELDERS (showing respect)	VAR40	0.705
47.	OBEDIENT (dutiful, meeting obligations)	VAR47	0.571
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Conformity subscale			**0.754**
Percentage Variance Explained by factor(s) with Eigenvalues > 1			**39.511**
	Tradition (TRA)		
18.	RESPECT FOR TRADITION (preservation of time-honoured customs)	VAR18	0.511
32.	MODERATE (avoiding extremes of feeling & action)	VAR32	0.422
36.	HUMBLE (modest, self-effacing)	VAR36	0.492
44.	ACCEPTING MY PORTION IN LIFE (submitting to life's circumstances)	VAR44	0.572
51.	DEVOUT (holding to religious faith and belief)	VAR51	0.465
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Tradition subscale			**0.705**
Percentage Variance Explained by factor(s) with Eigenvalues > 1			**38.353**
	Benevolence (BEN)		
33.	LOYAL (faithful to my friends, group)	VAR33	0.638
45.	HONEST (genuine, sincere)	VAR45	0.691
49.	HELPFUL (working for the welfare of others)	VAR49	0.547
52.	RESPONSIBLE (dependable, reliable)	VAR52	0.618
54.	FORGIVING (willing to pardon others)	VAR54	0.593
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Benevolence subscale			**0.786**
Percentage Variance Explained by factor(s) with Eigenvalues > 1			**38.535**
	Universalism (UNI)		

1.	EQUALITY (equal opportunity for all)	VAR1	0.343
17.	A WORLD AT PEACE (free of war and conflict)	VAR17	0.511
24.	UNITY WITH NATURE (fitting into nature)	VAR24	0.559
26.	WISDOM (a mature understanding of life)	VAR26	0.454
29.	A WORLD OF BEAUTY (beauty of nature and the arts)	VAR29	0.651
30.	SOCIAL JUSTICE (correcting injustice, care for the weak)	VAR30	0.680
35.	BROADMINDED (tolerant of different ideas and beliefs)	VAR35	0.348
38.	PROTECTING THE ENVIRONMENT (preserving nature)	VAR38	0.624
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Universalism subscale			**0.810**
Percentage Variance Explained by factor(s) with Eigenvalues > 1			**34.907**
Self-Direction (S-D)			
5.	FREEDOM (freedom of action and thought)	VAR5	0.378
16.	CREATIVITY (uniqueness, imagination)	VAR16	0.535
31.	INDEPENDENT (self-reliant, self sufficient)	VAR31	0.570
41.	CHOOSING OWN GOALS(selecting own purposes)	VAR41	0.538
53.	CURIOUS (interested in everything, exploring)	VAR53	0.476
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Self-Direction subscale			**0.725**
Percentage Variance Explained by factor(s) with Eigenvalues > 1			**25.389**
Stimulation (STI)			
9.	AN EXCITING LIFE (stimulating experiences)	VAR9	0.661
25.	A VARIED LIFE (filled with challenge, novelty and change)	VAR25	0.667
37.	DARING (seeking adventure, risk)	VAR37	0.662
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Stimulation subscale			**0.675**
Percentage Variance Explained by factor(s) with Eigenvalues > 1			**44.041**
Hedonism (HED)			
4.	PLEASURE (gratification of desires)	VAR4	0.684
50.	ENJOYING LIFE (enjoying food, sex, leisure, etc.)	VAR50	0.658
57.	SELF-INDULGENT (doing pleasant things)	VAR57	0.544
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Hedonism subscale			**0.652**
Percentage Variance Explained by factor(s) with Eigenvalues > 1			**39.915**
Achievement (ACH)			
34.	AMBITIOUS (hard-working, aspiring)	VAR34	0.644

39.	INFLUENTIAL (having an impact on people and events)	VAR39	0.381
43.	CAPABLE (competent, effective, efficient)	VAR43	0.613
55.	SUCCESSFUL (achieving goals).	VAR55	0.597
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Achievement subscale			**0.710**
Percentage Variance Explained by factor(s) with Eigenvalues > 1			**32.307**
Power (PO)			
3.	SOCIAL POWER (control over others, dominance)	VAR3	0.581
12.	WEALTH (material possessions, money)	VAR12	0.603
27.	AUTHORITY (the right to lead or command)	VAR27	0.660
46.	PRESERVING MY PUBLIC IMAGE (protecting my "face")	VAR46	0.468
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Power subscale			**0.715**
Percentage Variance Explained by factor(s) with Eigenvalues > 1			**33.891**
Security (SEC)			
8.	SOCIAL ORDER (stability of society)	VAR8	0.480
13.	NATIONAL SECURITY (protection of my nation from enemies)	VAR13	0.543
15.	RECIPROCATION OF FAVOURS (avoidance of indebtness)	VAR15	0.355
22.	FAMILY SECURITY (safety for loved ones)	VAR22	0.570
56.	CLEAN (neat, tidy)	VAR56	0.422
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the Security subscale			**0.721**
Percentage Variance Explained by factor(s) with Eigenvalues > 1			**23.098**
Extraction method: Principle Axis Factoring Rotation Method: Direct Oblimin with Kaiser Normalisation Rotation converged in 4 iterations			

Table 4.38 reveals that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for measure of sampling adequacy for all sub-scales exceeded the normative 0.60 level (Tebachnick & Fidell, 2001). The Eigenvalue greater than unity rule of thumb was used to determine the number of factors to extract (Spangenberg & Theron, 2004). According to the Eigenvalue bigger than unity rule, two factors emerged for only one of the sub-scales (Universalism). Please refer to Appendix B for the rotated EFA results of the SVS per subscale.

Upon closer examination of the items comprising the Universalism sub-scale, it was decided to split the scale into two smaller scales. With the exception of item 26, all remaining items comprising the Universalism sub-scale could meaningfully be divided into two sub-scales that are theoretically justifiable. Var1, Var17, Var30 and Var35 all seem to load on a common factor, which can be defined as *justice* or *fairness.* Conceptually these items seem to capture a philanthropic undertone with regards to one's own society and the world at large. This new subscale was dubbed FAIRNESS

Var24, Var29 and Var38 are concerned with the protection of the environment and living in harmony with nature. A high premium is placed on living in balance with one's natural surroundings, rather than exploiting it for material gain. Subsequently this new subscale was named ECOLOGICAL harmony.

All items originally designated to load on the Universalism subscale loaded higher than the minimum acceptable level of 0.450 (except VAR1 and VAR35) on the new subscales, FAIRNESS and ECOLOGICAL harmony as can be seen in Table 4.40.

Other than VAR1 and VAR35, five other items (VAR5; VAR15; VAR32; VAR39 and VAR56) reported factor loading lower than 0.450. However, it was decided examine the CFA outputs before deleting or adapting the items due to the relatively small number of items comprising each of the SVS subscales.

The overall dimensionality of the SVS seems acceptable after the splitting up of the Universalism subscale. The dimensionality analyses of the final refined instrument can be examined in Table 4.40.

4.10.2.3 Model Identification

It is necessary to ensure that the model is identified to ensure that sufficient information is available to obtain a unique solution for the freed parameters to be estimated and tested in the model. To obtain a unique solution of the parameters in a LISREL model, it is necessary that the number of independent parameters being estimated is less than or equal to the number of non-redundant elements of S (Diamantopoulos & Siguaw, 2000).

This rule of thumb is captured in the following formula:

$$\mathbf{t \leq s/2}$$

Where	t =	the number of parameters to be estimated
	s =	The number of variances and covariances amongst the manifest (observable) variables, calculated as (p + q)(p + q + 1)
	p =	The number of y-variables
	q =	The number of x- variables

For the original SVS the CFA model, the formula reads:

$$137 \leq (46)(46+1)/2$$
$$137 \leq 1081$$

This shows the model to be over-identified and consequently the degrees of freedom are positive (944). Stated most simple, enough information is available in the sample covariance matrix (S) to estimate the model parameters.

4.10.2.4 Examination of model parameters and modification indices

Table 4.39 provides a summary of the most important parameter estimates for the original SVS.

Table 4.39: Evaluation of SEM model parameters of the original SVS via Confirmatory Factor Analyses

Item	**Description**	**Abbreviation**	**Standardised Lambda X Factor Loadings**	**Unique Variance Explained by Item (R^2)**	**Completely Standardised Theta-delta**	**Modification Indices**
			Completely standardised Lambda loading > 0.50	$\lambda^2_y \geq 0.25$	$\theta_\varepsilon < 0.75$	Modification Indices (MI) > 6.64 (p<0.01) for Lambda X

	Conformity (CON)					
11.	POLITETENESS (Courtesy, good manners)	VAR11	0.63	0.40	0.60	ACH(12.36)
20.	SELF-DISCIPLINE (self-restraint, resistance to temptation)	VAR20	0.61	0.37	0.63	
40.	HONOURING OF PARENTS AND ELDERS (showing respect)	VAR40	0.67	0.45	0.55	TRA(15.57)
47.	OBEDIENT (dutiful, meeting obligations)	VAR47	0.67	0.45	0.55	
	Tradition (TRA)					
18.	RESPEECT FOR TRADITION (preservation of time-honoured customs)	VAR18	0.49	0.24	0.76	
32.	MODERATE (avoiding extremes of feeling & action)	VAR32	0.29	0.09	0.91	S-D (17.96) STI (6.79) HED (13.07) PO (35.84)
36.	HUMBLE (modest, self-effacing)	VAR36	0.60	0.37	0.63	
44.	ACCEPTING MY PORTION IN LIFE (submitting to life's circumstances)	VAR44	0.47	0.22	0.78	UNI (7.35) HED (9.45) PO (6.73)
51.	DEVOUT (holding to religious faith and belief)	VAR51	0.56	0.31	0.69	STI (11.58) PO (12.56)
	Benevolence (BEN)					
33.	LOYAL (faithful to my friends, group)	VAR33	0.62	0.38	0.62	HED (9.16)
45.	HONEST (genuine, sincere)	VAR45	0.71	0.50	0.50	UNI (8.01)
49.	HELPFUL (working for the welfare of others)	VAR49	0.61	0.38	0.62	UNI (24.07) STI (8.26)
52.	RESPONSIBLE (dependable, reliable)	VAR52	0.66	0.43	0.57	
54.	FORGIVING (willing to pardon others)	VAR54	0.61	0.37	0.63	
	Fairness (FAIR)					
1.	EQUALITY (equal opportunity for all)	VAR1	0.39	0.15	0.85	CON (10.50) BEN (11.27)
17.	A WORLD AT PEACE (free of war and conflict)	VAR17	0.54	0.29	0.71	CON (6.83) S-D (15.94) STI (30.59)
24.	UNITY WITH NATURE (fitting into nature)	VAR24	0.57	0.32	0.68	BEN (7.95) STI (20.67) HED (11.19) PO (22.06)
						CON (13.00) TRA (15.00) BEN (12.36)

Training Sub-sample (N=633) **Solution converged in 25 iterations**

Table 4.40 provides an account of the most important model parameters including the standardised Lambda-X factor loadings, unique variance explained (R^2), completely standardised theta-delta loadings and Modification Indices. Items comprising the original SVS sub-scales were evaluated by looking at each of the above-mentioned model parameters. Eight items were identified as possible problematic items in Table 4.40. VAR1, VAR5, VAR8, VAR15, VAR18, VAR32, VAR35 and VAR44 were identified as items that did not adhere to the minimum acceptable criteria for Lambda-X factor loadings, R^2 and Theta-delta loadings. The same items were identified in section 4.5.2.5 as problematic. All these items failed to explain more than 25% of unique variance of designated latent value dimensions and therefore could be argued to express more extraneous variance than unique variance. The modification indices also suggest that the instrument could be suffering from multi-collinearity.

In addition, VAR 3, VAR13, VAR16, VAR26, VAR39 and VAR46 may possibly be problematic items due to the low Lambda-X factor loadings, high Theta-delta scores and the multiple significant factor loadings if pathways would be freed up to non-designated factors as suggested by the Modification Indices.

Not only was the parameter estimations taken into account, but also the internal reliability analyses and the Uni-dimensionality analyses. VAR1, VAR5, VAR15, VAR32, VAR35, VAR39 and VAR 56 were identified as possible problematic items through these processes.

The following items were deleted from the original SVS, VAR5, VAR8, VAR15, VAR26, VAR32, VAR35, VAR39 and VAR44 for reasons stated above. Although items VAR1 and VAR18 was identified as items that did not adhere to the minimum acceptable criteria they were not deleted because there would not be enough items in the Universalism and Tradition subscale to comprehensively operationalise the construct if the items were to be removed from the subscale.

Finally, based on the foregoing results, it made substantive sense to split up the Universalism dimension into the Ecological welfare and Fairness sub-dimensions. As a result, Schwartz's 1992) ten value taxonomy was replaced with the new eleven dimension configuration in subsequent statistical analyses.

The internal reliability, Uni-dimensionality and parameter estimates of the refined SVS are summarised in Table 4.40.

Table 4.40: Refined SVS: Internal Consistency, Uni-dimensionality and Confirmatory Factor Analyses										
Description		**Internal Reliability**			**Uni-dimensionality**		**CFA Parameters**			
Item	**Abbreviation**	**Cronbach's Alpha per sub-scale**	**Corrected Item-total Correlation**	**Cronbach's Alpha if item Deleted**	**KMO**	**Factor loadings**	**Standardised Lambda Y Factor Loadings**	**Unique Variance Explained by Item (R^2)**	**Completely Standardised Theta-epsilon**	**Modification Indices**
		$\alpha > 0.70$	> 0.20		KMO > 0.60	> 0.450	Completely standardised Lambda loading > 0.50	$\lambda^2_y \geq 0.25$	$\theta_\varepsilon < 0.75$	Modification Indices (MI) > 6.64 (p<0.01) for Lambda Y
Conformity (α = 0.717)										
11.	VAR11	0.717	0.508	0.625	0.754	0.630	0.64	0.41	0.59	ACH (16.91)
20.	VAR20	0.717	0.490	0.663	0.754	0.601	0.61	0.37	0.63	S-D (6.87) STI (6.87)
40.	VAR40	0.717	0.560	0.625	0.754	0.705	0.67	0.45	0.55	
47.	VAR 47	0.717	0.469	0.680	0.754	0.571	0.67	0.45	0.55	
Tradition (α = 0.526)										
18.	VAR18	0.526	0.328	0.446	0.617	0.492	0.46	0.21	0.79	FAIR (9.51)
36.	VAR36	0.526	0.353	0.412	0.617	0.549	0.58	0.33	0.67	
51.	VAR51	0.526	0.343	0.421	0.617	0.528	0.54	0.29	0.71	STI (7.73)
Benevolence (α = 0.747)										
33.	VAR33	0.747	0.519	0.701	0.786	0.638	0.62	0.38	0.62	HED (11.09)
45.	VAR45	0.747	0.558	0.688	0.786	0.691	0.71	0.50	0.50	
49.	VAR49	0.747	0.480	0.719	0.786	0.547	0.61	0.37	0.63	
52.	VAR52	0.747	0.512	0.703	0.786	0.618	0.66	0.44	0.56	ACH (9.87)
54.	VAR54	0.747	0.518	0.702	0.786	0.593	0.61	0.37	0.63	
Fairness (α = 0.600)										
1.	VAR1	0.600	0.351	0.578	0.624	0.463	0.44	0.20	0.80	CON (6.70) BEN (8.17)
17.	VAR17	0.600	0.421	0.480	0.624	0.601	0.63	0.39	0.61	
30.	VAR30	0.600	0.457	0.433	0.624	0.682	0.71	0.50	0.50	

Ecological Welfare (α = 0.703)										
24.	VAR24	0.703	0.535	0.594	0.674	0.693	0.63	0.40	0.60	FAIR (12.07) PO (13.20)
29.	VAR29	0.703	0.504	0.633	0.674	0.634	0.71	0.51	0.49	
38.	VAR38	0.703	0.523	0.610	0.674	0.668	0.66	0.44	0.56	FAIR (7.28) STI (7.85) HED (6.76) PO (20.11)
Self-Direction (α = 0.604)										
16.	VAR16	0.604	0.396	0.526	0.686	0.528	0.51	0.26	0.74	FAIR (11.01) ECO (32.72) STI (18.23) HED (15.68) ACH (68.70) SEC (7.03)
31.	VAR31	0.604	0.404	0.522	0.686	0.570	0.53	0.28	0.72	STI (7.53)
41.	VAR41	0.604	0.373	0.545	0.686	0.520	0.57	0.33	0.67	CON (35.81) TRA (10.78) BEN (27.60) STI (28.62) ACH (31.13) SEC (31.86)
53.	VAR53	0.604	0.379	0.541	0.686	0.501	0.58	0.33	0.67	CON (18.58) TRA (8.32) BEN (10.08) FAIR (17.09) STI (27.68) ACH (9.21) SEC (27.28)
Stimulation (α = 0.694)										
9.	VAR9	0.694	0.517	0.605	0.675	0.661	0.66	0.44	0.56	CON (7.51) HED (22.63) SEC (11.17)
25.	VAR25	0.694	0.519	0.592	0.675	0.667	0.65	0.42	0.58	HED (14.81)

										PO (7.16)
37.	VAR37	0.694	0.518	0.611	0.675	0.662	0.68	0.46	0.54	CON (7.86) S-D (10.29) ACH (10.59) SEC (12.18)
Hedonism (α = 0.661)										
4.	VAR4	0.661	0.501	0.526	0.652	0.684	0.58	0.34	0.66	CON (16.71) TRA (11.61) BEN (22.26) FAIR (7.03) ECO (7.82) S-D (38.26) ACH (59.95) PO (16.86) SEC (16.62)
50.	VAR50	0.661	0.490	0.542	0.652	0.658	0.60	0.36	0.64	CON (7.39)
57.	VAR57	0.661	0.429	0.621	0.652	0.544	0.72	0.51	0.49	CON (39.32) TRA (14.98) BEN (33.02) FAIR (13.55) S-D (17.66) ACH (58.65) SEC (22.65)
Achievement (α = 0.649)										
34.	VAR34	0.649	0.480	0.523	0.654	0.660	0.66	0.44	0.56	HED (7.51)
43.	VAR43	0.649	0.457	0.556	0.654	0.610	0.65	0.43	0.57	TRA (9.58) FAIR (7.55)
55.	VAR55	0.649	0.443	0.574	0.654	0.585	0.62	0.38	0.62	TRA (8.71) PO (6.83)
Power (α = 0.663)										
3.	VAR3	0.663	0.440	0.599	0.715	0.581	0.51	0.26	0.74	CON (34.79) TRA (33.36) BEN (32.41)

										FAIR (38.19) ECO (20.22) S-D (34.55) STI (8.94) HED (19.51) ACH (35.66) SEC (41.08)
12.	VAR12	0.663	0.470	0.578	0.715	0.603	0.61	0.37	0.63	CON (11.71) TRA (13.36) BEN (13.31) FAIR (8.54) ECO (9.83) S-D (9.42) STI (7.61) ACH (7.40) SEC (7.30)
27.	VAR27	0.663	0.499	0.560	0.715	0.660	0.65	0.43	0.57	TRA (7.60) FAIR (9.71) ECO (7.44) S-D (8.66) STI (7.03)
46.	VAR46	0.663	0.372	0.644	0.715	0.468	0.53	0.28	0.72	CON (47.27) TRA (43.64) BEN (51.57) FAIR (31.66) ECO (24.40) S-D (36.95) STI (9.59) HED (47.97) ACH (43.22) SEC (48.37)
Security (α = 0.493)										
13.	VAR13	0.493	0.310	0.430	0.606	0.474	0.50	0.25	0.75	CON (18.55) TRA (13.32) BEN (29.49) FAIR (23.91) ECO (12.13)

										ACH (30.54)
22.	VAR22	0.493	0.374	0.348	0.606	0.627	0.59	0.35	0.65	FAIR (46.58) ECO (14.98) ACH (10.64)
56.	VAR56	0.493	0.296	0.418	0.606	0.456	0.57	0.33	0.67	
									χ^2	**P-Value**
Test of Multivariate Normality for Continues Variables									4456.628	**0.000**
Test of Multivariate Normality on items after attempted normalisation									2303.878	**0.000**
Number of large positive standardised residuals										**65**
Number of large negative standardised residuals										**68**
Smallest standardised residual										**-5.43**
Median standardised residual										**0.00**
Largest standardized Residual										**6.90**
Training Sub-sample (n=633)										
Solution converged in 25 iterations										

With the exception of item VAR1 and VAR18 the refined SVS reported satisfactory model parameters (See Table 4.40). All indicators reported factor loadings in the excess of 0.50 and acceptable R^2- loadings. However, the reliability and uni-dimensionality of the instrument was a cause for concern. Eight of the eleven dimensions reported Cronbach's Alphas lower than 0.70. This could be due to the relatively small number of items assigned to operationalise each subscale.

Previous dimensionality analyses of the SVS were confirmed as the refined SVS suffered from multicolinearity as indicated by the numerous significant modification indices if restricted pathways between non-designated indicators and dimensions were to be freed up. Notwithstanding, after splitting up Universalism into Ecology and Fairness, all 11 dimensions comprising the refined SVS were uni-dimensional (See Appendix B for rotated EFA analyses per subscale of the exogenous and endogenous measurement models).

4.10.2.5 Evaluate model fit

The overall fit indices of the original as well as the refined SVS are reported (for comparative reasons) in Table 4.41.

Table 4.41: Comparative Goodness-of-fit Statistics for the original and refined Exogenous Measurement Model: SVS

	Original SVS	**Refined SVS**
Degrees of Freedom	**944**	**574**
Minimum Fit Function Chi-Square	**2883.23 (P = 0.0)**	**1751.97 (P = 0.0)**
Normal Theory Weighted Least Squares Chi-Square	3122.45 (P = 0.0)	1770.25 (P = 0)
Satorra-Bentler Scaled Chi-Square	**2623.08 (P = 0.0)**	**1493.71(P = 0)**
Estimated Non-centrality Parameter (NCP)	1679.08	919.71
90 Percent Confidence Interval for NCP	(1530.26 ; 1835.50)	(809.22; 1037.85)
Minimum Fit Function Value	4.56	2.77
Population Discrepancy Function Value (F0)	2.66	1.64
90 Percent Confidence Interval for F0	(2.42 ; 2.90)	(1.28; 1.64)

Root Mean Square Error of Approximation (RMSEA)	**0.053**	**0.050**
90 Percent Confidence Interval for RMSEA	**(0.051 ; 0.055)**	**(0.047; 0.053)**
P-Value for Test of Close Fit (RMSEA < 0.05)	**0.019**	**0.42**
Expected Cross-Validation Index (ECVI)	4.58	**2.77**
90 Percent Confidence Interval for ECVI	(4.35 ; 4.83)	**(2.60; 2.96)**
ECVI for Saturated Model	3.42	**2.22**
ECVI for Independence Model	70.91	**49.89**
Chi-Square for Independence Model with (666) Degrees of Freedom	44725.76	**31455.44**
Independence AIC	44817.76	**31529.44**
Model AIC	2897.08	**1751.71**
Saturated AIC	2162.00	**1406.00**
Independence CAIC	45068.49	**31731.11**
Model CAIC	3643.80	**2454.82**
Saturated CAIC	8053.96	**5237.68**
Normed Fit Index (NFI)	0.94	**0.95**
Non-Normed Fit Index (NNFI)	0.96	**0.97**
Parsimony Normed Fit Index (PNFI)	0.86	**0.82**
Comparative Fit Index (CFI)	0.96	**0.97**
Incremental Fit Index (IFI)	0.96	**0.97**
Relative Fit Index (RFI)	0.94	**0.94**
Critical N (CN)	253.51	**278.46**
Root Mean Square Residual (RMR)	**0.17**	**0.16**
Standardized RMR	**0.061**	**0.059**
Goodness of Fit Index (GFI)	**0.82**	**0.87**
Adjusted Goodness of Fit Index (AGFI)	**0.80**	**0.84**
Parsimony Goodness of Fit Index (PGFI)	0.72	**0.71**

The refinement of measurement models generally has two desirable outcomes:

(a) Bettering the fit of the model; or
(b) a more parsimonious model

Table 4.41 shows that the refined SVS is more parsimonious (degrees of freedom have decreased from 944 to 574) whilst fitting the data better. All fit indices show better model fit, especially the Minimum Fit Function Chi-Square (improved from 2883.23 [P = 0.0) to 1751.97 (P = 0.0)], Satorra-Bentler Scaled Chi-Square [improved from 2623.08 (P = 0.0) to 1493.71(P = 0)] and Root Mean Square Error of Approximation (0.053 to 0.050). Possibly the greatest improvement of the refined SVS is that the P-value for close fit returned for the new model (0.42) is significant whereas the original SVS reported an non-significant P-value for close fit (0.019). The significance level is tested by comparing H_0: RMSEA $\leq$ 0.05 with H_a: RMSEA > 0.05. In the case of the refined SVS the close fit null hypotheses is not rejected because the obtained P-value for close fit exceeded 0.05, however, the null hypotheses for close fit were rejected for the original SVS. The RMSEA value of 0.050 for the refined model indicates that the refined model fits the data exceptionally good.

Over and above the better absolute fit indices, the incremental fit indices as well as the parsimony fit indices improved. In general the fit indices improved considerably and the refined SVS fit indices suggest that the population covariance matrix closely resembles the reproduced covariance matrix.

In the subsequent section (Section 4.11) the refined CDBS and SVS will be fitted on the testing subsample and evaluated. Thereafter the structural model will be constructed using the refined models to test hypothesised structural relations between values and the attitude towards cultural diversity.

RESEARCH RESULTS III: BUILDING OF THE GENERIC STRUCTURAL MODEL

4.11 INTRODUCTION

The secondary objective of this study was to examine the patterns of the covariances between values and the attitude towards cultural diversity constructs. The measurement models were extensively scrutinised and adapted. As a result, the final refined measurement models boast good psychometric properties. A rigorous analyses procedure was used to statistically assess and refine the original measurement instruments for the final measurement model configurations to be ready to be regressed in a generic structural model. However, Diamantopoulos and Siguaw (2000) have indicated that the interpretation of the substantive relations implied by structural covariances in a SEM model will be problematic if the measurement models have not initially been shown to purely and comprehensively reflect the to-be-measured latent constructs.

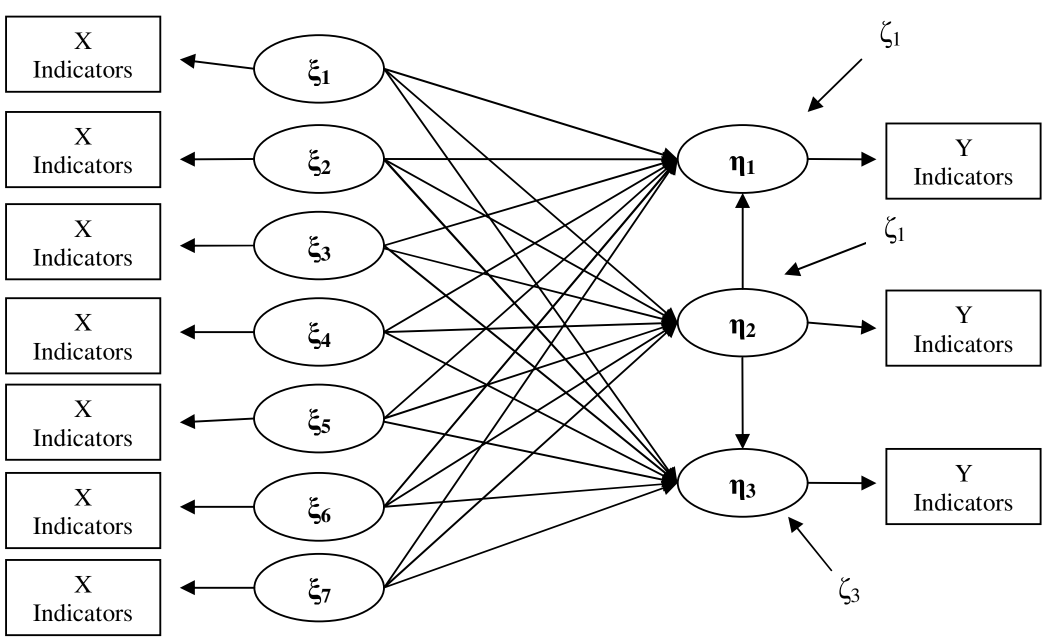
The integrity of the measurement models were scrutinised during the validation and refinement stages of the instruments on the training subset of the data. Best practice in the building of structural models dictates validating the refined measurement models on a new dataset, i.e. one that has not been exposed to statistical analysis. Therefore both measurement models were fitted simultaneously on the testing subsamples of the SVS and CDBS. Fit indices and model parameters closely replicated the findings reported in sections 4.6 to 4.10. Finally, these confirmed measurement models were fitted on the merged dataset (i.e. only cases that could be matched that contained both CDBS and SVS data) (N = 531).

4.12 THE GENERIC STRUCTURAL MODEL

At the end of Chapter 2, a comprehensive structural model, as well as a generic (refined) structural model, was proposed. Theorising guided the formulation of the two structural models. Schwartz et al. (1997) advise that one ideally should relate the full ten-value structure with the dependent variable(s) of interest, since intricate trade-offs and interactions between individual values will be relinquished when electing to include only selected values in a correlational research study. However, theorising guided the proposition that the influence of values on the attitude towards cultural diversity is moderated by race and gender.

Considerable support was found for the proposition that the values by race and gender interaction effects explain significantly more unique variance in the dependent variable when included in a model that only contains the values main effects (See section 4.14 for moderated regression analysis results). Having said that, from a methodological point of view, including interaction effects in a SEM structural model proved to be very challenging indeed. It was decided, therefore, to test the moderating effects of race and gender on the relationship between all the values comprising the comprehensive structural model values and the attitude towards cultural diversity via moderated regression analysis.

In addition, the structural model would be constructed and tested in a separate analysis, using not the comprehensive value taxonomy, but only specific values for which the predicted influence on the attitude towards cultural diversity were expected to be the most robust (i.e. High external validity), hence the title ‘generic structural model’. The structural configuration of the generic structural model is depicted in Figure 2.2.2 in Chapter 2. The underlying rationale for this decision was to propose a structural model that included specific value relationships with the attitude towards cultural diversity that has the highest propensity to be replicated in other independent samples across time. The decision about which values to include in the generic structural model was guided by theorising in Chapter 2. The generic structural model that served as the basis of this study is schematically depicted as two measurement components and a structural component in Figure 4.5:



Where:

ξ_1 = Tradition
ξ_2 = Benevolence
ξ_3 = Ecological Welfare
ξ_4 = Fairness
ξ_5 = Stimulation
ξ_6 = Hedonism
ξ_7 = Power

η_1 = AA
η_2 = VID
η_3 = CA

Figure 4.5: Graphical portrayal of the generic structural model

Figure 4.5 should facilitate the interpretation of the various types of effects associated with the generic SEM model. However, before the proposed values-attitudes towards cultural diversity structural relations could be evaluated, the measurement integrity of the exogenous and endogenous measurement models had to be assessed. Manifest variables (X and Y) can be expressed as linear functions of their designated underlying latent variables (ξ and η). The magnitude of these linear relationships can be interpreted as the relative success of indicator variables in the operationalisation of latent variables and were assessed by conducting a CFA on both measurement models using the total merged dataset (n = 531).

4.12.1 Measurement component of the generic structural model

Consequently the measurement integrity of the exogenous and endogenous components of the generic structural model will be evaluated

4.12.1.1 Identification of the Measurement Models

It is necessary to ensure that a model is identified to ensure that sufficient information is available to obtain a unique solution for the freed parameters to be estimated and tested in the model. To obtain a unique solution of the parameters in a LISREL model, it is necessary for the number of independent parameters being estimated to be less than or equal to the number of non-redundant elements of S (Diamantopoulos & Siguaw, 2000).

This rule of thumb is captured in the following formula:

$$\mathbf{t \leq s/2}$$

Where	t =	the number of parameters to be estimated
	s =	The number of variances and covariances amongst the manifest (observable) variables, calculated as (p + q)(p + q + 1)
	p =	The number of y-variables
	q =	The number of x-variables

For the refined CFA measurement models, the formula reads:

$$193 \leq (13 + 38)\,(13 + 38 + 1)/2$$
$$193 \leq 1326$$

This shows the model to be over-identified and the degrees of freedom consequently are positive (1133). Stated most simply, enough information is available in the sample covariance matrix (S) to estimate the model's parameters.

4.12.1.2 Summary of the Internal Reliability, Dimensionality Analysis and Confirmatory Factor Analysis of the Refined Measurement Models

The following tables reflect the internal consistency, dimensionality and parameter estimations of the refined measurement models fitted on the final merged data (n = 531). Table 4.42 summarises the psychometric properties of the refined CDBS and SVS.

Table 4.42: Summary of the refined CDBS and SVS: Internal consistency, uni-dimensionality and Confirmatory Factor Analyses (Final merged dataset: n = 531)										
Description		**Internal Reliability**			**Uni-dimensionality**		**CFA Parameters**			
Item	**Abbreviation**	**Cronbach's Alpha per subscale**	**Corrected Item-total Correlation**	**Cronbach's Alpha if item Deleted**	**KMO**	**Factor loadings**	**Standardised Lambda X & Y Factor Loadings**	**Unique Variance Explained by Item (R^2)**	**Completely Standardised Theta-delta & Theta-epsilon**	**Modification Indices**
		$\alpha > 0.70$	> 0.20		KMO > 0.60	> 0.450	Completely standardised Lambda loading > 0.50	$\lambda^2_y \geq 0.25$	$\theta_\varepsilon < 0.75$	Modification Indices (MI) > 6.64 ($p < 0.01$) for Lambda X & Y
CULTURAL DIVERSITY BELIEF SCALE (CDBS)										
Valuing Individual Differences Subscale (α = 0.758)										
2.	VID1	0.758	0.439	0.735	0.819	0.516	0.56	0.31	0.69	
4.	VID3	0.758	0.477	0.728	0.819	0.565	0.57	0.32	0.68	
6.	VID4	0.758	0.482	0.727	0.819	0.574	0.58	0.34	0.66	
14.	VID7	0.758	0.481	0.727	0.819	0.564	0.62	0.39	0.61	
18.	VID9	0.758	0.504	0.721	0.819	0.584	0.61	0.37	0.63	
19.	VID10	0.758	0.531	0715	0.819	0.619	0.59	0.35	0.65	
21.	VID11	0.758	0.415	0.742	0.819	0.478	0.51	0.26	0.74	
Cultural Diversity as a Source of Competitive Advantage Subscale (α = 0.606)										
9.	CA3	0.606	0.409	0.517	0.635	0.565	0.58	0.33	0.67	
13.	CA4	0.606	0.429	0.485	0.635	0.642	0.64	0.41	0.59	
17.	CA5	0.606	0.409	0.517	0.635	0.526	0.57	0.33	0.67	

Tolerance for Affirmative Action (α = 0.644)									
10.	AA2R	0.644	0.395	0.623	0.634	0.500	0.49	0.24	0.76	
20.	AA5R	0.644	0.515	0.461	0.634	0.751	0.79	0.62	0.38	
22.	AA6R	0.644	0.454	0.547	0.634	0.603	0.57	0.32	0.68	
SCHWARTZ VALUE SURVEY (SVS)									
Conformity (α = 0.712)									
11.	VAR11	0.712	0.498	0.650	0.751	0.617	0.51	0.36	0.64	
20.	VAR20	0.712	0.451	0.677	0.751	0.549	0.63	0.40	0.60	
40.	VAR40	0.712	0.564	0.614	0.751	0.717	0.73	0.53	0.47	
47.	VAR 47	0.712	0.494	0.656	0.751	0.608	0.65	0.43	0.57	
Tradition (α = 0.511)									
18.	VAR18	0.511	0.320	0.442	0.612	0.493	0.53	0.28	0.72	FAIR (15.96) ECO (9.35) BEN (11.55)
36.	VAR36	0.511	0.354	0.381	0.612	0.571	0.62	0.39	0.59	
51.	VAR51	0.511	0.316	0.434	0.612	0.480	0.50	0.25	0.75	FAIR (7.59)
Benevolence (α = 0.762)									
33.	VAR33	0.762	0.475	0.738	0.778	0.566	0.59	0.35	0.65	
45.	VAR45	0.762	0.573	0.707	0.778	0.692	0.69	0.47	0.53	ECO (11.77)
49.	VAR49	0.762	0.519	0.728	0.778	0.594	0.65	0.43	0.57	FAIR (34.53) ECO (17.06)
52.	VAR52	0.762	0.539	0.718	0.778	0.645	0.70	0.49	0.51	FAIR (10.15) ACH (10.13) PO (6.90)
54.	VAR54	0.762	0.573	0.704	0.778	0.656	0.67	0.44	0.56	SEC (10.55) HED (7.60)
Fairness (α = 0.665)									

1.	VAR1	0.665	0.457	0.594	0.651	0.585	0.53	0.28	0.72	ECO (9.37)
17.	VAR17	0.665	0.522	0.505	0.651	0.734	0.66	0.43	0.57	
30.	VAR30	0.665	0.454	0.598	0.651	0.579	0.72	0.52	0.48	
Ecology (α = 0.737)										
24.	VAR24	0.737	0.592	0.614	0.681	0.754	0.68	0.47	0.53	FAIR (12.07) PO (13.20)
29.	VAR29	0.737	0.529	0.688	0.681	0.637	0.68	0.46	0.54	HED (7.21)
38.	VAR38	0.737	0.564	0.648	0.681	0.697	0.71	0.51	0.49	STI (9.49) HED (9.19) PO (10.34)
Self-Direction (α = 0.597)										
16.	VAR16	0.597	0.438	0.475	0.669	0.608	0.56	0.31	0.69	ECO (7.11)
31.	VAR31	0.597	0.343	0.552	0.669	0.475	0.45	0.20	0.80	ECO (7.20)
41.	VAR41	0.597	0.382	0.526	0.669	0.529	0.57	0.33	0.67	CON (11.88) TRA (6.67) STI (21.83) ACH (10.42) SEC (14.71)
53.	VAR53	0.597	0.363	0.544	0.669	0.487	0.57	0.32	0.68	FAIR (8.71) STI (25.95)
Stimulation (α = 0.627)										
9.	VAR9	0.627	0.477	0.494	0.650	0.672	0.64	0.41	0.59	
25.	VAR25	0.627	0.436	0.533	0.650	0.596	0.58	0.34	0.66	SD (10.51)
37.	VAR37	0.627	0.432	0.571	0.650	0.572	0.65	0.43	0.57	
Hedonism (α = 0.624)										
4.	VAR4	0.624	0.494	0.435	0.618	0.732	0.59	0.35	0.65	CON (10.26) TRA (14.40) BEN (16.33) ECO (16.30) S-D (20.54) ACH (27.73)

										PO (8.86) SEC (7.04)
50.	VAR50	0.624	0.460	0.487	0.618	0.638	0.58	0.33	0.67	CON (11.24)
57.	VAR57	0.624	0.351	0.637	0.618	0.438	0.68	0.47	0.53	CON (37.15) TRA (30.83) BEN (36.93) FAIR (19.88) ECO (11.16) S-D (10.28) ACH (41.83) SEC (22.71)
Achievement (α = 0.647)										
34.	VAR34	0.647	0.474	0.526	0.654	0.651	0.65	0.42	0.58	HED (9.46)
43.	VAR43	0.647	0.455	0.553	0.654	0.610	0.63	0.40	0.60	TRA (9.16) FAIR (17.85)
55.	VAR55	0.647	0.442	0.569	0.654	0.587	0.58	0.33	0.67	CON (8.71) TRA (11.28) BEN (9.82) FAIR (8.42) HED (15.33) PO (10.56)
Power (α = 0.634)										
3.	VAR3	0.634	0.437	0.547	0.691	0.602	0.49	0.24	0.76	TRA (7.55) FAIR (6.89) S-D (7.09) ACH (7.57) SEC (7.61)
12.	VAR12	0.634	0.417	0.562	0.691	0.533	0.59	0.35	0.65	CON (26.94) TRA (27.60) BEN (26.07) FAIR (16.20) ECO (14.25) S-D (10.81) ACH (16.39) SEC (16.45)

27.	VAR27	0.634	0.496	0.511	0.691	0.703	0.59	0.34	0.66	
46.	VAR46	0.634	0.319	0.636	0.691	0.392	0.53	0.28	0.72	CON (39.64) TRA (43.94) BEN (40.08) FAIR (34.23) ECO (21.61) S-D (16.61) HED (7.86) ACH (22.27) SEC (34.73)
Security (α = 0.505)										
13.	VAR13	0.505	0.349	0.384	0.614	0.548	0.51	0.26	0.74	BEN (12.55) FAIR (19.58) ACH (19.92)
22.	VAR22	0.505	0.349	0.446	0.614	0.469	0.54	0.29	0.71	FAIR (9.49) PO (9.38)
56.	VAR56	0.505	0.349	0.367	0.614	0.534	0.59	0.35	0.65	

	χ^2	**P-Value**
Test of Multivariate Normality for Continuous Variables **Test of Multivariate Normality on items after attempted normalisation**	4456.628 2303.878	**0.000** **0.000**

Number of large positive standardised residuals **Number of large negative standardised residuals**	**65** **68**
Smallest standardised residual **Median standardised residual** **Largest standardised Residual**	**-5.43** **0.00** **6.90**
Training subsample (n = 531) **Solution converged in 25 iterations**	

Table 4.42 reveals that only three items in total did not adhere to the minimum acceptable criteria (shaded rows in Table 4.42). Item AA2R, comprising the tolerance for affirmative action subscale of the CDBS; var3, comprising the power subscale of the SVS; and item var31 of the self-direction subscale of the SVS did not report a Lambda factor loading higher than 0.50. Since all three items reported loadings that were marginally lower than minimum acceptable criteria, the measures could be regarded as conceptually vindicated. Given the relatively few items that did not adhere to the minimum acceptable criteria and decision-making rules, the refinement process could be regarded as successful, since the data had been subjected to rigorous decision-making criteria. In the final analysis, the refined instruments successfully replicated the structure as developed on the training data. This evidence instils confidence in the measurement integrity of the refined measures.

4.12.1.3 Summary of the Goodness-of-fit Indices of the Refined Measurement Models

Table 4.43 contains the fit indices for the refined measurement models that were ultimately used to test the hypothesised relationships between values and the attitude towards cultural diversity in the generic structural model.

Table 4.43: Goodness-of-fit statistics for the refined CDBS and SVS (Final merged dataset: n = 531)

	Refined CDBS & SVS
Degrees of Freedom	**1133**
Minimum Fit Function Chi-Square	**2272.06 (P = 0.0)**
Normal Theory Weighted Least Squares Chi-Square	2300.83 (P = 0)
Satorra-Bentler Scaled Chi-Square	**2020.72(P = 0)**
Estimated Non-centrality Parameter (NCP)	887.72
90 Percent Confidence Interval for NCP	(766.15; 1017.11)
Minimum Fit Function Value	4.73
Population Discrepancy Function Value (F0)	1.85
90 Percent Confidence Interval for F0	(1.60; 2.12)
Root Mean Square Error of Approximation (RMSEA)	**0.040**
90 Percent Confidence Interval for RMSEA	**(0.038; 0.043)**
P-Value for Test of Close Fit (RMSEA < 0.05)	**1**

Expected Cross-Validation Index (ECVI)	**5.01**
90 Percent Confidence Interval for ECVI	**(4.76; 5.28)**
ECVI for Saturated Model	**5.53**
ECVI for Independence Model	**61.47**
Chi-Square for Independence Model with (1275) Degrees of Freedom	**29402.82**
Independence AIC	29504.82
Model AIC	2406.72
Saturated AIC	2652.00
Independence CAIC	29768.79
Model CAIC	3405.66
Saturated CAIC	9515.20
Normed Fit Index (NFI)	0.93
Non-Normed Fit Index (NNFI)	0.96
Parsimony Normed Fit Index (PNFI)	0.83
Comparative Fit Index (CFI)	0.97
Incremental Fit Index (IFI)	0.97
Relative Fit Index (RFI)	0.92
Critical N (CN)	297.14
Root Mean Square Residual (RMR)	0.13
Standardised RMR	0.054
Goodness-of-Fit Index (GFI)	0.84
Adjusted Goodness-of-Fit Index (AGFI)	0.81
Parsimony Goodness-of-Fit Index (PGFI)	0.72

Table 4.43 contains the fit indices for both the SVS and the CDBS. The exogenous and endogenous measurement models reported very good fit indices. The significant P-value ($p = 1$) as well as the RMSEA would suggest that the reproduced model fitted the data exceptionally well (RMSEA = 0.040). This means that the null hypotheses for close fit could not be rejected; therefore the data fitted the model exceptionally well.

A χ^2/df value of 1.78 was found for the refined measurement models, which was marginally lower than the generally accepted norm range of between 2 and 5 (Hair et al., 2006). The 90 percent confidence interval for RMSEA (0.038; 0.043) further confirmed the good fit of the model.

The Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Parsimony Normed Fit Index (PNFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI) and Relative Fit Index (RFI) utilised a baseline model for comparison with the proposed model. All of these incremental fit indices assumed values between 0 and 1, with larger values generally representing better fit (Diamantopoulos & Siguaw, 2000). All the incremental fit indices were above 0.90, except the PNFI, which was marginally lower with an estimated value of 0.83.

The RMR and standardised RMR measure the difference between the covariance matrix of the data and the covariance matrix reproduced by the theoretical models (Kelloway, 1998). Values lower than 0.08 are indicative of good fit. In this regard the reported RMR value of 0.13 was a cause for concern. However, the standardised RMR obtained from the analysis boasted a value of 0.054, which was indicative of good fit (RMSR < 0, 08).

In summary, it seemed that the theoretical model fitted the data well and therefore could be used to test the hypothesised structural relations between values and the attitude towards cultural diversity.

4.12.2 Structural component of the generic structural model

4.12.2.1 Identification of the structural model

It is necessary to ensure that a model is identified, to ensure that sufficient information is available to obtain a unique solution for the freed parameters to be estimated and tested in the structural model. To obtain a unique solution of the parameters in a LISREL model, it is necessary that the number of independent parameters being estimated is less than or equal to the number of non-redundant elements of S (Diamantopoulos & Siguaw, 2000).

This rule of thumb is captured in the following formula:

$$\mathbf{t \leq s/2}$$

Where	t =	the number of parameters to be estimated
	s =	The number of variances and covariances amongst the manifest (observable) variables, calculated as (p + q)(p + q + 1)
	p =	The number of y-variables
	q =	The number of x- variables

For the generic structural model, the formula reads:

$$180 \leq (13 + 38)\ (13 + 38 + 1)/2$$
$$180 \leq 1326$$

This shows the model to be over-identified and consequently the degrees of freedom are positive (1146). Stated most simply, enough information was available in the sample covariance matrix (S) to estimate the model parameters.

4.12.2.2 Evaluate model fit

- Evaluation of the overall Goodness-of-fit of the generic structural model

An admissible final solution of parameter estimates and fit indices for the generic structural model was obtained after 32 iterations. The full spectrum of fit indices generated by the LISREL programme is presented in Table 4.44. The reported fit results in Table 4.44 should be evaluated by means of the minimum acceptable criteria and norms for absolute fit indices, incremental fit indices and parsimonious fit indices presented in Table 3.5.

Table 4.44: Goodness-of-fit statistics for the structural model (Final merged dataset: n = 531)

	Refined CDBS & SVS
Degrees of Freedom	**1146**
Minimum Fit Function Chi-Square	**2219.19 (P = 0.0)**
Normal Theory Weighted Least Squares Chi-Square	2257.22 (P = 0)
Satorra-Bentler Scaled Chi-Square	**1970.30 (P = 0)**

Estimated Non-centrality Parameter (NCP)	824.30
90 Percent Confidence Interval for NCP	(705.22; 951.22)
Minimum Fit Function Value	4.60
Population Discrepancy Function Value (F0)	1.71
90 Percent Confidence Interval for F0	(1.46; 1.97)
Root Mean Square Error of Approximation (RMSEA)	**0.039**
90 Percent Confidence Interval for RMSEA	**(0.036; 0.041)**
P-Value for Test of Close Fit (RMSEA < 0.05)	**1.00**
Expected Cross-Validation Index (ECVI)	**4.83**
90 Percent Confidence Interval for ECVI	**(4.59; 5.10)**
ECVI for Saturated Model	**5.50**
ECVI for Independence Model	**60.03**
Chi-Square for Independence Model with (1275) Degrees of Freedom	**28831.47**
Independence AIC	**28933.47**
Model AIC	**2330.30**
Saturated AIC	**2652.00**
Independence CAIC	**29197.65**
Model CAIC	**3262.70**
Saturated CAIC	**9520.70**
Normed Fit Index (NFI)	**0.93**
Non-Normed Fit Index (NNFI)	**0.97**
Parsimony Normed Fit Index (PNFI)	**0.84**
Comparative Fit Index (CFI)	**0.97**
Incremental Fit Index (IFI)	**0.97**
Relative Fit Index (RFI)	**0.92**
Critical N (CN)	**309.31**
Root Mean Square Residual (RMR)	**0.13**
Standardised RMR	**0.053**
Goodness-of-Fit Index (GFI)	**0.84**
Adjusted Goodness-of-Fit Index (AGFI)	**0.82**
Parsimony Goodness-of-Fit Index (PGFI)	**0.73**

The most frequently used measure for evaluating model fit is the likelihood ratio Chi-square statistic (Tabachnick & Fidell, 1989); more specifically the Satorra-Bentler Chi-Square when working with non-normal data (used for the evaluation of exact model fit) and the Root Mean Squared Error of Approximation (RMSEA), typically used to evaluate the close model fit statistic. The χ^2 test statistic tests the null hypothesis that the population covariance matrix is equal to the reproduced covariance matrix implied by the model which signifies exact model fit.

Both the Satorra-Bentler Scaled Chi-Square (p = 0,0) and the Normal Theory Weighted Least Chi-Square (p = 0.0) indicated that the model (variance-covariance matrix derived by means of the robust maximum-likelihood parameter estimates) was not reproducing the data (variance-covariance matrix) perfectly. Consequently, the null hypothesis, H_{01a}: $\Sigma = \Sigma(\Theta)$ of exact fit had to be rejected (p = 0, 00) in favour of the alternative hypothesis for exact model fit, H_{a1a}: $\Sigma \neq \Sigma(\Theta)$.

Due to several shortcomings of the chi-square statistic, it is recommended to express χ^2 in terms of degrees of freedom. The reported χ^2/df value of 1.71 fell outside the generally accepted norm range of between 2 and 5 (Hair et al., 2006).

In addition, a test of close fit (in contrast to exact fit) was performed by LISREL by testing H_{01b}: RMSEA < 0.05 against H_{a1b}: RMSEA > 0.05. According to Hair et al. (2006), RMSEA values smaller than 0.08 indicate acceptable fit, below 0.05 indicate good fit and values smaller that 0.01 indicate exceptional fit.

A test of the significance of the obtained value was performed by LISREL, by testing the null hypothesis for close fit against the alternative hypothesis for close fit. Thus, if the p-value for close fit > 0.05, then close fit has been achieved. A p-value for the test of close fit greater than 0.05 have been achieved (p = 1.00), therefore the null hypotheses for close fit could not be rejected, which implied that the model fitted the model reasonably well, but not precisely. Furthermore, a RMSEA value of 0,039 was reported from the data. This was smaller than the normative value of 0,05, which illustrated that the model seemed to fit the data exceptionally well. The 90% confidence interval for RMSEA shown in Table 4.44 (0.036; 0.041) indicates that the fit of the measurement model could be regarded as very good.

The expected cross-validation index (ECVI) expresses the difference between the reproduced sample covariance matrix ($\hat{\Sigma}$) derived from fitting the model on the present sample and the expected covariance matrix that would be obtained in an independent sample of the same size from the same population (Diamantopoulos & Siguaw, 2000). A model's ECVI is not informative in itself and must be compared to the ECVI values of other models. The model with the smallest ECVI value has the greatest potential for replication. Since the model ECVI (4.83) was smaller than the value obtained for the independence model (60.03) but also smaller than the ECVI value associated with the saturated model (5.50), a model more closely resembling the saturated model seemed to have a better chance of being replicated in a cross-validation sample than the fitted model.

The Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Parsimony Normed Fit Index (PNFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI) and Relative Fit Index (RFI) utilised a baseline model for comparison with the proposed model. All of these incremental fit indices assumed absolute values between 0 and 1, with larger values generally representing better fit (Diamantopoulos & Siguaw, 2000). Incremental fit indices with values in excess of 0.90 are generally regarded as presenting good fit. All of the above-mentioned indices reported values above 0.90 (See Table 4.44), except for the PNFI, which was marginally lower, with a score of 0.84.

The RMR is a measure of the mean absolute value of the difference between the covariance matrix of the data and the covariance matrix reproduced by the theoretical models (Kelloway, 1998). RMR values ranging between 0.05 and 0.08 are indicative of good fit. The RMR reported for the CDBS was 0,13, which did not fall within the acceptable range indicative of good fit. This statistic was a source of concern.

However, Diamantopoulos and Siguaw (2000) warn that the RMR should not be interpreted in isolation since the index is sensitive to the scale of the measurement of model variables and therefore makes the interpretation of values difficult. Therefore it is recommended to examine the RMR statistic in conjunction with the standardised RMR, which has a lower boundary of 0 and an upper bound of 1. Values smaller than 0.08 are generally regarded as indicative of good fit to the data (Hair et al., 2006).

The standardised RMR obtained from the analysis boasted a value of 0.053, which was indicative of good fit (RMSR < 0, 08).

The GFI assesses how well the covariances predicted from the parameter estimates reproduce the sample covariance (Spangenberg & Theron, 2004). The adjusted GFI adjusts the GFI for degrees of freedom in the model and both values ranged between 0 and 1, with 1 indicating perfect fit and 0 poor fit. The GFI and AGFI ranged from 0 to 1, with values exceeding 0.90 being indicative of good fit (Kelloway, 1998).

The AGFI (0.82) was marginally lower than the generally acceptable norm for good fit.

After interpreting a variety of fit indices, the deduction could be made that the proposed measurement model fitted the data reasonably well, but not perfectly. Consequently, it was necessary to examine the residual (standardised residuals) and modification indices to further evaluate the claim that the model fitted the data well.

- Examination of structural model residuals

Residuals provide important diagnostic information regarding the fit of structural models (Jöreskog & Sörbom, 1996). Error in measurement creates a residual for each covariance term that reduces overall model fit (Hair et al., 2006). As a result, one can infer that small residuals are indicative of good fit between the observed and reproduced covariance/correlation matrices.

Standardised residuals can be interpreted as z-scores, which can be considered significantly large if they exceed +2.58 or -2.58 in absolute terms (Diamantopoulos & Siguaw, 2000). Large positive residuals are indicative of underestimation of the covariance between two variables; while large negative residuals indicate that the model overestimates the covariance between variables (Jöreskog & Sörbom, 1996).

A summary of the largest positive and negative standardised residuals that resulted from the covariance estimates derived from the estimated generic model parameters is reported in Table 4.45.

Table 4.45: Summary statistics for standardised residuals of the structural model (Final merged dataset: n = 531)

Largest Negative Standardised Residuals

```
Residual for     var3 and     VID3  -3.55
Residual for     var4 and    VID10  -2.90
Residual for    var16 and     var4  -3.17
Residual for    var17 and     AA2R  -3.18
Residual for    var20 and     var4  -3.01
Residual for    var20 and    var13  -2.99
Residual for    var22 and     var3  -2.77
Residual for    var24 and     VID4  -2.87
Residual for    var24 and     var1  -3.00
Residual for    var25 and     var4  -2.94
Residual for    var33 and     VID1  -2.91
Residual for    var33 and    var18  -2.69
Residual for    var34 and     var4  -3.02
Residual for    var34 and    var13  -2.61
Residual for    var38 and    var12  -2.88
Residual for    var38 and    var31  -2.79
Residual for    var40 and    var12  -3.25
Residual for    var43 and     var3  -3.00
Residual for    var45 and    var12  -3.47
Residual for    var45 and    var13  -3.06
Residual for    var45 and    var18  -3.15
Residual for    var49 and    var45  -2.68
Residual for    var51 and     var4  -2.85
Residual for    var51 and    var12  -4.00
Residual for    var51 and    var30  -2.63
Residual for    var52 and    var13  -3.28
Residual for    var52 and    var36  -3.30
Residual for    var52 and    var40  -4.14
Residual for    var53 and      CA4  -2.65
Residual for    var53 and    var20  -2.59
Residual for    var53 and    var34  -3.30
Residual for    var54 and     var3  -3.11
Residual for    var54 and     var4  -4.25
Residual for    var54 and    var13  -2.85
Residual for    var54 and    var22  -2.68
Residual for    var55 and    var30  -3.18
Residual for    var55 and    var33  -4.41
Residual for    var55 and    var37  -2.95
Residual for    var55 and    var40  -3.23
Residual for    var55 and    var45  -2.73
Residual for    var55 and    var49  -3.27
Residual for    var56 and     var1  -2.59
Residual for    var56 and    var17  -4.71
Residual for    var56 and    var30  -5.14
Residual for    var57 and     var3  -2.97
Residual for    var57 and     var4  -3.85
```

Largest Positive Standardised Residuals

```
Residual for     VID3 and     VID1   4.25
Residual for     VID4 and     VID1   3.02
Residual for    VID10 and     VID7   3.62
Residual for    VID11 and     VID9   3.24
Residual for    VID11 and    VID10   3.61
Residual for     AA2R and     VID3   2.69
Residual for     var1 and     AA5R   3.19
Residual for     var4 and     var3   2.88
Residual for    var11 and     var9   2.78
Residual for    var16 and      CA3   2.77
Residual for    var17 and     var1   2.62
Residual for    var17 and    var13   5.99
Residual for    var18 and    var17   3.12
Residual for    var20 and     VID9   3.07
Residual for    var22 and    var11   3.17
Residual for    var22 and    var17   2.99
Residual for    var25 and     VID9   2.64
Residual for    var27 and     var3   5.19
Residual for    var27 and    var16   3.36
Residual for    var30 and    var22   2.83
Residual for    var31 and      CA4   2.70
Residual for    var36 and     VID7   2.81
Residual for    var38 and    var24   3.32
Residual for    var40 and    var22   3.30
Residual for    var41 and    var40   2.87
Residual for    var45 and    var33   3.80
Residual for    var46 and    var11   3.98
Residual for    var46 and    var17   4.07
Residual for    var46 and    var18   2.92
Residual for    var46 and    var24   2.61
Residual for    var46 and    var30   3.28
Residual for    var46 and    var33   3.16
Residual for    var46 and    var40   3.46
Residual for    var46 and    var41   2.77
Residual for    var46 and    var45   3.89
Residual for    var47 and    var46   3.72
Residual for    var49 and    var30   4.56
Residual for    var49 and    var36   3.23
Residual for    var49 and    var38   3.11
Residual for    var49 and    var46   3.33
Residual for    var50 and     var4   4.19
Residual for    var50 and     var9   2.94
Residual for    var51 and    var34   2.68
Residual for    var52 and    var46   3.46
Residual for    var53 and    var25   3.43
Residual for    var53 and    var37   4.22
Residual for    var54 and    var46   2.99
Residual for    var54 and    var49   5.00
Residual for    var55 and    var52   4.22
Residual for    var56 and    var41   3.08
Residual for    var56 and    var46   5.19
Residual for    var56 and    var52   3.61
Residual for    var56 and    var55   4.15
Residual for    var57 and     VID7   3.86
Residual for    var57 and    var11   2.95
Residual for    var57 and    var41   2.61
Residual for    var57 and    var46   3.45
```

```
 Residual for    var57 and    var55   5.22
 Residual for    var57 and    var56   5.83
```

Summary:

Smallest Standardised Residual =   - 5.14
Median Standardised Residual =   0.00
Largest Standardised Residual =   5.99

Table 4.45 reveal that the structural model contained numerous large positive and negative residual terms, which implies that several model parameters in the observed sample covariance matrix were poorly estimated by the derived model parameter estimates. The substantial number of large positive and negative residuals suggests that the latent measures failed to purely and comprehensively operationalise the to-be-measured latent constructs. Shortcomings of the measurement models identified in earlier analyses were vindicated when looking at the standardised residuals. But, having said that, the fit indices and parameter estimates of the refined measurement models still reported reasonably satisfactory results (See section 4.12.1) and were judged to be suitable for inclusion in the structural model.

The stem-and-leaf plot (Figure 4.6) and the Q-plot (Table 4.7) provide additional information regarding the success with which the implied model is reproduced accurately by looking at how much observed model covariances deviate from sample covariances. Good model fit in the stem-and-leaf plot is depicted by the symmetrical distribution of residuals around zero, with most values falling in the middle of the distribution and fewer in the tails (Jöreskog & Sörbom, 1996). Large numbers of residuals falling at the tail ends of the stem-and-leaf plot suggests that covariances are systematically under- or overestimated by the model (Diamantopoulos & Siguaw, 2000). Figure 4.6 indicates that the standardised residuals were slightly positively skewed, signifying underestimation of actual covariances.

Figure 4.7: Stem-and-leaf for standardised residuals of the structural model (Final merged dataset: n = 531)

```
 - 5|1
 - 4|74210
 - 3|865333322222111000000
 - 2|999999888877776666666555555444444444444443333333333322222222211111111111+21
 - 1|999999999999888888888888888888877777777777777766666666666666666666666666+52
 - 0|999999999999999999999999999999988888888888888888888888888777777777777777+97
   0|111111111111111111111111111111112222222222222222222222222222222222333333+90
   1|000000000000000000000000111111111111111111111112222222222222222222222222+14
   2|0000000000000000111111112222222222222233333344444445555566667778888899999
   3|0001111222223333445556667899
   4|01122226
   5|02228
```

6 | 0

The Q-plot plots standardised residuals against the quartiles of normal distribution (Diamantopoulos & Siguaw, 2000). Observed standardised residuals that deviate from the 45-degree reference line were indicative of observed covariance terms being poorly estimated by the derived model parameter estimates.

Figure 4.8: Q-plot of standardised residuals of the generic structural model (Final merged dataset: n = 531)

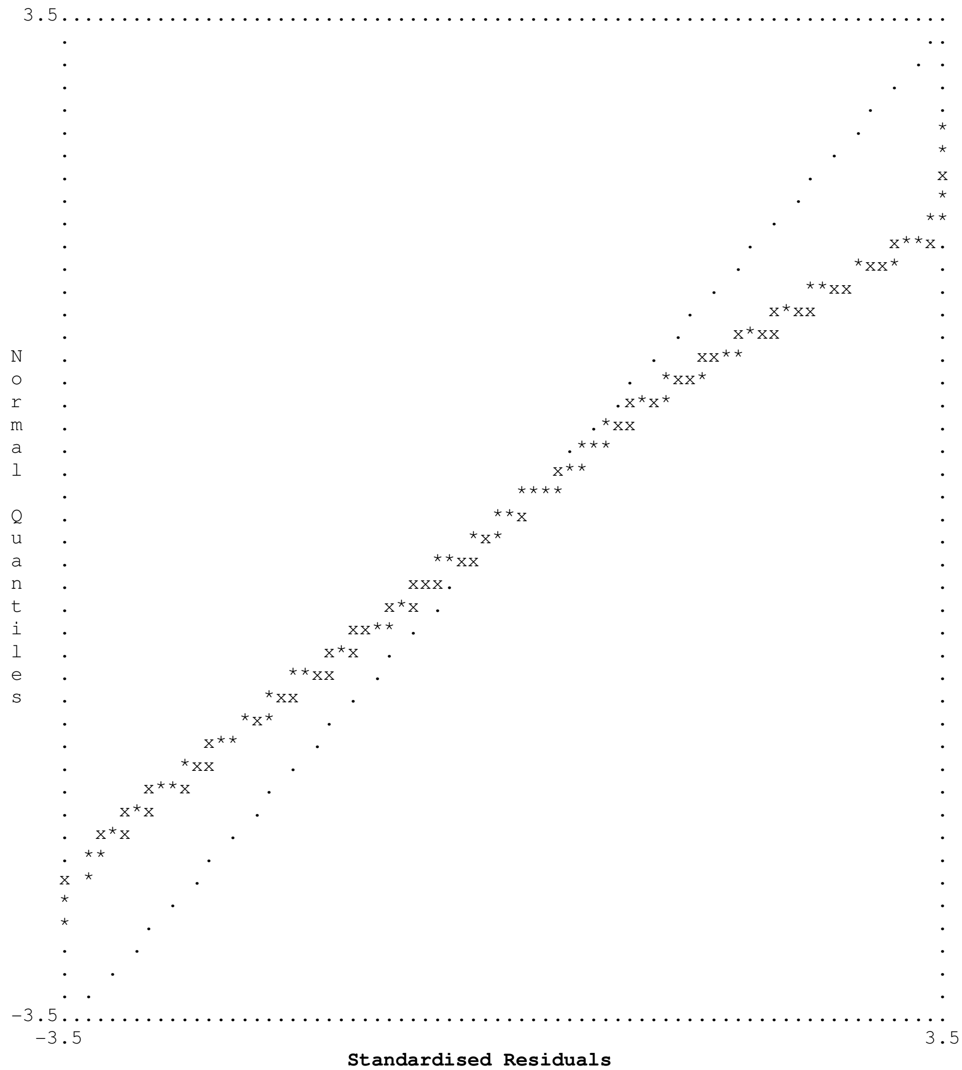


Figure 4.7 reveals that standardised residuals deviated from the reference line in the upper and lower regions of the Q-plot. The deviation is not pronounced, however, and less severe than in the case of the measurement model.

4.12.2.3 Evaluation of the SEM parameters

The same minimum acceptable criteria and decision-making rules as discussed in Chapter 3 apply to the evaluation of the generic structural model parameters. For each *freed up* parameter, three pieces of information are given in the unstandardised LISREL format, namely (a) the unstandardised parameter estimate, (b) the standard error, and (c) the relevant t-value (Diamantopoulos & Siguaw, 2000).

The interpretation of the unstandardised parameter estimates is fairly straightforward. The magnitudes of parameter estimates can be interpreted as conventional standard linear regression coefficients, where the estimated change in the dependent variable is expressed as a result of a one-unit change in the independent variable. The direction of the change is captured by the sign of the relevant parameter.

The standard error can be interpreted as the success with which the manifest variables estimated the parameter. In general, small standard errors can be interpreted as accurate estimation of model parameters (Diamantopoulos & Siguaw, 2000).

T-values are obtained by dividing the value of the parameter with the standard error (Jöreskog & Sörbom, 1996). T-values are used to determine whether a particular parameter is significantly zero in the population, i.e. to test the null hypothesis that states there is not a significant relationship between latent variables in the population. T-values of between -1.96 and 1.96 suggest that the corresponding population parameter is not significantly different from zero (with 5% significance level) (Diamantopoulos & Siguaw, 2000). The following SEM parameters were evaluated:

- Unstandardised Gamma [Γ] Matrix
- Standardised Gamma [Γ] Matrix
- Unstandardised Beta [β] Matrix
- Standardised Beta [β] Matrix
- Unstandardised Indirect Effects of KSI on ETA
- Unstandardised Total Effects of ETA on ETA
- Unstandardised Total Effects of KSI on ETA
- Modification Indices

Diamantopoulos and Siguaw (2000) emphasise four important points when analysing a SEM structural model. Firstly, the fact that the data fits the model well and the LISREL programme is able to find an admissible solution instils initial confidence in the validity of the proposed model. When a structural model converges, it means that the iteration estimation process has found the closest possible match between the implied covariance matrix and the sample matrix, i.e. the residual terms are at their lowest possible level ($S-\hat{\Sigma}$). Secondly, the signs of the parameter estimates should be congruent with hypothesised relationships between latent variables. Thirdly, parameter estimates should be significant ($p < 0.05$). Lastly, the magnitude of the reported parameter estimates should be assessed and compared to minimum acceptable criteria and decision-making rules.

- **Unstandardised and Completely Standardised Gamma [Γ] parameters**

The unstandardised and completely standardised Γ matrix portrays the estimated path coefficients (γ_{ij}), expressing the strength of the influence of ξ_j on η_i. A statistically significant ($p < 0.05$) would imply that the null hypothesis can be rejected in favour of the alternative hypothesis. To simplify the interpretation of bivariate relationships between latent variables, Diamantopoulos and Siguaw (2000) suggest standardising variables. The LISREL statistical suite can standardise just the latent variables (the Standardised solution) or the latent variables and their manifest variables (the Completely Standardised solution). Since the standardised relationships between variables are presented in correlation rather that covariance terms, the interpretation of their magnitudes becomes easier. Bivariate relationships can be interpreted as correlation coefficients and therefore Guilford's guidelines for the interpretation of the magnitude of significant *r* values were considered when the minimum criteria and decision making rules for the interpretation of the magnitude of SEM path coefficients were formulated for the current study (See Table 3.7 for minimum criteria and decision-making rules). Hypotheses H_2 to H_{22} implied testing and interpreting the direction, magnitude and significance of proposed Γ bivariate relationships.

The standardised and unstandardised gamma values portrayed in Table 4.46 describe the relationship between latent variables by regressing η_i on ξ_j in the structural model (Kelloway, 1998). Hypotheses H_2 to H_{22} will be discussed subsequently, with reference to the sign, magnitude and significance of the relationship between value main effects and the attitude towards cultural diversity in every instance. All the *t-values* are highlighted in Table 4.46. It is advisable to compare the statistical results in this section with the *a priori* hypotheses formulated with regard to the specific relationship between values and the attitude towards cultural diversity (Refer to Tables 2.4 and 2.5).

Hypothesis 2: $H_{02:}\ \gamma_{21} = 0$; $H_{a2:}\ \gamma_{21} < .0$

It was hypothesised that a negative relationship existed between the *tradition* value and valuing of individual differences (VID). The significant t-value (-1.98) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables differed significantly from zero, therefore the null hypothesis stating that the *tradition* value has no statistically significant effect on VID could be rejected in favour of the alternative hypothesis. The sign of this significant gamma parameter estimate was in line with the *a priori* theorising. Lastly, the completely standardised gamma estimate reported a very strong relationship between the independent and dependent variables, which could be interpreted in regression terms as the rate of change in the dependent variable for any one-unit increase in the independent variable. Based on this description, a one-unit increase in the *tradition* value would result in a decrease of 0.85 units in the dependent variable (VID). Thus, statistical support for Hypothesis 2 was found.

Table 4.46: Substantive and statistical research hypotheses with accompanying statistical results of the generic structural model: gamma parameters (Final merged dataset: n = 531)								
SUBSTANTIVE HYPOTHESIS	**STATISTICAL HYPOTHESIS**	**STATISTICAL RESULTS**						
CDBS		**SVS**						
		Conservation	**Self-Transcendence:**			**Openness to Change**	**Hedonism (ξ_6)**	**Self-Enhancement**
Attitude Towards Cultural Diversity		Tradition (ξ_1)	Benevolence (ξ_2)	Ecological Welfare (ξ_3)	Fairness (ξ_4)	Stimulation (ξ_5)	Hedonism (ξ_6)	Power (ξ_7)
Unstandardised Γ (gamma) regression coefficients (γ_{ij}) describing the strength of the regression of η_i on ξ_j in the structural model								
Valuing Individual Differences Subscale (η_2)	$H_{02}: \gamma_{21} = 0$ $H_{a2}: \gamma_{21} < 0$	-0.85 (0.43) -1.98						
	$H_{05}: \gamma_{22} = 0$ $H_{a5}: \gamma_{22} > 0$		0.86 (0.34) 2.49					
	$H_{08}: \gamma_{23} = 0$ $H_{a8}: \gamma_{23} > 0$			-0.98 (0.43) -2.28				
	$H_{011}: \gamma_{24} = 0$ $H_{a11}: \gamma_{24} > 0$				1.03 (0.37) 2.74			
	$H_{014}: \gamma_{25} = 0$ $H_{a14}: \gamma_{25} > 0$					0.67 (0.32) 2.11		
	$H_{017}: \gamma_{26} = 0$ $H_{a17}: \gamma_{26} < 0$						-0.06 (0.24)	

	$H_{020}: \gamma_{27} = 0$ $H_{a20}: \gamma_{27} < 0$						-0.23	-0.32 (0.24) -1.33
Tolerance for Affirmative Action (η_1)	$H_{03}: \gamma_{11} = 0$ $H_{a3}: \gamma_{11} < 0$	-0.35 (0.34) -1.00						
	$H_{06}: \gamma_{12} = 0$ $H_{a6}: \gamma_{12} > 0$		0.20 (0.29) 0.71					
	$H_{09}: \gamma_{13} = 0$ $H_{a9}: \gamma_{13} > 0$			-0.88 (0.41) -2.17				
	$H_{012}: \gamma_{14} = 0$ $H_{a12}: \gamma_{14} > 0$				0.59 (0.34) 1.74			
	$H_{015}: \gamma_{15} = 0$ $H_{a15}: \gamma_{15} > 0$					0.51 (0.31) 1.66		
	$H_{018}: \gamma_{16} = 0$ $H_{a18}: \gamma_{16} < 0$						-0.14 (0.20) -0.72	
	$H_{021}: \gamma_{17} = 0$ $H_{a21}: \gamma_{17} < 0$							-0.24 (0.19) -1.22
Cultural Diversity as a Source of Competitive Advantage Subscale (η_3)	$H_{04}: \gamma_{31} = 0$ $H_{a4}: \gamma_{31} < 0$	0.15 (0.37) 0.40						
	$H_{07}: \gamma_{32} = 0$ $H_{a7}: \gamma_{32} > 0$		-0.11 (0.31) -0.36					
	$H_{010}: \gamma_{33} = 0$ $H_{a10}: \gamma_{33} > 0$			-0.64 (0.30) -2.16				

	$H_{013}: \gamma_{34} = 0$ $H_{a13}: \gamma_{34} > 0$				0.28 (0.28) 1.01			
	$H_{016}: \gamma_{35} = 0$ $H_{a16}: \gamma_{35} > 0$					0.61 (0.24) 2.55		
	$H_{019}: \gamma_{36} = 0$ $H_{a19}: \gamma_{36} < 0$						-0.21 (0.18) -1.17	
	$H_{022}: \gamma_{37} = 0$ $H_{a22}: \gamma_{37} > 0$							-0.03 (0.17) -0.18
Completely Standardised Γ (gamma) regression coefficients (γ_{ij}) describing the strength of the regression of η_i on ξ_j in the structural model								
Valuing Individual Differences Subscale (η_2)	$H_{02}: \gamma_{21} = 0$ $H_{a2}: \gamma_{21} < 0$	- 0.85						
	$H_{05}: \gamma_{22} = 0$ $H_{a5}: \gamma_{22} > 0$		0.86					
	$H_{08}: \gamma_{23} = 0$ $H_{a8}: \gamma_{23} > 0$			-0.98				
	$H_{011}: \gamma_{24} = 0$ $H_{a11}: \gamma_{24} > 0$				1.03			
	$H_{014}: \gamma_{25} = 0$ $H_{a14}: \gamma_{25} > 0$					0.67		

	$H_{017}: \gamma_{26} = 0$ $H_{a17}: \gamma_{26} < 0$						-0.06	
	$H_{020}: \gamma_{27} = 0$ $H_{a20}: \gamma_{27} < 0$							-0.32
Tolerance for Affirmative Action (η_1)	$H_{03}: \gamma_{11} = 0$ $H_{a3}: \gamma_{11} < 0$	-0.35						
	$H_{06}: \gamma_{12} = 0$ $H_{a6}: \gamma_{12} > 0$		0.20					
	$H_{09}: \gamma_{13} = 0$ $H_{a9}: \gamma_{13} > 0$			-0.88				
	$H_{012}: \gamma_{14} = 0$ $H_{a12}: \gamma_{14} > 0$				0.59			
	$H_{015}: \gamma_{15} = 0$ $H_{a15}: \gamma_{15} > 0$					0.51		
	$H_{018}: \gamma_{16} = 0$ $H_{a18}: \gamma_{16} < 0$						-0.14	
	$H_{021}: \gamma_{17} = 0$ $H_{a21}: \gamma_{17} < 0$							-0.24

Cultural Diversity as a Source of Competitive Advantage Subscale (η_3)	$H_{04:}\ \gamma_{31} = 0$ $H_{a4:}\ \gamma_{31} < 0$	0.15						
	$H_{07:}\ \gamma_{32} = 0$ $H_{a7:}\ \gamma_{32} > 0$		-0.11					
	$H_{010:}\ \gamma_{33} = 0$ $H_{a10:}\ \gamma_{33} > 0$			-0.64				
	$H_{013:}\ \gamma_{34} = 0$ $H_{a13:}\ \gamma_{34} > 0$				0.28			
	$H_{016:}\ \gamma_{35} = 0$ $H_{a16:}\ \gamma_{35} > 0$					0.61		
	$H_{019:}\ \gamma_{36} = 0$ $H_{a19:}\ \gamma_{36} < 0$						-0.21	
	$H_{022:}\ \gamma_{37} = 0$ $H_{a22:}\ \gamma_{37} > 0$							-0.03

Hypothesis 3: $H_{03:}\gamma_{11} = 0$; $H_{a3:}\gamma_{11} < 0$

It was hypothesised that a negative relationship existed between the *tradition* value and tolerance for affirmative action (AA). The non-significant t-value (-1.00) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the *tradition* value has no statistically significant effect on AA could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that there is a significant relationship between the *tradition* value and tolerance for affirmative action (AA). Hypothesis 3 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated. Thus, no statistical support for Hypothesis 3 was found.

Hypothesis 4: $H_{04:}\gamma_{31} = 0$; $H_{a4:}\gamma_{31} < 0$

It was hypothesised that a negative relationship existed between the *tradition* value and cultural diversity as a source of competitive advantage (CA). The non-significant t-value (0.40) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables does not differ significantly from zero and therefore the null hypothesis stating that the *tradition* value has no statistically significant effect on CA could not be refuted in favour of the alternative hypothesis. Statistically speaking the non-significant gamma parameter could be interpreted to mean that, if one assumed the null hypothesis to be true in the population, i.e. no significant relationship existed between the *tradition* value and CA, the chance of obtaining a result similar to the one in Hypothesis 4 in the sample is very good (Theron, 2007).

There was no conclusive evidence to suggest that a significant relationship between the *tradition* value and cultural diversity as a source of competitive advantage (CA) exists. Hypothesis 4 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 5: $H_{05:}\gamma_{22} = 0$; $H_{a5:}\gamma_{22} > 0$

It was hypothesised that a positive relationship existed between the *benevolence* value and valuing of individual differences (VID). The significant t-value (2.49) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables does differ significantly from zero and therefore the null hypothesis stating that the *benevolence* value has no statistically significant effect on VID could be rejected in favour of the alternative hypothesis. Statistically speaking, the significant gamma parameter could be interpreted to mean that, if one assumed the null hypothesis to be true of the population, i.e. no significant relationship existed between the *benevolence* value and VID, the chance of obtaining a result similar to the one for Hypothesis 5 in the sample would be small (Theron, 2007). Furthermore, the sign of this gamma parameter estimate was in line with the *a priori* theorising with regard to the relationship between the *benevolence* value and VID.

When interpreting the magnitude of the standardised gamma parameter coefficient (γ_{22}) on the basis of the minimum criteria and decision-making rules in Table 3.7, the magnitude of 0.86 can be interpreted as a strong relationship between the relevant latent variables. Conclusive evidence suggested that there is a significant relationship between the *benevolence* value and valuing of individual differences (VID) and therefore Hypothesis 5 could be considered substantially corroborated.

<u>Hypothesis 6:</u> $H_{06:}\,\gamma_{12} = 0$; $H_{a6:}\,\gamma_{12} > 0$

A positive relationship between the *benevolence* value and tolerance for affirmative action (AA) subscale was hypothesised. The non-significant t-value (0.71) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables does not differ significantly from zero and therefore the null hypothesis stating that the *benevolence* value has no statistically significant effect on AA could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that a significant relationship between the *benevolence* value and the tolerance for affirmative action (AA) subscale exists. Hypothesis 6 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 7: $H_{07:}\ \gamma_{32} = 0$; $H_{a7:}\ \gamma_{32} > 0$

A positive relationship between the *benevolence* value and cultural diversity as a source of competitive advantage (CA) subscale was hypothesised. The non-significant t-value (-0.36) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables does no differ significantly from zero and therefore the null hypothesis stating that the *benevolence* value has no statistically significant effect on CA could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that a significant relationship between the *benevolence* value and cultural diversity as a source of competitive advantage (CA) exists. Hypothesis 7 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 8: $H_{08:}\ \gamma_{23} = 0$; $H_{a8:}\ \gamma_{23} > 0$

It was hypothesised that a positive relationship existed between the *ecological welfare* value and valuing of individual differences (VID). The significant t-value (-2.28) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables does differ significantly from zero and therefore the null hypothesis stating that the *ecological welfare* value has no statistically significant effect on VID could be rejected.

What was of concern to see, was that the sign of this gamma parameter estimate explicating the relationship between the *ecological welfare* value and valuing of individual differences (VID) was not positive, as theorised. *Ecological welfare* was culled from the original *Universalism* value dimension and was hypothesised to have a strong positive relationship with VID, due to the apparent conceptual undertones of humanism and equality of the construct. *Universalism* has consistently been found to correlate significantly with numerous variables that promote harmony, for example, out-group contact, voting decisions, policy formulation and attitude toward immigrants (Schwartz, 2005). The motivational intent of *Universalism* is achieved through actions and attitudes expressing broadmindedness, equality, aesthetic investment, wisdom, spiritual life and protection of the environment. As a result, a strong positive relationship was expected between the *ecological welfare* value and

VID. Possible reasons for the strong negative relationship with regard to the *ecological welfare* value and VID are explored in Chapter 5.

When interpreting the magnitude of the standardised gamma parameter coefficient (γ_{23}) on the basis of the minimum criteria and decision-making rules in Table 3.7, the magnitude of -0.98 could be interpreted as a very strong negative relationship between the *ecological welfare* value and VID. However, the direction of the influence between the *ecological welfare* value and VID was not in line with initial theorising. Therefore, Hypothesis 8 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

<u>Hypothesis 9:</u> $H_{09:}\ \gamma_{13} = 0$; $H_{a9:}\ \gamma_{13} > 0$

It was hypothesised that a positive relationship existed between the *ecological welfare* value and the tolerance for affirmative action (AA). The significant t-value (-2.17) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables does differ significantly from zero and therefore the null hypothesis stating that the *ecological welfare* value has no statistically significant effect on AA could be rejected.

The sign of the gamma parameter estimate explicating the relationship between the *ecological welfare* value and tolerance for affirmative action (AA) was not positive, as was theorised. Like the hypothesised relationship between the *ecological welfare* value and valuing of individual differences (VID), the result came as a surprise, because a strong positive relationship was expected between the *Universalism* value and tolerance for affirmative action (AA).

Hypothesis 9 therefore did not survive the opportunity to be refuted and can therefore not be regarded as substantially corroborated.

<u>Hypothesis 10:</u> $H_{010:}\ \gamma_{33} = 0$; $H_{a10:}\ \gamma_{33} > 0$

A positive relationship between the *ecological welfare* value and cultural diversity as a source of competitive advantage (CA) subscale was hypothesised. The significant t-value (-2.16) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the *ecological welfare* value has no statistically significant effect on CA was rejected. Furthermore, the sign of this gamma parameter estimate was not in line with the *a priori* theorising with regard to the relationship between *ecological welfare* value and CA.

Contrary to initial theorising, a moderately strong, but negative, relationship between the *ecological welfare* value and CA was found.

When interpreting the magnitude of the standardised gamma parameter coefficient (γ_{33}) on the basis of the minimum criteria and decision-making rules in Table 3.7, the magnitude of -0.64 could be interpreted as a very strong negative relationship between the *ecological welfare* value and CA. Although conclusive evidence suggested that a significant relationship existed between the *ecological welfare* value and cultural diversity as a source of competitive advantage (CA), the inverse nature of the relationship refuted initial theorising. Therefore, Hypothesis 10 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

<u>Hypothesis 11:</u> $H_{011:}\gamma_{24} = 0$; $H_{a11:}\gamma_{24} > 0$

A positive relationship between the *fairness* value and the valuing individual differences (VID) subscale was hypothesised. The significant t-value (2.74) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the *fairness* value has no statistically significant effect on VID could be rejected in favour of the alternative hypothesis. The sign of this gamma parameter estimate was in line with the *a priori* theorising with regard to the relationship between the *fairness* value and VID.

A completely standardised gamma parameter estimate of 1.03 was reported with regard to the relationship between the *fairness* value and VID. The standardised gamma coefficient could be interpreted as the rate of change in the dependent variable due to a one-unit change in the independent variable. Therefore the reported standardised regression coefficient of 1.03 signifies that a one-unit increase in the fairness value will result in a 1.03-unit increase in VID. Thus, VID will increase proportionately at a greater rate of change in comparison with the *fairness* value.

Thus, statistical support for Hypothesis 11 was found.

Hypothesis 12: $H_{012:}\,\gamma_{14} = 0$; $H_{a12:}\,\gamma_{14} > 0$

It was hypothesised that a positive relationship existed between the *fairness* value and the tolerance for affirmative action (AA) subscale. The non-significant t-value (1.74) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the *fairness* value has no statistically significant effect on AA could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that a significant relationship between the *fairness* value and the tolerance for affirmative action (AA) subscale existed. Hypothesis 12 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 13: $H_{013:}\,\gamma_{34} = 0$; $H_{a13:}\,\gamma_{34} > 0$

A positive relationship between the *fairness* value and the cultural diversity as a source of competitive advantage (CA) subscale was hypothesised. The non-significant t-value (1.01) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the *fairness* value has no statistically significant effect on CA could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that a significant relationship between the *fairness* value and cultural diversity as a source of competitive advantage (CA) exists. Hypothesis 13 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 14: $H_{014:}\,\gamma_{25} = 0$; $H_{a14:}\,\gamma_{25} > 0$

A positive relationship between the *stimulation* value and the valuing individual differences (VID) subscale was hypothesised. The significant t-value (2.11) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the *stimulation* value has no statistically significant effect on VID could be rejected in favour of the alternative hypothesis. The sign of this gamma parameter estimate was in line with the *a priori* theorising.

When interpreting the magnitude of the standardised gamma parameter coefficient (γ_{25}) on the basis of the minimum criteria and decision-making rules in Table 3.7, the magnitude of 0.67 could be interpreted as a moderately strong positive relationship between the *stimulation* value and VID. Substantial evidence suggested that a significant relationship between the *stimulation* value and valuing of individual differences (VID) exists. Thus, statistical support for Hypothesis 14 was found.

<u>Hypothesis 15:</u> $H_{015:}\ \gamma_{15} = 0$; $H_{a15:}\ \gamma_{15} > 0$

A positive relationship between the *stimulation* value and tolerance for affirmative action (AA) was hypothesised. The non-significant t-value (1.66) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the *stimulation* value had no statistically significant effect on AA could not be rejected in favour of the alternative hypothesis. The sign of this gamma parameter estimate was in line with the *a priori* theorising.

Thus, no statistical support for hypothesis 14 was found.

<u>Hypothesis 16:</u> $H_{015:}\ \gamma_{35} = 0$; $H_{a15:}\ \gamma_{35} > 0$

A positive relationship between the *stimulation* value and cultural diversity as a source of competitive advantage (CA) was hypothesised. The significant t-value (2.55) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the *stimulation* value had no statistically significant effect on CA could be rejected in favour of the alternative hypothesis. The sign of this gamma parameter estimate was in line with the *a priori* theorising.

The completely standardised gamma estimation reported a value of 0.61, which could be regarded as a moderately strong relationship between the latent variables. Thus, statistical support for Hypothesis 16 was found.

<u>Hypothesis 17:</u> $H_{017:}\,\gamma_{26} = 0$; $H_{a17:}\,\gamma_{26} < 0$

A negative relationship between the *hedonism* value and the valuing individual differences (VID) subscale was hypothesised. The non-significant t-value (-0.23) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the *hedonism* value has no statistically significant effect on VID could be not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest a significant relationship between the *hedonism* value and the valuing individual differences (VID) subscale. Hypothesis 17 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

<u>Hypothesis 18:</u> $H_{018:}\,\gamma_{16} = 0$; $H_{a18:}\,\gamma_{16} < 0$

A negative relationship between the *hedonism* value and tolerance for affirmative action (AA) was hypothesised. The non-significant t-value (-0.72) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the *hedonism* value has no statistically significant effect on AA could be not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that a significant relationship between the *fairness* value and cultural diversity as a source of competitive advantage (CA) existed. In sum, the substantive relationship between the latent variables underlying Hypothesis 18, did not survive the opportunity to be refuted and, as a result, no valid inferences could be made from this hypothesis.

<u>Hypothesis 19:</u> $H_{019:}\ \gamma_{36} = 0$; $H_{a19:}\ \gamma_{36} < 0$

A negative relationship between the *hedonism* value and cultural diversity as a source of competitive advantage (CA) was hypothesised. The non-significant t-value (-1.17) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the *hedonism* value had no statistically significant effect on CA could be not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest a significant relationship between the *hedonism* value and cultural diversity as a source of competitive advantage (CA). Hypothesis 19 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

<u>Hypothesis 20:</u> $H_{020:}\ \gamma_{27} = 0$; $H_{a20:}\ \gamma_{27} < 0$

A negative relationship between the *power* value and valuing individual diversity (VID) was hypothesised. The non-significant t-value (-1.33) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the *power* value has no statistically significant effect on VID could not be rejected in favour of the alternative hypothesis.

In sum, the substantive relationship between the latent variables underlying Hypothesis 20, did not survive the opportunity to be refuted, with the result that no valid inferences could be deduced from this research hypothesis. Thus, no statistical support for Hypothesis 20 was found.

<u>Hypothesis 21:</u> $H_{021:}\ \gamma_{17} = 0$; $H_{a21:}\ \gamma_{17} < 0$

A negative relationship between the *power* value and tolerance for affirmative action (AA) was hypothesised. The non-significant t-value (-1.22) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the *power* value has no statistically significant effect on AA could not be rejected in favour of the alternative hypothesis.

In sum, the substantive relationship between the latent variables underlying Hypothesis 21 did not survive the opportunity to be refuted and, as a result, no valid inferences could be deduced from this research proposition. Thus, no statistical support for Hypothesis 11 was found.

Hypothesis 22: $H_{022:}\ \gamma_{37} = 0$; $H_{a22:}\ \gamma_{37} > 0$

A positive relationship between the *power* value and cultural diversity as a source of competitive advantage (CA) was hypothesised. The non-significant t-value (-0.18) could be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the *power* value has no statistically significant effect on CA could be not be rejected in favour of the alternative hypothesis.

In sum, the substantive relationship between the latent variables underlying Hypothesis 22, did not successfully survive the opportunity to be refuted and, as a result, no valid inferences could be deduced from this research proposition.

In summary, five of the 21 hypothesised gamma pathways reported statistically significant parameter estimates. The strength of the significant pathways ranged from 0.61, which could be interpreted as a moderately strong relationship, to 1.03, which, in turn, could be interpreted as a very strong relationship. Three of the significant gamma pathways contradicted the direction of the hypothesised relationship between latent variables: Hypotheses 8, 9 and 10 predicted a positive relationship between the *ecological welfare* value and the subscales comprising the attitude towards cultural diversity. Although all three relationships reported significant t-values; no statistical support was found for the direction of the hypothesised causal effects.

Of the twenty-two gamma pathways, only six individual pathway signs did not correspond to the original hypotheses. Moreover, only five hypotheses were supported by the statistical results.

- **Unstandardised and Completely Standardised Beta [β] parameters**

The unstandardised and completely standardised β matrix portrays the estimated path coefficients (β_{ij}), expressing the strength of the influence of η_j on η_i. A statistically significant relationship ($p < 0.05$) would imply that the null hypothesis could be rejected in favour of the alternative hypothesis. As with the gamma parameter estimates, both the standardised and unstandardised beta parameter estimates are reported in Table 4.47.

Table 4.47: Substantive and statistical research hypotheses with accompanying statistical results of the generic structural model: Beta parameters (Final merged dataset: n = 531)

SUBSTANTIVE HYPOTHESIS	**STATISTICAL HYPOTHESIS**	**STATISTICAL RESULTS**		
CDBS	**CDBS**			
Attitude Towards Cultural Diversity	**Attitude Towards Cultural Diversity**	**VID (η_2)**	**AA (η_1)**	**CA (η_3)**
Unstandardised β (beta) regression coefficients (β_{ij}) describing the strength of the regression of η_i on η_j in the structural model				
VALUING INDIVIDUAL DIFFERENCE SUBSCALE (η_2)	H_{023}: $\beta_{12} = 0$ H_{a23}: $\beta_{12} > 0$ H_{023}: $\beta_{32} = 0$ H_{a23}: $\beta_{32} > 0$		0.43 (0.12) 3.49	0.75 (0.13) 5.97
TOLERANCE FOR AFFIRMATIVE ACTION (η_1)				
CULTURAL DIVERSITY AS A SOURCE OF COMPETITIVE ADVANTAGE (η_3)				
Standardised β (beta) regression coefficients (β_{ij}) describing the strength of the regression of η_i on η_j in the structural model				

VALUING INDIVIDUAL DIFFERENCE SUBSCALE (η_2)	H_{024}: $\beta_{12} = 0$ H_{a24}: $\beta_{12} > 0$ H_{024}: $\beta_{32} = 0$ H_{a24}: $\beta_{32} > 0$		0.43	0.75
TOLERANCE FOR AFFIRMATIVE ACTION (η_1)				
CULTURAL DIVERSITY AS A SOURCE OF COMPETITIVE ADVANTAGE (η_3)				

Hypotheses H_{23} and H_{24} will be discussed subsequently, with reference to the sign, magnitude and significance of the relationship between subscales comprising the attitude towards cultural diversity in each instance. All the *t-values* are highlighted in Table 4.47. It is advisable to compare the statistical results in this section with the *a priori* hypotheses formulated with regard to the relationship between values and the attitude towards cultural diversity (Refer to Tables 2.4 and 2.5).

Hypothesis 23: $H_{023:}\ \gamma_{12} = 0$; $H_{a23:}\ \gamma_{12} > 0$

A positive relationship between the valuing individual differences (VID) subscale and the tolerance for affirmative action (AA) subscales was hypothesised. The significant t-value (3.49) could be interpreted as *prima facie* evidence that the hypothesised relationship between the endogenous latent variables differed significantly from zero and therefore the null hypothesis stating that VID has no statistically significant effect on AA could be rejected in favour of the alternative hypothesis. The sign of this beta parameter estimate was in line with the *a priori* theorising.

The completely standardised beta estimation reported a value of 0.43, which could be regarded as a moderately strong relationship between the endogenous latent variables. The balance of evidence seemed to suggest that VID had a statistically significant influence on AA. Thus statistical support for Hypothesis 23 was found.

Hypothesis 24: $H_{024:}\ \gamma_{32} = 0$; $H_{a24:}\ \gamma_{32} > 0$

A positive relationship between the valuing individual differences (VID) subscale and cultural diversity as a source of competitive advantage (CA) subscale was hypothesised. The significant t-value (5.97) could be interpreted as *prima facie* evidence that the hypothesised relationship between the endogenous latent variables differed significantly from zero and therefore the null hypothesis stating that VID has no statistically significant effect on CA could be rejected in favour of the alternative hypothesis. The sign of this beta parameter estimate was in line with the *a priori* theorising.

The completely standardised beta estimation reported a value of 0.75, which could be regarded as a strong relationship between the endogenous latent variables. The balance of evidence seemed to suggest that VID has a statistically significant influence on CA.

In summary, the beta parameter estimates suggested that VID has a statistically significant influence on tolerance for affirmative action (AA) and cultural diversity as a source of competitive advantage (CA). The magnitude of the beta loadings ranged between 0.43 and 0.75, which could be regarded as moderate to strong relationships between variables. The direction of the hypothesised beta pathways were in line with initial theorising. Hypotheses 23 and 24 survived the opportunity to be refuted and could therefore be regarded as substantially corroborated.

- **Unstandardised total and indirect effects**

The LISREL programme generates a decomposition of the total and indirect effects between latent variables included in a structural model. Indirect effects capture the influence of an independent variable on a dependent variable via a mediating variable. Indirect effects are calculated by multiplying the unstandardised parameter estimates of the paths comprising the indirect effect (Diamantopoulos & Siguaw, 2000). Total effects, on the other hand, are generated by adding the direct effect of a variable to its indirect effect. For variables that do not channel direct effects on other variables through intervening variables, the total effect is equal to the direct effect. Therefore, beta and gamma parameter estimates should correspond with the direct effects for variables that do not exert influence on dependent variables via mediating variables. As with the unstandardised gamma and beta parameter estimates, LISREL also computes an estimated standard error and an accompanying t-value for each direct and indirect effect in the model (Jöreskog & Sörbom, 1996).

The generic structural model as depicted in Figure 4.5 contains fourteen indirect effects, in which the influence of ksi (values) on eta (AA and CA) is mediated by VID. Seven of the fourteen indirect effects are significant, i.e. H_0 stating that VID does not mediate the relationship between values and CA, or AA was rejected ($p < 0.05$).

Table 4.48 contains each of the fourteen estimated indirect effects, as well as the estimated standard error and accompanying t-value. Each one of the fourteen indirect effects will be discussed subsequently.

<u>Hypothesis 25:</u> $H_{025:}\,\gamma_{21}\beta_{12} = 0$; $H_{a25:}\,\gamma_{21}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *tradition* value on tolerance of affirmative action (AA) is mediated by the VID. The non-significant t-value (-1.77) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables does not differ significantly from zero and therefore the null hypothesis stating that the relationship between the *tradition* value and AA are not mediated by VID could not be rejected in favour of the alternative hypothesis.

No evidence suggested conclusively that the relationship between the *tradition* value and the tolerance for affirmative action (AA) subscale are significantly ($p<0.05$) mediated by VID. Hypothesis 25 did not survive the opportunity to be refuted and can therefore not be regarded as substantially corroborated. Thus, no statistical support for Hypothesis 25 was found.

Table 4.48: Substantive and statistical research hypotheses with accompanying statistical results of the generic structural model: Indirect effects (Final merged dataset: n = 531)

SUBSTANTIVE HYPOTHESIS	STATISTICAL HYPOTHESIS	STATISTICAL RESULTS						
		SVS						
CDBS		**Conservation**	**Self-Transcendence:**			**Openness to Change**	**Hedonism (ξ_6):**	**Self-Enhancement:**
Attitude Towards Cultural Diversity		Tradition (ξ_1)	Benevolence (ξ_2)	Ecological Welfare (ξ_3)	Fairness (ξ_4)	Stimulation (ξ_5)	Hedonism (ξ_6)	Power (ξ_7)
The mediating effect of VID on the relationship between values and AA and CA								
Tolerance for Affirmative Action (η_1)	$H_{025}: \gamma_{21}\beta_{12} = 0$ $H_{a25}: \gamma_{21}\beta_{12} > 0$	-0.36 (0.20) -1.77						
	$H_{027}: \gamma_{22}\beta_{12} = 0$ $H_{a27}: \gamma_{22}\beta_{12} > 0$		0.37 (0.18) 2.02					
	$H_{029}: \gamma_{23}\beta_{12} = 0$ $H_{a29}: \gamma_{23}\beta_{12} > 0$			-0.42 (0.16) -2.69				
	$H_{031}: \gamma_{24}\beta_{12} = 0$ $H_{a31}: \gamma_{24}\beta_{12} > 0$				0.44 (0.15) 2.95			
	$H_{033}: \gamma_{25}\beta_{12} = 0$ $H_{a33}: \gamma_{25}\beta_{12} > 0$					0.29 (0. 10) -0.23		
	$H_{035}: \gamma_{26}\beta_{12} = 0$ $H_{a35}: \gamma_{26}\beta_{12} > 0$						-0.02 (0.10) -0.23	
	$H_{037}: \gamma_{27}\beta_{12} = 0$ $H_{a37}: \gamma_{27}\beta_{12} > 0$							-0.14 (0.10) -1.34

Cultural Diversity as a Source of Competitive Advantage Subscale (η_3)	$H_{026}: \gamma_{21}\beta_{32} = 0$ $H_{a26}: \gamma_{21}\beta_{32} > 0$	-0.64 (0.33) -1.93						
	$H_{028}: \gamma_{22}\beta_{32} = 0$ $H_{a28}: \gamma_{22}\beta_{32} > 0$		0.64 (0.27) 2.35					
	$H_{030}: \gamma_{23}\beta_{32} = 0$ $H_{a30}: \gamma_{23}\beta_{32} > 0$			-0.74 (0.30) -2.44				
	$H_{032}: \gamma_{24}\beta_{32} = 0$ $H_{a32}: \gamma_{24}\beta_{32} > 0$				0.77 (0.27) 2.89			
	$H_{034}: \gamma_{25}\beta_{32} = 0$ $H_{a34}: \gamma_{25}\beta_{32} > 0$					0.50 (0.23) 2.23		
	$H_{036}: \gamma_{26}\beta_{32} = 0$ $H_{a36}: \gamma_{26}\beta_{32} > 0$						-0.04 (0.18) -0.23	
	$H_{038}: \gamma_{27}\beta_{32} = 0$ $H_{a38}: \gamma_{27}\beta_{32} > 0$							-0.24 (0.18) -1.33

Hypothesis 26: $H_{026:}\ \gamma_{21}\beta_{32} = 0$; $H_{a26:}\ \gamma_{21}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *tradition* value on cultural diversity as a source of competitive advantage (CA) is mediated by the VID. The non-significant t-value (-1.93) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables does not differ significantly from zero and therefore the null hypothesis stating that the relationship between the *tradition* value and CA are not mediated by VID could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that the relationship between the *tradition* value and the cultural diversity as a source of competitive advantage (CA) subscale are significantly ($p < 0.05$) mediated by VID. Thus, no statistical support for Hypothesis 26 was found.

Hypothesis 27: $H_{027:}\ \gamma_{22}\beta_{12} = 0$; $H_{a27:}\ \gamma_{22}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *benevolence* value on tolerance for affirmative action (AA) is mediated by the VID. The significant t-value (2.02) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the relationship between the *benevolence* value and AA are not mediated by VID could be rejected in favour of the alternative hypothesis. The sign of this parameter estimate is in line with the *a priori* theorising.

The strength of the indirect relationship was 0.37, which could be regarded as a definite but small indirect relationship between the latent variables. The balance of evidence seemed to suggest that the relationship between the *benevolence* value and AA was mediated by VID. Thus, statistical support for Hypothesis 27 was found.

Hypothesis 28: $H_{028:}\ \gamma_{22}\beta_{32} = 0$; $H_{a28:}\ \gamma_{22}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *benevolence* value on cultural diversity as a source of competitive advantage (CA) is mediated by the VID. The significant t-value (2.35) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the relationship between the *benevolence* value and CA was not mediated by VID could be rejected in favour of the alternative hypothesis. The sign of this parameter estimate was in line with the *a priori* theorising.

The magnitude of the indirect relationship was 0.64, which could be regarded as a substantial relationship between the latent variables. The balance of evidence seemed to suggest that the relationship between the *benevolence* value and CA is was mediated by VID. Thus, statistical support for Hypothesis 28 was found.

Hypothesis 29: $H_{029:}\gamma_{23}\beta_{12} = 0$; $H_{a29:}\gamma_{23}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *ecological welfare* value on tolerance for affirmative action (AA) was mediated by the VID. The significant t-value (-2.69) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the relationship between the *ecological welfare* value and CA was not mediated by VID could be rejected in favour of the alternative hypothesis. The sign of this parameter estimate was not congruent with the *a priori* theorising.

This relationship between the *ecological welfare* value and the subscales comprising the attitude towards cultural diversity was somewhat unexpected. A strong positive relationship was expected between the *ecological welfare* values and all three subscales comprising the attitude towards cultural diversity. No substantial grounds could be found to explain the very strong negative indirect relationship between *ecological welfare* and all three subscales comprising the attitude towards cultural diversity.

A moderately strong negative relationship (-0.42) was reported between the *ecological welfare* value and tolerance for affirmative action (AA). Given this evidence, it could be argued that people who value *ecological welfare* strongly, would be averse to affirmative action initiatives. The balance of evidence seemed to suggest that the relationship between the *ecological welfare* value and AA was mediated by VID. However, the direction of the influence of the *ecological welfare* value on AA was in conflict with *a priori* theorising. Thus, no conclusive statistical support was found for Hypothesis 29.

Hypothesis 30: $H_{030:}\ \gamma_{23}\beta_{32} = 0$; $H_{a30:}\ \gamma_{23}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *ecological welfare* value on cultural diversity as a source of competitive advantage (CA) is mediated by the VID. The significant t-value (-2.44) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the relationship between the *ecological welfare* value and CA was not mediated by VID could be rejected in favour of the alternative hypothesis. The sign of this parameter estimate was not congruent with the *a priori* theorising.

This relationship between the *ecological welfare* value and the subscales comprising the attitude towards cultural diversity was somewhat unexpected; a strong positive relationship was expected between the *ecological welfare* values and all three subscales comprising the attitude towards cultural diversity. In addition, a significant negative relationship was reported for the indirect effect of VID on the relationship between *ecological welfare* values and AA.

A strong negative relationship (-0.74) was reported between the *ecological welfare* value and cultural diversity as a source of competitive advantage (CA). Given this evidence, it could be argued that people that value *ecological welfare* strongly would be opposed to cultural diversity initiatives, even if it has the ability to increase the competitive advantage of the organisation. The strong negative relationship between the *ecological welfare* value and CA was not congruent with initial theorising. The balance of evidence seemed to suggest that the relationship between the *ecological welfare* value and CA was mediated by VID. However, the direction of the influence of the *ecological welfare* value on CA was in conflict with *a priori* theorising.

<u>Hypothesis 31:</u> $H_{031:}\,\gamma_{24}\beta_{12} = 0$; $H_{a31:}\,\gamma_{24}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *fairness* value on tolerance for affirmative action (AA) is mediated by the VID. The significant t-value (2.95) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the relationship between the *fairness* value and AA was not mediated by VID could be rejected in favour of the alternative hypothesis. The sign of this parameter estimate was congruent with the *a priori* theorising.

A moderately strong positive relationship (0.44) was reported between the *fairness* value and tolerance for affirmative action (AA). The moderately strong positive relationship between the *fairness* value and AA was congruent with initial theorising. The balance of evidence seemed to suggest that the relationship between the *fairness* value and AA was mediated by VID. Thus, statistical support for Hypothesis 31 was found.

<u>Hypothesis 32:</u> $H_{032:}\,\gamma_{24}\beta_{32} = 0$; $H_{a32:}\,\gamma_{24}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *fairness* on cultural diversity as a source of competitive advantage (CA) is mediated by the VID. The significant t-value (2.89) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the relationship between the *fairness* value and CA was not mediated by VID could be rejected in favour of the alternative hypothesis. The sign of this parameter estimate was congruent with the *a priori* theorising.

A strong positive relationship (0.77) was reported between the *fairness* value and cultural diversity as a source of competitive advantage (CA). The strong positive relationship between the *fairness* value and CA was congruent with initial theorising. The balance of evidence seemed to suggest that the relationship between the *fairness* value and CA was mediated by VID. Thus, statistical support for Hypothesis 32 was found.

Hypothesis 33: $H_{033:}\ \gamma_{25}\beta_{12} = 0$; $H_{a33:}\ \gamma_{25}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *stimulation* value on tolerance for affirmative action (AA) is mediated by the VID. The non-significant t-value (-0.23) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the relationship between the *stimulation* value and AA was not mediated by VID could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that the relationship between the *stimulation* value and the tolerance for affirmative action (AA) subscale was significantly ($p < 0.05$) mediated by VID. Hypothesis 33 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 34: $H_{034:}\ \gamma_{25}\beta_{32} = 0$; $H_{a34:}\ \gamma_{25}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *stimulation* value on cultural diversity as a source of competitive advantage (CA) is mediated by the VID. The significant t-value (2.23) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis stating that the relationship between the *stimulation* value and CA was not mediated by VID could be rejected in favour of the alternative hypothesis. The sign of this parameter estimate was in line with *a priori* theorising.

A moderately strong relationship (0.50) was reported between the *stimulation* value and cultural diversity as a source of competitive advantage (CA). The moderately strong positive relationship between the *stimulation* value and CA was congruent with initial theorising. The balance of evidence seemed to suggest that the relationship between the *stimulation* value and CA was mediated by VID. Thus, statistical support for Hypothesis 34 was found.

<u>Hypothesis 35:</u> $H_{035:}\,\gamma_{26}\beta_{12} = 0$; $H_{a35:}\,\gamma_{26}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *hedonism* value on tolerance for affirmative action (AA) is mediated by the VID. The non-significant t-value (-0.23) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the relationship between the *hedonism* value and AA was not mediated by VID could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that the relationship between the *hedonism* value and the tolerance for affirmative action (AA) subscale was significantly ($p < 0.05$) mediated by VID. Hypothesis 35 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

<u>Hypothesis 36:</u> $H_{036:}\,\gamma_{26}\beta_{32} = 0$; $H_{a36:}\,\gamma_{26}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *hedonism* value on cultural diversity as a source of competitive advantage (CA) is mediated by the VID. The non-significant t-value (-0.23) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the relationship between the *hedonism* value and CA was not mediated by VID could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that the relationship between the *hedonism* value and the cultural diversity as a source of competitive advantage (CA) subscale was significantly ($p < 0.05$) mediated by VID. Hypothesis 36 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 37: $H_{037:}\ \gamma_{27}\beta_{12} = 0$; $H_{a37:}\ \gamma_{27}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *power* value on tolerance for affirmative action (AA) is mediated by the VID. The non-significant t-value (-1.34) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the relationship between the *power* value and AA was not mediated by VID could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that the relationship between the *power* value and the tolerance for affirmative action (AA) subscale was significantly ($p < 0.05$) mediated by VID. Hypothesis 37 did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 38: $H_{038:}\ \gamma_{27}\beta_{32} = 0$; $H_{a38:}\ \gamma_{27}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that the influence of the *power* value on cultural diversity as a source of competitive advantage (CA) is mediated by VID. The non-significant t-value (-1.33) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis stating that the relationship between the *power* value and AA was not mediated by VID could not be rejected in favour of the alternative hypothesis.

It was argued that an individual who has a high regard for *power* values will endorse cultural diversity if it is believed to lead to the attainment of a competitive advantage for the organisation in the marketplace, because this belief, in turn, will be instrumental to the satisfaction of highly prioritised power motives. No conclusive statistical evidence was found that suggested the substantive reasoning underlying Hypothesis 38 was indeed vindicated in the current study.

In summary, seven of the fourteen hypothesised indirect effects of Ksi on Eta reported statistically significant parameter estimates, although only five were completely in line with *a priori* theorising, as far as directionality and statistical significance were concerned. Table

4.48 indicates that the magnitude of the statistically significant indirect relationships ranged from moderately strong coefficients (e.g. 0.37) to strong coefficients (e.g. 0.77). The direction of the reported relationships was congruent with initial theorising for all the hypothesised indirect relationships, except for the *ecological welfare* value. The influence of the *ecological welfare* value on AA and CA, mediated by VID, was expected to be positive. However, strong negative relationships were reported between the *ecological welfare* values, AA and CA. Similar results were reported with regard to the gamma coefficients of the *ecological welfare* value, as shown in Table 4.46.

- **Unstandardised total effects of Eta on Eta**

The total effect of valuing individual differences (VID) on tolerance for affirmative action (AA) and cultural diversity as a source of competitive advantage (CA) is equal to the direct effects reported in the beta matrix in Table 4.45 and will not be reported individually.

- **Unstandardised total effects of Ksi on Eta**

The unstandardised total effects of Ksi on Eta are reported in Table 4.49. The nature and strength of the influence of the exogenous latent variables on the endogenous latent variables are captured by the total effect of ksi on eta. Since it was hypothesised that the relationship between values and valuing individual differences (VID) are not mediated by an intervening variable, the reported gamma parameter estimates for these specific pathways are the same as the total effects. On the other hand, the relationship between values and tolerance for affirmative action (AA) and cultural diversity as a source of competitive advantage (CA) is mediated by valuing individual differences (VID). For these pathways, the total effects were computed by adding the value main effects, captured in the gamma matrices, with the indirect effects of VID on AA and CA (Reported in Table 4.48).

The generic structural model as depicted in Figure 4.5 contains fourteen indirect effects, where the influence of ksi (values) on AA and CA are believed to be mediated by VID. Table 4.48 contains each of the fourteen estimated indirect effects, as well as the estimated standard error and accompanying t-value.

The total effects are the product of the direct and indirect effects of Ksi on Eta. Each one of the fourteen total effects will be discussed subsequently.

Hypothesis 25a: $H_{025a:}\ \gamma_{21}\beta_{12} = 0$; $H_{a25a:}\ \gamma_{21}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a strong negative relationship existed between the *tradition* value and tolerance for affirmative action (AA). The non-significant t-value (-1.62) could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis, $H_{025a:}\ \gamma_{21}\beta_{12} = 0$, stating that no statistically significant relationship existed between the *tradition* value and AA could not be rejected in favour of the alternative hypothesis, $H_{a25a:}\ \gamma_{21}\beta_{12} > 0$.

No conclusive evidence was found to suggest that the total effect of the *tradition* value on the tolerance for affirmative action (AA) subscale was statistically significant ($p < 0.05$). Hypothesis 25a did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated. Thus, no statistical support for Hypothesis 25a was found.

Table 4.49: Substantive and statistical research hypotheses with accompanying statistical results of the generic structural model: Total effects of Ksi on Eta (Final merged dataset: n = 531)

SUBSTANTIVE HYPOTHESIS	STATISTICAL HYPOTHESIS	STATISTICAL RESULTS						
		SVS						
CDBS		**Conservation**	**Self-Transcendence:**			**Openness to Change**	**Hedonism (ξ_6):**	**Self-Enhancement:**
Attitude Towards Cultural Diversity		Tradition (ξ_1)	Benevolence (ξ_2)	Ecological Welfare (ξ_3)	Fairness (ξ_4)	Stimulation (ξ_5)	Hedonism (ξ_6)	Power (ξ_7)
Unstandardised total effects of Ksi (ξ_j) or Eta (η_i) on Eta (η_j) as mediated by η_k								
Tolerance for Affirmative Action (η_1)	$H_{025a:}\ \gamma_{21}\beta_{12} = 0$ $H_{a25a:}\ \gamma_{21}\beta_{12} > 0$	-0.71 (0.44) -1.62						
	$H_{027a:}\ \gamma_{22}\beta_{12} = 0$ $H_{a27a:}\ \gamma_{22}\beta_{12} > 0$		0.57 (0.36) 1.58					
	$H_{029a:}\ \gamma_{23}\beta_{12} = 0$ $H_{a29a:}\ \gamma_{23}\beta_{12} > 0$			-1.30 (0.47) -2.74				
	$H_{031a:}\ \gamma_{24}\beta_{12} = 0$ $H_{a31a:}\ \gamma_{24}\beta_{12} > 0$				1.03 (0.39) 2.66			
	$H_{033a:}\ \gamma_{25}\beta_{12} = 0$ $H_{a33a:}\ \gamma_{25}\beta_{12} > 0$					0.80 (0. 36) 2.23		
	$H_{035a:}\ \gamma_{26}\beta_{12} = 0$ $H_{a35a:}\ \gamma_{26}\beta_{12} > 0$						-0.17 (0.27) -0.61	
	$H_{037a:}\ \gamma_{27}\beta_{12} = 0$ $H_{a37a:}\ \gamma_{27}\beta_{12} > 0$							-0.37 (0.25) -1.52

Cultural Diversity as a Source of Competitive Advantage Subscale (η_3)	$H_{026a:}\ \gamma_{21}\beta_{32} = 0$ $H_{a26a:}\ \gamma_{21}\beta_{32} > 0$	-0.49 (0.51) -0.96						
	$H_{028a:}\ \gamma_{22}\beta_{32} = 0$ $H_{a28a:}\ \gamma_{22}\beta_{32} > 0$		0.53 (0.42) 1.28					
	$H_{030a:}\ \gamma_{23}\beta_{32} = 0$ $H_{a30a:}\ \gamma_{23}\beta_{32} > 0$			-1.38 (0.47) -2.93				
	$H_{032a:}\ \gamma_{24}\beta_{32} = 0$ $H_{a32a:}\ \gamma_{24}\beta_{32} > 0$				1.05 (0.41) 2.57			
	$H_{034a:}\ \gamma_{25}\beta_{32} = 0$ $H_{a34a:}\ \gamma_{25}\beta_{32} > 0$					1.12 (0.36) 3.12		
	$H_{036a:}\ \gamma_{26}\beta_{32} = 0$ $H_{a36a:}\ \gamma_{26}\beta_{32} > 0$						-0.25 (0.30) -0.85	
	$H_{038a:}\ \gamma_{27}\beta_{32} = 0$ $H_{a38a:}\ \gamma_{27}\beta_{32} > 0$							-0.28 (0.27) -1.01

Hypothesis 26a: $H_{026a:}\ \gamma_{21}\beta_{32} = 0$; $H_{a26a:}\ \gamma_{21}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a strong negative relationship existed between the *tradition* value and cultural diversity as a source of competitive advantage (CA). The non-significant t-value (-0.96) signified that the null hypothesis stating that the total effect of the *tradition* value (ξ_1) targeted by CA (η_3) and mediated by VID (η_2), $H_{026a:}\ \gamma_{21}\beta_{32} = 0$, was equal to zero and could not be rejected ($p < 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *tradition* value and CA, could not be rejected in favour of the alternative hypothesis.

There was no conclusive evidence to suggest that the total effect of the *tradition* value on the cultural diversity as a source of competitive advantage (CA) subscale was statistically significant ($p < 0.05$). Hypothesis 26a did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 27a: $H_{027:}\ \gamma_{22}\beta_{12} = 0$; $H_{a27:}\ \gamma_{22}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a positive relationship existed between the *benevolence* value and tolerance for affirmative action (AA). The non-significant t-value (1.58) signified that the null hypothesis stating that the total effect of the *benevolence* value (ξ_2) targeted by AA (η_1) and mediated by VID (η_2), $H_{027a:}\ \gamma_{22}\beta_{12} = 0$, was equal to zero and could subsequently not be rejected with an acceptable level of confidence ($p< 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *benevolence* value and AA, could not be rejected in favour of the alternative hypothesis, $H_{a27a:}\ \gamma_{22}\beta_{12} > 0$.

There was no conclusive evidence to suggest that the total effect of the *benevolence* value on the tolerance for affirmative action (AA) subscale is statistically significant ($p < 0.05$). Hypothesis 27a did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 28a: $H_{028a:}\ \gamma_{22}\beta_{32} = 0$; $H_{a28a:}\ \gamma_{22}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a positive relationship existed between the *benevolence* value and cultural diversity as a source of competitive advantage (CA). The non-significant t-value (1.28) indicated that the null hypothesis stating that the total effect of the *benevolence* value (ξ_2) targeted by CA (η_3) and mediated by VID (η_2), $H_{028a:}\ \gamma_{22}\beta_{32} = 0$, was equal to zero and could subsequently not be rejected with an acceptable level of confidence ($p < 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *benevolence* value and CA, could not be rejected in favour of the alternative hypothesis, $H_{a28a:}\ \gamma_{22}\beta_{32} > 0$.

There was no conclusive evidence to suggest that the total effect of the *benevolence* value on the cultural diversity as a source of competitive advantage (CA) subscale was statistically significant ($p < 0.05$). Hypothesis 28a did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

Hypothesis 29a: $H_{029a:}\ \gamma_{23}\beta_{12} = 0$; $H_{a29:}\ \gamma_{23}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a positive relationship existed between the *ecological welfare* value and tolerance for affirmative action (AA). The significant t-value (-2.74) signified that the null hypothesis stating that the total effect of the *ecological welfare* value (ξ_3) targeted by AA (η_1) and mediated by VID (η_2), $H_{029a:}\ \gamma_{23}\beta_{12} = 0$, was equal to zero was subsequently rejected with an acceptable level of confidence ($p < 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did differ significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *ecological welfare* value and AA, was rejected in favour of the alternative hypothesis, $H_{a29a:}\ \gamma_{23}\beta_{12} > 0$. The negative sign of the reported parameter estimate was not congruent with *a priori* theorising.

The magnitude of the parameter reported a value of -1.30, which could be regarded as a very strong relationship between the latent variables. According to Jöreskog and Sörbom (1996), parameter estimates in excess of unity is permissible since linkages between latent variables in SEM adhere to the general premises of regression analysis. Regression theory dictates that coefficients that report values in excess of unity, simply mean that the accompanying change in the dependent variable brought about as a result of a one-unit change in the independent variable, exceeds one (Kahane, 2001). Stated more simply, the consequential change in the dependent variable due to a change in the dependent variable is more pronounced with regard to the dependent variable relative to the independent variable.

Keeping this in mind, the balance of evidence seemed to suggest that a significant relationship existed between the *ecological welfare* value main effect and tolerance for affirmative action (AA), although the direction of the influence was not in line with initial theorising. Thus, Hypothesis 29a was not corroborated.

Hypothesis 30a: $H_{030a:}\ \gamma_{23}\beta_{32} = 0$; $H_{a30a:}\ \gamma_{23}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a positive relationship existed between the *ecological welfare* value and cultural diversity as a source of competitive advantage (CA). The significant t-value (-2.93) signified that the null hypothesis stating that the total effect of the *ecological welfare* value (ξ_3) targeted by CA (η_3) and mediated by VID (η_2), $H_{030a:}\ \gamma_{23}\beta_{32}$

= 0, was equal to zero and was subsequently rejected with an acceptable level of confidence ($p < 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *ecological welfare* value and CA, was rejected in favour of the alternative hypothesis, $H_{a30a:}\ \gamma_{23}\beta_{32} > 0$. The negative sign of the reported parameter estimate was not congruent with *a priori* theorising. The direction of the influence of the *ecological welfare* value on AA was in conflict with *a priori* theorising. Thus, no statistical support for was found for hypothesis 30a.

Hypothesis 31a: $H_{031a:}\ \gamma_{24}\beta_{12} = 0$; $H_{a31a:}\ \gamma_{24}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a positive relationship existed between the *fairness* value and tolerance for affirmative action (AA). The significant t-value (2.66) signifies that the null hypothesis stating that the total effect of the *fairness* value (ξ_4) targeted by AA (η_1) and mediated by VID (η_2), $H_{031a:}\ \gamma_{24}\beta_{12} = 0$, was equal to zero and was subsequently rejected with an acceptable level of confidence ($p < 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *fairness* value and AA, was rejected in favour of the alternative hypothesis, $H_{a31a:}\ \gamma_{24}\beta_{12} > 0$. The positive sign of the reported parameter estimate was congruent with *a priori* theorising.

The magnitude of the parameter reported a value of 1.03, which could be regarded as a very strong relationship between the latent variables. According to Jöreskog and Sörbom (1996), parameter estimates in excess of unity is permissible since theoretical linkages between latent variables in SEM are built on the general premises of regression analysis. Regression theory dictates that coefficients that report values in excess of unity, simply mean that the accompanying change in the dependent variable brought about as a result of a one-unit change in the independent variable, exceeds one (Kahane, 2001). Stated more simply, the consequential change in the dependent variable due to a change in the independent variable is more pronounced with regard to the dependent variable, compared to the independent variable.

Keeping this in mind, the balance of evidence seemed to suggest that a positive significant relationship existed between the *fairness* value total effect and tolerance for affirmative action (AA). Thus, statistical support for was found for Hypothesis 31a.

Hypothesis 32a: $H_{032a:}\ \gamma_{24}\beta_{32} = 0$; $H_{a32a:}\ \gamma_{24}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a positive relationship existed between the *fairness* value and cultural diversity as a source of competitive advantage (CA). The significant t-value (2.57) signified that the null hypothesis stating that the total effect of the *fairness* value (ξ_4) targeted by CA (η_3) and mediated by VID (η_2), $H_{032a:}\ \gamma_{24}\beta_{32} = 0$, was equal to zero was subsequently rejected with an acceptable level of confidence ($p < 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *fairness* value and CA, was rejected in favour of the alternative hypothesis, $H_{a32a:}\ \gamma_{24}\beta_{32} > 0$. The positive sign of the reported parameter estimate was congruent with *a priori* theorising.

The magnitude of the parameter reported a value of 1.05, which could be regarded as a very strong relationship between the latent variables. The balance of evidence seemed to suggest that the *fairness* value total effect has a statistically significant influence on cultural diversity as a source of competitive advantage (CA).

Hypothesis 33a: $H_{033a:}\ \gamma_{25}\beta_{12} = 0$; $H_{a33a:}\ \gamma_{25}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a positive relationship existed between the

stimulation value and tolerance for affirmative action (AA). The significant t-value (2.23) signified that the null hypothesis stating that the total effect of the *stimulation* value (ξ_5) targeted by AA (η_1) and mediated by VID (η_2), $H_{033a:}\ \gamma_{25}\beta_{12} = 0$, was equal to zero and was subsequently rejected with an acceptable level of confidence ($p < 0.05$).
This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *stimulation* value and AA, was rejected in favour of the alternative hypothesis, $H_{a33a:}\ \gamma_{25}\beta_{12} > 0$. The positive sign of the reported parameter estimate was congruent with *a priori* theorising.

The magnitude of the parameter reported a value of 0.80, which can be regarded as a very strong relationship between the latent variables. The balance of evidence seemed to suggest that the *stimulation* value total effect has a statistically significant influence on the tolerance for affirmative action (AA) subscale.

<u>Hypothesis 34a:</u> $H_{034a:}\ \gamma_{25}\beta_{32} = 0$; $H_{a34a:}\ \gamma_{25}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a positive relationship existed between the *stimulation* value and cultural diversity as a source of competitive advantage (CA). The significant t-value (3.12) signified that the null hypothesis stating that the total effect of the *stimulation* value (ξ_5) targeted by CA (η_3) and mediated by VID (η_2), $H_{034a:}\ \gamma_{25}\beta_{32} = 0$, was equal to zero and was subsequently rejected with an acceptable level of confidence ($p < 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables differed significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *stimulation* value and CA, was rejected in favour of the alternative hypothesis, $H_{a34a:}\ \gamma_{25}\beta_{32} > 0$. The positive sign of the reported parameter estimate was congruent with *a priori* theorising.

The magnitude of the parameter reported a value of 1.12, which could be regarded as a very strong relationship between the latent variables. The balance of evidence seemed to suggest that the *stimulation* value total effect has a statistically significant influence on cultural diversity as a source of competitive advantage (CA).

<u>Hypothesis 35a:</u> $H_{035a:}\ \gamma_{26}\beta_{12} = 0$; $H_{a35a:}\ \gamma_{26}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a negative relationship existed between the *hedonism* value and tolerance for affirmative action (AA). The non-significant t-value (-0.61) indicated that the null hypothesis stating that the total effect of the *hedonism* value (ξ_6) targeted by AA (η_1) and mediated by VID (η_2), $H_{035a:}\ \gamma_{26}\beta_{12} = 0$, was equal to zero and could not be rejected ($p < 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *hedonism* value and AA, could not be rejected in favour of the alternative hypothesis, $H_{a35a:}\ \gamma_{26}\beta_{12} > 0$.

There was no conclusive evidence to suggest that the total effect of the *hedonism* value on the tolerance for affirmative action (AA) subscale was statistically significant ($p < 0.05$). Hypothesis 35a did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

<u>Hypothesis 36a:</u> $H_{036a:}\ \gamma_{26}\beta_{32} = 0$; $H_{a36a:}\ \gamma_{26}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a negative relationship existed between the *hedonism* value and cultural diversity as a source of competitive advantage (CA). The non-significant t-value (-0.85) indicated that the null hypothesis stating that the total effect of the *hedonism* value (ξ_6) targeted by CA (η_3) and mediated by VID (η_2), $H_{036a:}\ \gamma_{26}\beta_{32} = 0$, was equal to zero and could not be rejected ($p < 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *hedonism* value and CA, could not be rejected in favour of the alternative hypothesis, $H_{a36a:}\ \gamma_{26}\beta_{32} > 0$.

There was no conclusive evidence to suggest that the total effect of the *hedonism* value on the cultural diversity as a source of competitive advantage (CA) subscale was statistically significant ($p<0.05$). Hypothesis 36a did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

<u>Hypothesis 37a:</u> $H_{037a:}\ \gamma_{27}\beta_{12} = 0$; $H_{a37a:}\ \gamma_{27}\beta_{12} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a negative relationship existed between the *power* value and tolerance for affirmative action (AA). The non-significant t-value (-1.52) signified that the null hypothesis stating that the total effect of the *power* value (ξ_7) targeted by AA (η_1) and mediated by VID (η_2), $H_{037a:}\ \gamma_{27}\beta_{12} = 0$, was equal to zero and could not be rejected ($p<0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *power* value and AA, could not be rejected in favour of the alternative hypothesis, $H_{a37a:}\ \gamma_{27}\beta_{12} > 0$.

There was no conclusive evidence to suggest that the total effect of the *power* value on the tolerance for affirmative action (AA) subscale was statistically significant ($p < 0.05$). Hypothesis 37a did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

<u>Hypothesis 38:</u> $H_{038a:}\ \gamma_{27}\beta_{32} = 0$; $H_{a38a:}\ \gamma_{27}\beta_{32} > 0$

Theorising regarding the relationship between values and the attitude towards cultural diversity directed the substantive proposition that a positive relationship existed between the *power* value and cultural diversity as a source of competitive advantage (CA). The non-significant t-value (-1.01) signified that the null hypothesis stating that the total effect of the *power* value (ξ_7) targeted by CA (η_3) and mediated by VID (η_2), $H_{038a:}\ \gamma_{27}\beta_{32} = 0$, was equal to zero and could not be rejected ($p < 0.05$).

This result could be interpreted as *prima facie* evidence that the proposed relationship between the latent variables did not differ significantly from zero and therefore the null hypothesis, stating that no statistically significant relationship existed between the *power* value and CA, could not be rejected in favour of the alternative hypothesis, $H_{a38a:}\ \gamma_{27}\beta_{32} > 0$.

There was no conclusive evidence to suggest that the total effect of the *power* value on the cultural diversity as a source of competitive advantage (CA) subscale was statistically significant ($p < 0.05$). Hypothesis 38a did not survive the opportunity to be refuted and could therefore not be regarded as substantially corroborated.

In summary, six of the fourteen hypothesised total effects of Ksi on Eta reported statistically significant parameter estimates, although only four hypothesised total effects were completely in line with *a priori* theorising as far as directionality and statistical significance were concerned. Table 4.49 indicates that the magnitude of the significant indirect relationships ranged from strong coefficients (e.g. 0.80) to very strong coefficients (e.g. 1.38). The direction of the reported relationships was congruent with initial theorising for all the hypothesised indirect relationships, except for the *ecological welfare* value. The total effect of the *ecological welfare* value on AA and CA, mediated by VID, was expected to be positive. However, strong negative relationships were reported between the *ecological welfare* values and AA and CA. Similar results were reported with regard to the gamma coefficients and indirect effects for the *ecological welfare* value in Tables 4.46 and 4.48.

- **Modification Indices**

Modification indices reveal which currently fixed model parameters, if set free, will improve model fit maximally, i.e. the extent to which the χ^2 fit statistic will decrease (Diamantopoulos & Siguaw, 2000). Large modification index values (MI > 6.64) would be indicative of parameters that, if set free, would improve the fit of the model significantly ($p < 0.01$).

However, Jöreskog and Sörbom, (1996) warn scholars that make use of SEM that modifications to existing measurement instruments are only permissible if the refined models:

(g) Fit the data better; or
(h) are more parsimonious; and
(i) modifications are theoretically justifiable

Jöreskog and Sörbom, (1993:127) advise scholars to approach the modification of SEM models in the following manner:

> If chi-square is large relative to the degrees of freedom, one examines the modification indices and relaxes the parameter with the largest modification index if this parameter can be interpreted substantively. If it does not make sense to relax the parameter with the largest modification index, one considers the second largest modification index etc. If the signs of certain parameters are specified a priori, positive or negative, the expected parameter changes associated with the modification indices for these parameters can be used to exclude models with parameters having the wrong sign.

Following this procedure, the generic structural model depicted in Figure 4.5 seemed to fit the data reasonably well. The modification indices calculated for the gamma and beta model parameters are reported in Table 4.50 and Table 4.51 respectively. The modification index is reported for each currently fixed parameter along with the standardised expected change (printed in bold) in the event that the specific parameter would be relaxed.

Examination of Table 4.50 reveals that no additional gamma pathways which are currently fixed would result in a significant ($p < 0.01$) increase in model fit, if relaxed.

Table 4.50: Modification indices and standardised expected change for gamma model parameters (Final merged dataset: n = 531)

CDBS		**SVS**										
Attitude Towards Cultural Diversity		**Conservation**			**Self-Transcendence**			**Openness to Change**		**Hedonism**	**Self-Enhancement**	
		Conformity	Tradition	Security	Benevolence	Ecological Welfare	Fairness	Self-Direction	Stimulation	Hedonism	Achievement	Power
Tolerance for Affirmative Action (η_1)												
Valuing Individual Differences (η_2)		0.04 **0.03**		0.01 **-0.01**				0.00 **0.00**			0.13 **0.05**	
Cultural Diversity as a Source of Competitive Advantage Subscale (η_3)		0.08 **0.07**		0.77 **-0.29**				0.01 **-0.02**			0.00 **-0.01**	

Table 4.51 contains the modification indices for each currently fixed beta parameter along with the standardised expected change (printed in bold) in the event that the specific parameter would be relaxed.

Table 4.51: Modification indices and standardised expected change for beta model parameters (Final merged dataset: n = 531)

CDBS			
Attitude Towards Cultural Diversity	**AA (η_1)**	**VID (η_2)**	**CA (η_3)**
Tolerance for Affirmative Action (η_1)			1.15 **0.17**
Valuing Individual Differences (η_2)			
Cultural Diversity as a Source of Competitive Advantage Subscale (η_3)	2.92 **0.20**		

Examination of Table 4.51 reveals that no additional beta pathways which are currently fixed would result in a significant ($p < 0.01$) increase in model fit, if relaxed. Tables 4.50 and 4.51 instil confidence in the validity of the generic structural model.

4.14 SUMMARY

In this section of Chapter 4, the refined measurement models were reviewed by looking at the most important fit indices and individual model parameters. Diamantopoulos and Siguaw (2000) state that the interpretation of the substantive relations implied by structural covariances in the generic SEM model will be problematic if the measurement models have not been showed to purely and comprehensively reflect the to-be-measured latent constructs initially. Based on the foregoing, it was imperative that the measurement integrity of the exogenous and endogenous measurement models was confirmed prior to the construction of the generic structural model. Table 4.42 reveals that only three items in total did not adhere to the minimum acceptable criteria (shaded rows in Table 4.42). Item AA2R, comprising the tolerance for affirmative action subscale of the CDBS; var3, comprising the power subscale of the SVS; and item var31 of the self-direction subscale of the SVS did not report Lambda factor loading higher than 0.50. However, since all three items reported loadings that were marginally lower than the minimum acceptable criteria and decision making rules, it was decided to retain the items, rather than remove them from the respective subscales they were assigned to operationalise.

Subsequently, the generic structural model was fitted to the data as reported in section 4.12.2. The structural model residuals were examined along with the Goodness-of-fit indices. Numerous large negative and positive residuals ($2.58 > z > 2.58$) were identified upon examination of the structural model residual terms. The substantial number of large positive and negative residuals was a cause for concern, since it suggested that the latent measures failed to purely and comprehensively operationalise the to-be-measured latent constructs. However, the fit indices and parameter estimates of the refined measurement models still reported reasonably satisfactory results (see section 4.12.1) and were judged to be suitable for inclusion in the structural model.

Lastly, the individual SEM parameters of the generic structural model were evaluated. The standardised and unstandardised gamma [Γ] parameters, standardised and unstandardised beta [β] parameters, unstandardised indirect effects of KSI on ETA, unstandardised total effects of ETA on ETA and the unstandardised total effects of KSI on ETA were examined. Hypotheses have been discussed individually with reference being made of the direction of the relationship, the magnitude and the significance of the relationship between variables in each instance.

The majority of *a priori* hypotheses were not corroborated and some unexpected results emerged. One of the most surprising results was the strong negative relationship between the *ecological welfare* value and the attitude towards cultural diversity. A strong positive relationship was expected since the subscale was culled from the *Universalism* scale. However, the *ecological welfare* value remained erratic in its manifestations with regard to the attitude towards cultural diversity. No empirical support was found for the a priori hypotheses regarding the *ecological welfare* value. Possible reasons for this finding will be discussed in Chapter 5.

In summary, the following model parameters were confirmed for the generic structural model: five gamma parameters (Hypotheses 2; 5; 11; 14 and 16), two beta parameters (Hypotheses 23 and 24), five indirect effects (Hypotheses 27; 28; 31; 32 and 34) and four total effects (Hypotheses 31a; 32a; 33a; and 34a).

RESEARCH RESULTS IV: REGRESSION ANALYSIS

4.14 INTRODUCTION

The last section of Chapter 4 is dedicated towards examining the interaction effect of race and gender on the relationship between values and the three dimensions underlying the attitude towards cultural diversity, namely tolerance for affirmative action (AA), valuing individual differences (VID) and cultural diversity as a source of competitive advantage (CA). However, including categorical data (such as race and gender) in an analyses already containing continues variables proved to be complex due to the difference in measurement scales. Numerical values have to be assigned to the categories of the qualitative variable so that the characteristics of the to-be-measured attribute are represented truthfully. This is done in order for the combined and individual effect of the categorical variables to be gauged. To solve this problem, dummy variables were created to categorise (i.e. label) the levels of race and gender which were subsequently entered into the regression formula to statistically evaluate the hypothesized interaction effects between variables. Race was categorized into whites and non-whites and gender was divided into Males and Females. The coding scheme used to categorize the interaction effect between race and gender was presented in Table 3.8.

Due to the difficulties of testing interaction effects with SEM it was decided to test the moderating effect of race and gender on the relationship between values and the attitude towards cultural diversity via moderated regression analysis using SPSS.

The fundamental question that had to be answered with the regression analysis was: Is there fundamental differences in value main effects with regard to AA, VID and CA compared to value main effects which are moderated by race and/or gender with regard to AA, VID and CA? Stated differently, does the inclusion of gender and/or race interaction effects explain significantly more variance in AA, VID and CA in a regression model that already contains the value main effect? If one is able to reject the null hypothesis of parallelism, one would have to conclude that the slopes of the regression equations are not similar and that significant differences exist in the regressed relationships of AA, VID and CA on values due to the moderating effect of race and gender.

4.15 RESULTS FROM THE MODERATED REGRESSION ANALYSES

The following regression equations (Equations 135 and 136) were used to test the significance of the values by race and values by gender and race interaction effects on the sub-dimensions comprising the attitude towards cultural diversity:

$$E[Y_i|X_i, R*X_i] = \alpha + \beta_1[X_i] + \beta_2[X_i*R] \text{---} (135)$$

$$E[Y_i|X_i, X_i*R*G] = \alpha + \beta_1[X_i] + \beta_2[X_i*R*G] \text{---------------------------------------} (136)$$

On the other hand, if one is unable to reject the null hypothesis that would stand to mean there is no evidence of differences in slopes in the populations from which the regression equations were developed (Berenson et al., 1983)

The Statistical hypotheses and accompanying statistical results are presented in Tables 4.52 and 4.53. Values main effects are depicted by a capital letter A and the interaction effect by a capital letter B. Firstly, the value by race interaction effect on the subscales comprising the attitude towards cultural diversity was assessed and the results are summarized in Table 4.52. Table 4.53 summarises the value by gender interaction effect on the relationship between values and the subscales comprising the attitude towards cultural diversity.

Due to the voluminous amount of individual hypotheses, it was decided to make use of Schwartz's (1994) value taxonomy to give structure and guide the discussion of the regression results. The theory proposes two basic higher order dimensions: (1) *Self-Transcendence* (Benevolence and Universalism) versus *Self-enhancement* (Achievement and Power) and (2) *Openness to change* (Self-direction and Stimulation) versus *Conservation* (Security, Conformity and Tradition). This higher order value taxonomy was used to discuss the moderating effect of race and gender on the sub-dimensions of the attitude towards cultural diversity. Graphical representations of the interaction effects for each individual hypothesis are provided in Appendix B.

Table 4.52: Statistical hypotheses and accompanying research results with regard to the influence of specific values on the attitude towards cultural diversity moderated by race

STATISTICAL HYPOTHESIS: [A] MAIN EFFECTS: VALUES [B] INTERACTION EFFECT: VALUES*RACE		STATISTICAL RESULTS: [MODERATED REGRESSION ANALYSIS]											
SVS	CDBS	MODEL SUMMURY		ANOVA							COEFICIENTS		
VALUES	VID (η_2)	R^2	Standard Error	Regression				Residual		Total	Standardised Beta Coefficients	t-value	Sig.
				Sum of Squares	Mean Square	F-Ratio	Sig.	Sum of Squares	Mean Square	Sum of Squares			
One-way interaction effect of Race on the relationship between Values and Valuing Individual Differences (VID) with regard to the white and non-white groups													

Conservation:													
• Conformity (X_1): [A]	H_{040}: $\beta_1[X_1] = 0 \mid \beta_2[X_1{*}R] \neq 0$ H_{a40}: $\beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R] \neq 0$	0.078	0.62293	12.244	6.122	15.777	0.0	145.514	0.388	157.758	0.231	4.565	0.00
[B]	H_{039}: $\beta_2[X_1{*}R] = 0 \mid \beta_1[X_1] \neq 0$ H_{a39}: $\beta_2[X_1{*}R] \neq 0 \mid \beta_1[X_1] \neq 0$	0.078	0.62293	12.244	6.122	15.777	0.0	145.514	0.388	157.758	-0.208	-4.111	0.00
• Tradition (X_2): [A]	H_{046}: $\beta_1[X_2] = 0 \mid \beta_2[X_2{*}R] \neq 0$ H_{a46}: $\beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R] \neq 0$	0.054	0.63143	8.513	4.256	10.675	0.0	149.114	0.399	157.626	0.190	3.635	0.00
[B]	H_{045}: $\beta_2[X_2{*}R] = 0 \mid \beta_1[X_2] \neq 0$ H_{a45}: $\beta_2[X_2{*}R] \neq 0 \mid \beta_1[X_2] \neq 0$	0.054	0.63143	8.513	4.256	10.675	0.0	149.114	0.399	157.626	-0.195	-3.734	0.00
• Security (X_3): [A]	H_{052}: $\beta_1[X_3] = 0 \mid \beta_2[X_3{*}R] \neq 0$ H_{a52}: $\beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R] \neq 0$	0.050	0.63209	7.932	3.966	9.926	0.0	149.826	0.400	157.758	0.070	1.359	0.175
[B]	H_{051}: $\beta_2[X_3{*}R] = 0 \mid \beta_1[X_3] \neq 0$ H_{a51}: $\beta_2[X_3{*}R] \neq 0 \mid \beta_1[X_3] \neq 0$	0.050	0.63209	7.932	3.966	9.926	0.0	149.826	0.400	157.758	-0.226	-4.422	0.00
Self- Transcendence:													
• Benevolence (X_4): [A]	H_{058}: $\beta_1[X_4] = 0 \mid \beta_2[X_4{*}R] \neq 0$ H_{a58}: $\beta_1[X_4] \neq 0 \mid \beta_2[X_4{*}R] \neq 0$	0.075	0.6242	11.889	5.945	15.256	0.0	145.737	0.390	157.626	0.231	4.510	0.00
[B]	H_{057}: $\beta_2[X_4{*}R] = 0 \mid \beta_1[X_4] \neq 0$ H_{a57}: $\beta_2[X_4{*}R] \neq 0 \mid \beta_1[X_4] \neq 0$	0.075	0.6242	11.889	5.945	15.256	0.0	145.737	0.390	157.626	-0.215	-4.197	0.00
• Ecological Welfare (X_5): [A]	H_{064}: $\beta_1[X_5] = 0 \mid \beta_2[X_5{*}R] \neq 0$ H_{a64}: $\beta_1[X_5] \neq 0 \mid \beta_2[X_5{*}R] \neq 0$	0.032	0.63780	5.085	2.542	6.250	0.02	152.548	0.407	157.632	0.075	1.313	0.190
[B]	H_{063}: $\beta_2[X_5{*}R] = 0 \mid \beta_1[X_5] \neq 0$ H_{a63}: $\beta_2[X_5{*}R] \neq 0 \mid \beta_1[X_5] \neq 0$	0.032	0.63780	5.085	2.542	6.250	0.02	152.548	0.407	157.632	-0.201	-3.520	0.00
• Fairness (X_6): [A]	H_{070}: $\beta_1[X_6] = 0 \mid \beta_2[X_6{*}R] \neq 0$ H_{a70}: $\beta_1[X_6] \neq 0 \mid \beta_2[X_6{*}R] \neq 0$	0.098	0.61650	15.366	7.683	20.215	0.0	142.145	0.380	157.511	0.286	5.748	0.00
[B]	H_{069}: $\beta_2[X_6{*}R] = 0 \mid \beta_1[X_6] \neq 0$ H_{a69}: $\beta_2[X_6{*}R] \neq 0 \mid \beta_1[X_6] \neq 0$	0.098	0.61650	15.366	7.683	20.215	0.0	142.145	0.380	157.511	-0.179	-3.601	0.00

Openness to Change: • Self-direction (X_7): [A]	$H_{076}: \beta_1[X_7] = 0 \mid \beta_2[X_7{*}R] \neq 0$ $H_{a76}: \beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R] \neq 0$	0.058	0.62935	9.227	4.613	11.648	0.0	148.531	0.396	157.758	0.152	3.011	0.003
	$H_{075}: \beta_2[X_7{*}R] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a75}: \beta_2[X_7{*}R] \neq 0 \mid \beta_1[X_7] \neq 0$	0.058	0.62935	9.227	4.613	11.648	0.0	148.531	0.396	157.758	-0.210	-4.154	0.00
• Stimulation (X_8): [B]	$H_{082}: \beta_1[X_8] = 0 \mid \beta_2[X_8{*}R] \neq 0$ $H_{a82}: \beta_1[X_8] \neq 0 \mid \beta_2[X_8{*}R] \neq 0$	0.052	0.63090	8.143	4.071	10.229	0.0	149.659	0.398	157.801	0.060	1.099	0.272
	$H_{081}: \beta_2[X_8{*}R] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a81}: \beta_2[X_8{*}R] \neq 0 \mid \beta_1[X_8] \neq 0$	0.052	0.63090	8.143	4.071	10.229	0.0	149.659	0.398	157.801	-0.244	-4.470	0.00
Hedonism (X_9): [A]	$H_{088}: \beta_1[X_9] = 0 \mid \beta_2[X_9{*}R] \neq 0$ $H_{a88}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9{*}R] \neq 0$	0.052	0.63165	8.138	4.069	10.199	0.0	149.619	0.399	157.758	0.028	0.527	0.598
[B]	$H_{087}: \beta_2[X_9{*}R] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a87}: \beta_2[X_9{*}R] \neq 0 \mid \beta_1[X_9] \neq 0$	0.052	0.63165	8.138	4.069	10.199	0.0	149.619	0.399	157.758	-0.234	-4.422	0.00
Self-Enhancement: • Achievement (X_{10}): [A]	$H_{094}: \beta_1[X_{10}] = 0 \mid \beta_2[X_{10}{*}R] \neq 0$ $H_{a94}: \beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}{*}R] \neq 0$	0.057	0.63038	9.008	4.504	11.335	0.0	148.618	0.397	157.626	0.155	3.025	0.03
[B]	$H_{093}: \beta_2[X_{10}{*}R] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a93}: \beta_2[X_{10}{*}R] \neq 0 \mid \beta_1[X_{10}] \neq 0$	0.057	0.63038	9.008	4.504	11.335	0.0	148.618	0.397	157.626	-0.214	-4.184	0.00
• Power (X_{11}): [A]	$H_{0100}: \beta_1[X_{11}] = 0 \mid \beta_2[X_{11}{*}R] \neq 0$ $H_{a100}: \beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}{*}R] \neq 0$	0.89	0.61914	14.044	7.022	18.318	0.0	144.132	0.383	158.176	-0.103	-1.901	0.058
[B]	$H_{099}: \beta_2[X_{11}{*}R] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a99}: \beta_2[X_{11}{*}R] \neq 0 \mid \beta_1[X_{11}] \neq 0$	0.89	0.61914	14.044	7.022	18.318	0.0	144.132	0.383	158.176	-0.241	-4.460	0.00
STATISTICAL HYPOTHESIS: **[A] MAIN EFFECTS: VALUES** **[B] INTERACTION EFFECT: VALUES*RACE**		**STATISTICAL RESULTS: [MODERATED REGRESSION ANALYSIS]**											
SVS	**CDBS**	**MODEL SUMMURY**		**ANOVA**							**COEFICIENTS**		

VALUES	AA (η_1)	R^2	Standard Error	Regression				Residual		Total	Standardised Beta Coefficients	t-value	Sig.
				Sum of Squares	Mean Square	F-Ratio	Sig.	Sum of Squares	Mean Square	Sum of Squares			
One-way interaction effect of Race on the relationship between Values and tolerance for Affirmative Action (AA) with regard to the white and non-white groups													
Conservation:													
• Conformity (X_1): [A]	$H_{042:}\beta_1[X_1] = 0 \mid \beta_2[X_1{*}R] \neq 0$ $H_{a42:}\beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R] \neq 0$	0.018	1.06785	7.810	3.905	3.424	0.034	427.611	1.140	435.421	0.006	0.109	0.913
[B]	$H_{041:}\beta_2[X_1{*}R] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a41:}\beta_2[X_1{*}R] \neq 0 \mid \beta_1[X_1] \neq 0$	0.018	1.06785	7.810	3.905	3.424	0.034	427.611	1.140	435.421	-0.135	-2.585	0.010
• Tradition (X_2 [A]	$H_{048:}\beta_1[X_2] = 0 \mid \beta_2[X_2{*}R] \neq 0$ $H_{a48:}\beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R] \neq 0$	0.018	1.06757	7.917	3.959	3.473	0.032	426.248	1.140	434.165	-0.016	-0.303	0.762
[B]	$H_{047:}\beta_2[X_2{*}R] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a47:}\beta_2[X_2{*}R] \neq 0 \mid \beta_1[X_2] \neq 0$	0.018	1.06757	7.917	3.959	3.473	0.032	426.248	1.140	434.165	-0.130	-2.437	0.015
• Security (X_3): [A]	$H_{054:}\beta_1[X_3] = 0 \mid \beta_2[X_3{*}R] \neq 0$ $H_{a54:}\beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R] \neq 0$	0.052	1.04928	22.553	11.277	10.242	0.0	412.867	1.101	435.421	-0.148	-2.897	0.04
[B]	$H_{053:}\beta_2[X_3{*}R] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a53:}\beta_2[X_3{*}R] \neq 0 \mid \beta_1[X_3] \neq 0$	0.052	1.04928	22.553	11.277	10.242	0.0	412.867	1.101	435.421	-0.147	-2.878	0.004

Self- Transcendence:												
• Benevolence (X_4): [A]	$H_{060:}\beta_1[X_4] = 0 \vert \beta_2[X_4{*}R] \neq 0$ $H_{a60:}\beta_1[X_4] \neq 0 \vert \beta_2[X_4{*}R] \neq 0$	0.020	1.06666	8.645	4.322	3.799	0.023	425.520	1.138	434.165	0.011	0.211	0.833
[B]	$H_{059:}\beta_2[X_4{*}R] = 0 \vert \beta_1[X_4] \neq 0$ $H_{a59:}\beta_2[X_4{*}R] \neq 0 \vert \beta_1[X_4] \neq 0$	0.020	1.06666	8.645	4.322	3.799	0.023	425.520	1.138	434.165	-0.143	-2.716	0.007
• Ecological Welfare (X_5): [A]	$H_{066:}\beta_1[X_5] = 0 \vert \beta_2[X_5{*}R] \neq 0$ $H_{a66:}\beta_1[X_5] \neq 0 \vert \beta_2[X_5{*}R] \neq 0$	0.052	1.04797	22.623	11.311	10.300	0.00	411.838	1.098	434.461	-0.127	-2.254	0.025
[B]	$H_{065:}\beta_2[X_5{*}R] = 0 \vert \beta_1[X_5] \neq 0$ $H_{a65:}\beta_2[X_5{*}R] \neq 0 \vert \beta_1[X_5] \neq 0$	0.052	1.04797	22.623	11.311	10.300	0.00	411.838	1.098	434.461	-0.140	-2.473	0.014
• Fairness (X_6): [A]	$H_{072:}\beta_1[X_6] = 0 \vert \beta_2[X_6{*}R] \neq 0$ $H_{a72:}\beta_1[X_6] \neq 0 \vert \beta_2[X_6{*}R] \neq 0$	0.026	1.06072	11.425	5.713	5.077	0.007	420.798	1.125	432.223	0.111	2.153	0.032
[B]	$H_{071:}\beta_2[X_6{*}R] = 0 \vert \beta_1[X_6] \neq 0$ $H_{a71:}\beta_2[X_6{*}R] \neq 0 \vert \beta_1[X_6] \neq 0$	0.026	1.06072	11.425	5.713	5.077	0.007	420.798	1.125	432.223	-1.38	-2.663	0.008
Openness to Change:												
• Self-direction (X_7): [A]	$H_{078:}\beta_1[X_7] = 0 \vert \beta_2[X_7{*}R] \neq 0$ $H_{a78:}\beta_1[X_7] \neq 0 \vert \beta_2[X_7{*}R] \neq 0$	0.024	1.06460	10.406	5.203	4.591	0.011	425.015	1.133	435.421	-0.027	-0.528	0.598
	$H_{077:}\beta_2[X_7{*}R] = 0 \vert \beta_1[X_7] \neq 0$ $H_{a77:}\beta_2[X_7{*}R] \neq 0 \vert \beta_1[X_7] \neq 0$	0.024	1.06460	10.406	5.203	4.591	0.011	425.015	1.133	435.421	-0.148	-2.881	0.004
• Stimulation (X_8): [B]	$H_{084:}\beta_1[X_8] = 0 \vert \beta_2[X_8{*}R] \neq 0$ $H_{a84:}\beta_1[X_8] \neq 0 \vert \beta_2[X_8{*}R] \neq 0$	0.043	1.05462	18.697	9.349	8.405	0.00	418.194	1.112	436.891	-0.091	-1.664	0.097
	$H_{083:}\beta_2[X_8{*}R] = 0 \vert \beta_1[X_8] \neq 0$ $H_{a83:}\beta_2[X_8{*}R] \neq 0 \vert \beta_1[X_8] \neq 0$	0.043	1.05462	18.697	9.349	8.405	0.00	418.194	1.112	436.891	-0.154	-2.806	0.005
Hedonism (X_9): [A]	$H_{090:}\beta_1[X_9] = 0 \vert \beta_2[X_9{*}R] \neq 0$ $H_{a90:}\beta_1[X_9] \neq 0 \vert \beta_2[X_9{*}R] \neq 0$	0.041	1.05498	18.055	9.028	8.111	0.000	417.365	1.113	435.421	-0.064	-1.198	0.232
[B]	$H_{089:}\beta_2[X_9{*}R] = 0 \vert \beta_1[X_9] \neq 0$ $H_{a89:}\beta_2[X_9{*}R] \neq 0 \vert \beta_1[X_9] \neq 0$	0.041	1.05498	18.055	9.028	8.111	0.000	417.365	1.113	435.421	-0.174	-3.269	0.001

Self-Enhancement: • Achievement (X_{10}): [A]	$H_{096}: \beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R] \neq 0$ $H_{a96}: \beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R] \neq 0$	0.020	1.06685	8.491	4.246	3.730	0.025	425.674	1.138	434.165	0.043	0.833	0.406
[B]	$H_{095}: \beta_2[X_{10}*R] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a95}: \beta_2[X_{10}*R] \neq 0 \mid \beta_1[X_{10}] \neq 0$	0.020	1.06685	8.491	4.246	3.730	0.025	425.674	1.138	434.165	-0.141	-2.712	0.007
• Power (X_{11}): [A]	$H_{0102}: \beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R] \neq 0$ $H_{a102}: \beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R] \neq 0$	0.080	1.03373	35.102	17.551	16.424	0.000	401.790	1.069	436.891	-0.154	-2.8333	0.005
[B]	$H_{0101}: \beta_2[X_{11}*R] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a101}: \beta_2[X_{11}*R] \neq 0 \mid \beta_1[X_{11}] \neq 0$	0.080	1.03373	35.102	17.551	16.424	0.000	401.790	1.069	436.891	-0.183	-3.380	0.001
SVS	**CDBS**	**MODEL SUMMURY**		**ANOVA**							**COEFICIENTS**		
VALUES	**CA (η_3)**	**R^2**	**Standard Error**	**Regression**				**Residuals**		**Total**	**Standardised Beta Coefficients**	**t-value**	**Sig.**
				Sum of Squares	**Mean Square**	**F-Ratio**	**Sig.**	**Sum of Squares**	**Mean Square**	**Sum of Squares**			

One-way interaction effect of Race on the relationship between Values and cultural diversity as a source of Competitive Advantage (CA) with regard to the white and non-white groups

Conservation:													
• Conformity (X_1): [A]	$H_{044:}\beta_1[X_1] = 0 \mid \beta_2[X_1{*}R] \neq 0$ $H_{a44:}\beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R] \neq 0$	0.049	0.88603	15.121	7.561	9.631	0.00	294.391	0.785	308.512	0.210	4.085	0.00
[B]	$H_{043:}\beta_2[X_1{*}R] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a43:}\beta_2[X_1{*}R] \neq 0 \mid \beta_1[X_1] \neq 0$	0.049	0.88603	15.121	7.561	9.631	0.00	294.391	0.785	308.512	-0.122	-2.379	0.018
• Tradition (X_2) [A]	$H_{050:}\beta_1[X_2] = 0 \mid \beta_2[X_2{*}R] \neq 0$ $H_{a50:}\beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R] \neq 0$	0.028	0.89667	8.637	4.318	5.371	0.005	300.703	0.804	309.340	0.158	2.983	0.003
[B]	$H_{049:}\beta_2[X_2{*}R] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a49:}\beta_2[X_2{*}R] \neq 0 \mid \beta_1[X_2] \neq 0$	0.028	0.89667	8.637	4.318	5.371	0.005	300.703	0.804	309.340	-0.112	-2.118	0.035
• Security (X_3): [A]	$H_{056:}\beta_1[X_3] = 0 \mid \beta_2[X_3{*}R] \neq 0$ $H_{a56:}\beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R] \neq 0$	0.018	0.90013	5.674	2.837	3.501	0.031	303.838	0.810	309.512	0.054	1.036	0.301
[B]	$H_{055:}\beta_2[X_3{*}R] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a55:}\beta_2[X_3{*}R] \neq 0 \mid \beta_1[X_3] \neq 0$	0.018	0.90013	5.674	2.837	3.501	0.031	303.838	0.810	309.512	-0.135	-2.585	0.010
Self- Transcendence:													
• Benevolence (X_4): [A]	$H_{062:}\beta_1[X_4] = 0 \mid \beta_2[X_4{*}R] \neq 0$ $H_{a62:}\beta_1[X_4] \neq 0 \mid \beta_2[X_4{*}R] \neq 0$	0.029	0.89604	9.059	4.530	5.642	0.004	300.281	0.803	309.340	0.152	2.887	0.004
[B]	$H_{061:}\beta_2[X_4{*}R] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a61:}\beta_2[X_4{*}R] \neq 0 \mid \beta_1[X_4] \neq 0$	0.029	0.89604	9.059	4.530	5.642	0.004	300.281	0.803	309.340	-0.125	-2.372	0.018
• Ecological Welfare (X_5): [A]	$H_{068:}\beta_1[X_5] = 0 \mid \beta_2[X_5{*}R] \neq 0$ $H_{a68:}\beta_1[X_5] \neq 0 \mid \beta_2[X_5{*}R] \neq 0$	0.012	0.90344	3.604	1.802	2.208	0.111	306.076	0.816	309.680	0.053	0.913	0.362
[B]	$H_{067:}\beta_2[X_5{*}R] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a67:}\beta_2[X_5{*}R] \neq 0 \mid \beta_1[X_5] \neq 0$	0.012	0.90344	3.604	1.802	2.208	0.111	306.076	0.816	309.680	-0.121	-2.101	0.036
• Fairness (X_6): [A]	$H_{074:}\beta_1[X_6] = 0 \mid \beta_2[X_6{*}R] \neq 0$ $H_{a74:}\beta_1[X_6] \neq 0 \mid \beta_2[X_6{*}R] \neq 0$	0.045	0.88859	14.035	7.018	8.888	0.000	295.304	0.790	309.340	0.205	4.010	0.00
[B]	$H_{073:}\beta_2[X_6{*}R] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a73:}\beta_2[X_6{*}R] \neq 0 \mid \beta_1[X_6] \neq 0$	0.045	0.88859	14.035	7.018	8.888	0.000	295.304	0.790	309.340	-0.099	-1.927	0.055

Openness to Change:												
• Self-direction (X_7): [A]	$H_{080}: \beta_1[X_7] = 0 \mid \beta_2[X_7*R] \neq 0$ $H_{a80}: \beta_1[X_7] \neq 0 \mid \beta_2[X_7*R] \neq 0$	0.045	0.88788	13.890	6.945	8.810	0.00	295.622	0.788	309.512	0.197	3.870	0.00
	$H_{079}: \beta_2[X_7*R] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a79}: \beta_2[X_7*R] \neq 0 \mid \beta_1[X_7] \neq 0$	0.045	0.88788	13.890	6.945	8.810	0.00	295.622	0.788	309.512	-0.109	-2.147	0.032
• Stimulation (X_8): [B]	$H_{086}: \beta_1[X_8] = 0 \mid \beta_2[X_8*R] \neq 0$ $H_{a86}: \beta_1[X_8] \neq 0 \mid \beta_2[X_8*R] \neq 0$	0.017	0.89974	5.301	2.650	3.274	0.039	304.383	0.810	309.683	0.067	1.199	0.231
	$H_{085}: \beta_2[X_8*R] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a85}: \beta_2[X_8*R] \neq 0 \mid \beta_1[X_8] \neq 0$	0.017	0.89974	5.301	2.650	3.274	0.039	304.383	0.810	309.683	-0.141	-2.549	0.011
Hedonism (X_9): [A]	$H_{092}: \beta_1[X_9] = 0 \mid \beta_2[X_9*R] \neq 0$ $H_{a92}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9*R] \neq 0$	0.018	0.90019	5.636	2.818	3.478	0.032	303.876	0.810	309.512	-0.007	-0.131	0.896
[B]	$H_{091}: \beta_2[X_9*R] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a91}: \beta_2[X_9*R] \neq 0 \mid \beta_1[X_9] \neq 0$	0.018	0.90019	5.636	2.818	3.478	0.032	303.876	0.810	309.512	-0.133	-2.457	0.014
Self-Enhancement:												
• Achievement (X_{10}): [A]	$H_{098}: \beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R] \neq 0$ $H_{a98}: \beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R] \neq 0$	0.022	0.89954	6.711	3.356	4.147	0.017	302.629	0.809	309.340	0.119	2.288	0.023
[B]	$H_{097}: \beta_2[X_{10}*R] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a97}: \beta_2[X_{10}*R] \neq 0 \mid \beta_1[X_{10}] \neq 0$	0.022	0.89954	6.711	3.356	4.147	0.017	302.629	0.809	309.340	-0.112	-2.151	0.032
• Power (X_{11}): [A]	$H_{0104}: \beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R] \neq 0$ $H_{a104}: \beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R] \neq 0$	0.029	0.89420	9.038	4.519	5.652	0.004	300.645	0.800	309.683	-0.031	-0.564	0.573
[B]	$H_{0103}: \beta_2[X_{11}*R] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a103}: \beta_2[X_{11}*R] \neq 0 \mid \beta_1[X_{11}] \neq 0$	0.029	0.89420	9.038	4.519	5.652	0.004	300.645	0.800	309.683	-0.156	-2.711	0.006

To establish whether specific value main effects (X_i) or the value by race interaction effect (X_i*R) significantly explains unique variance in the attitude towards cultural diversity, when included in a model that already contains the other , the following multiple regression model was fitted on the data using moderated regression analyses:

$$E[Y_i|X_i, R*X_i] = \alpha + \beta_1[X_i] + \beta_2[X_i*R] \text{---} (135)$$

Hypotheses 39 – 104 assessed the moderating effect of race on the relationship between values and the attitude towards cultural diversity. Regression analysis was utilised in the current study to answer the following fundamental research question, "does the slope of the regression of the attitude towards cultural diversity on specific values differ for white and non-white race groups in South Africa?" Secondly, "does the slope of the regression of the attitude towards cultural diversity on specific values differ for the dominant versus the minority groups in South Africa?" In other words – is the relationship between values and the subscales comprising the attitude towards cultural diversity moderated by race and gender? Differential rates of change (i.e. differences in slopes) in the attitude towards cultural diversity (i.e. Y) for minority groups versus dominant groups attributable to values are indicative of value by race and values by race and gender interaction effects. Graphically, interaction effects are portrayed by regression lines that do not coincide but differ in terms of slope. Since β_2 in equation 135 regulates slope differences in the group-specific regression equations, a significant b_2 estimate of β_2 would indicate a significant value by group interaction effect. (Kahane, 2001) Interaction effects and value main effects are reported in Table 4.52. Statistically significant ($p<0.05$) value main effects and value interaction effects are indicated with an asterix in the standardised beta coefficient column.

4.15.1 One-way interaction effect of race in moderating the relationship between specific values and the Valuing Individual Differences (VID) subscale.

4.15.1.1 Hypotheses: Conservation:

Table 4.52.1: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Conservation value main effects [A] and Conservation value by race interaction effects [B] with regard to VID.

Main and Interaction	Code	Statistical Hypothesis	Standardised Beta	Partial and Semi-Partial Correlations

effects			Coefficients	Zero Order	Partial	Semi-Partial
Conformity	A	$H_{040}:\beta_1[X_1] = 0 \mid \beta_2[X_1{*}R] \neq 0$ $H_{a40}:\beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R] \neq 0$	0.231*	0.190	0.229	0.226
	B	$H_{039}:\beta_2[X_1{*}R] = 0 \mid \beta_1[X_1] \neq 0$; $H_{a39}:\beta_2[X_1{*}R] \neq 0 \mid \beta_1[X_1] \neq 0$	-0.208*	-0.162	--0.208	-0.204
Tradition	A	$H_{046}:\beta_1[X_2] = 0 \mid \beta_2[X_2{*}R] \neq 0$ $H_{a46}:\beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R] \neq 0$	0.190*	0.137	0.185	0.183
	B	$H_{045}:\beta_2[X_2{*}R] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a45}:\beta_2[X_2{*}R] \neq 0 \mid \beta_1[X_2] \neq 0$	-0.195*	-0.143	-0.190	-0.188
Security	A	$H_{052}:\beta_1[X_3] = 0 \mid \beta_2[X_3{*}R] \neq 0$ $H_{a52}:\beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R] \neq 0$	0.070	0.027	0.070	0.068
	B	$H_{051}:\beta_2[X_3{*}R] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a51}:\beta_2[X_3{*}R] \neq 0 \mid \beta_1[X_3] \neq 0$	-0.226*	-0.214	-0.223	-0.223

*[p<0.05]

A negative relationship was expected between *Conservation* values and valuing individual differences with regard to both the white and non-white groups. Table 4.52 shows that H_{039}, H_{045} and H_{051}, which states that the *Conservation* values by race interaction effects does not explain additional unique variance in a model that already contains the *Conservation* values main effects were rejected in favour of the alternative hypotheses. The *Conservation* values by race interaction effects for all three values comprising the *Conservation* value reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Conservation* values and the valuing individual differences (VID) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa. Furthermore, the regression results indicated that the *Conservation* value main effects significantly contributed towards explaining unique variance in a model that already contains the *Conservation* by race interaction effect, with the exception of the *security* value main effect. Finally, all three individual regression models were significant ($p < 0.05$).

The significant *Conservation* values by race interaction effects could be interpreted to mean that the slopes of the regression lines are statistically different for the white group relative to the non-white group (See Figure 4.8, 4.9 and 4.10 in Appendix B). Contrary to initial theorising, there seems to be a positive relationship between the *conformity* and *tradition* values towards valuing individual differences (VID) with regard to the white group. This positive relationship was very surprising, since voluminous evidence in literature suggests that a strong negative relationship should be expected between *Conservation* values and pro-social behaviours in general and tolerance for cultural diversity in particular (Schwartz & Struch, 1989). The observed negative relationships between the *conformity* and *tradition* values with regard to VID for the white group, largely refutes the substantive theorising that underlie hypotheses 39, 40, 45 and 46.

Figures 4.8, 4.9 and 4.10 portray the regression line of VID on the *conformity, tradition* and *security* values as a horizontal line for the non-white group. This result could be interpreted to mean that no discernable relationship exists between the *Conservation* values and VID for the non-white group. The deduction could be made that the *Conservation* values has no real effect on VID with regards to the non-white group in South Africa. A similar horizontal line was observed for the white group with regards to the relationship between the *security* value and VID. Stronger negative relationships were expected between the *Conservation* values and VID for both the white and non-white groups.

Pallant (2001) suggest one should examine the standardised beta coefficients as well as the partial and semi-partial correlations, when studying the relative contributions of variables in a regression model**.** Table 4.52.1 indicates that the reported standardised beta coefficients with regard to the interaction terms are relatively higher compared to the main effect terms. The partial correlations reveal that when the interaction effect in the predictor and criterion are controlled, the unique variance in the *conformity* main effect explained 5.24% (0.229^2) of the variance in VID. The *conformity* by race interaction effect on the other hand explained 4.32% (0.208^2) unique variance in the VID subscale.

The *tradition* value main effect explained approximately 3.42 % (0.185^2) of the variance in VID, when controlling for the interaction effect in the predictor and criterion. When controlling for the *tradition* main effect in the predictor and criterion, the *tradition* by race interaction effect explained 3.61% (0.190^2) of the variance in VID.

The *security* value main effect were non-significant, thus no inferences could be made on Hypothesis 52. However, when controlling for the *security* main effect in the predictor and criterion, the *security* by race interaction effect explained 4.9% (0.223^2) of the variance in VID.

Although, all the *Conservation* by race interaction effect were significant, i.e. explained unique variance in VID when included in a model that already contains the *Conservation* main effects, the direction of the hypothesised influence were not supported. Therefore hypotheses 39, 40, 45, 46, 51 and 52 can not be considered to be substantially corroborated.

4.15.1.2 Hypotheses: Self-Transcendence:

Table 4.52.2: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Self-Transcendence value main effects [A] and Self-Transcendence value by race interaction effects [B] with regard to VID.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Benevolence	A	$H_{058:}\beta_1[X_4] = 0 \vert \beta_2[X_4{*}R] \neq 0$ $H_{a58:}\beta_1[X_4] \neq 0 \vert \beta_2[X_4{*}R] \neq 0$	0.231*	0.179	0.227	0.224
	B	$H_{057:}\beta_2[X_4{*}R] = 0 \vert \beta_1[X_4] \neq 0$ $H_{a57:}\beta_2[X_4{*}R] \neq 0 \vert \beta_1[X_4] \neq 0$	-0.215*	-0.159	-0.212	-0.209
Ecological Welfare	A	$H_{064:}\beta_1[X_5] = 0 \vert \beta_2[X_5{*}R] \neq 0$ $H_{a64:}\beta_1[X_5] \neq 0 \vert \beta_2[X_5{*}R] \neq 0$	0.075	-0.017	0.068	0.067
	B	$H_{063:}\beta_2[X_5{*}R] = 0 \vert \beta_1[X_5] \neq 0$ $H_{a63:}\beta_2[X_5{*}R] \neq 0 \vert \beta_1[X_5] \neq 0$	-0.201*	-0.167	-0.179	-0.179
Fairness	A	$H_{070:}\beta_1[X_6] = 0 \vert \beta_2[X_6{*}R] \neq 0$ $H_{a70:}\beta_1[X_6] \neq 0 \vert \beta_2[X_6{*}R] \neq 0$	0.286*	0.257	0.285	0.282
	B	$H_{069:}\beta_2[X_6{*}R] = 0 \vert \beta_1[X_6] \neq 0$ $H_{a69:}\beta_2[X_6{*}R] \neq 0 \vert \beta_1[X_6] \neq 0$	-0.179*	-0.133	-0.183	-0.177

*[p<0.05]

A positive relationship was expected between *Self-Transcendence* values and valuing individual differences with regard to both the white and non-white groups. Table 4.52 shows that H_{057}, H_{063} and $_{H069}$ which states that the interaction effect of *Self-Transcendence* values by race does not explain significant unique variance in a model that already contains the *Self-Transcendence* values main effect were rejected in favour of the alternative hypotheses. The *Self-Transcendence* values by race interaction effects for all three values comprising the *Self-Transcendence* value reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Self-Transcendence* values and the valuing individual differences (VID) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa. Furthermore, the regression results reported that *Self-Transcendence* value main effects, with the exception of *ecological welfare*, significantly contributed towards explaining unique variance in a model that already contains the *Self-Transcendence* by race interaction effect and consequently H_{058} and H_{070} were rejected in favour of the alternative hypotheses. $H_{064,}$ stating that the *ecological welfare* value main effect do not explain additional unique variance in VID when included in a model that already contains the *ecological* welfare by race interaction effect, could not be rejected. Based on this evidence, the logical deduction would be that the *ecological welfare* value main effect does not explain unique variance in VID, compared to the *ecological* welfare by race interaction effect. Furthermore individual regression models for *benevolence, ecological welfare* and *fairness* values were statistically different from zero at an acceptable level of significance ($p < 0.05$)

The slope of the regression of Y on X_i ($i = 1, 2, 3$) is statistically different for the white group relative to the non-white group across all three values, *benevolence, ecological welfare* and f*airness*, which make up the *Self-Transcendence* value (See Appendix B). In figures 4.11, 4.12 and 4.13 (Appendix B) positive regressions lines are observed for the white group with regard to *benevolence, ecological welfare* and f*airness* values and VID. This finding was expected and supported *a priori* hypotheses that individuals who strongly endorse *Self-Transcendence* values will foster a positive attitude towards cultural diversity. Mixed results were reported for the non-white group. Figure 4.11 portray the regression line for the non-white group with regard to the relationship between *benevolence* and VID as a horizontal line, which could be interpreted to mean that no discernable relationship exists between the *benevolence* value and VID.

When looking at Figure 4.12, a modestly positive relationship between the *ecological welfare* value and VID was reported for the white group, but a modestly negative relationship was found for the non-white group. The negative relationship between the *ecological welfare* value and VID for the non-white group is surprising since initial theorising culminated into predicting a positive relationship between these variables for both the white and non-white groups. These results will be discussed in more detail in chapter 5.

Figure 4.13 portrays a positive relationship between the *fairness* value and VID for both the white and non-white groups. This was congruent with initial theorising.

What the moderating effect of race is on the relationship between these values and VID can only be answered if one examines the relative contributions of specific value main effects relative to their interaction effects on VID.

Standardised Beta coefficients (See Table 4.52.2) reveal that the *benevolence* interaction effect explains more significant variance with regard to VID than the *ecological welfare* value main effect in the saturated regression model. No irrefutable comparison can be made with regard to the relative contributions of the *ecological welfare* main effect vs the interaction effect, due to the non-significant *ecological welfare* main effect. The *fairness* main effect reported a higher standardised regression coefficient compared to the *fairness* interaction effect.

Results in Table 4.52.2 corroborated Hypotheses H_{a57}, H_{a58}, H_{a69}, and $H_{a70.}$ However, H_{a63} and H_{a64} did not survive the opportunity to be refuted due to the observed negative relationship between the *ecological welfare* value and VID with regard to the non-white group. This result is not congruent with initial theorising and the existing body of literature, which suggests the contrary, namely, that a strong positive relationship exists between *Self-Transcendence* values and tolerance for cultural diversity (Schwartz & Struch, 1989).

<u>4.15.1.3 Hypotheses: Openness to Change:</u>

Table 4.52.3: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Openness to Change value main effects [A] and Openness to Change value by race interaction effects [B] with regard to VID.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Self-Direction	A	$H_{076:}\beta_1[X_7] = 0 \mid \beta_2[X_7{*}R] \neq 0$ $H_{a76:}\beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R] \neq 0$	0.152*	0.123	0.154	0.151
	B	$H_{075:}\beta_2[X_7{*}R] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a75:}\beta_2[X_7{*}R] \neq 0 \mid \beta_1[X_7] \neq 0$	-0.210*	-0.189	-0.210	-0.208
Stimulation	A	$H_{082:}\beta_1[X_8] = 0 \mid \beta_2[X_8{*}R] \neq 0$ $H_{a82:}\beta_1[X_8] \neq 0 \mid \beta_2[X_8{*}R] \neq 0$	0.060	-0.035	0.057	0.055
	B	$H_{081:}\beta_2[X_8{*}R] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a81:}\beta_2[X_8{*}R] \neq 0 \mid \beta_1[X_8] \neq 0$	-0.244*	-0.220	-.0225	-0.224

*[p<0.05]

Expected associations between the *Openness to Change* values and the attitude towards cultural diversity for white and non-white groups were expected to be mixed. Negative associations between *self-direction* values and VID were expected for both the white and non-white groups, whilst positive relationships were expected between *stimulation* values and VID.

Results in Table 4.52.3 reveal that H_{075} and H_{081}, which states that the interaction effect of *Openness to Change* values by race does not explain significant unique variance in a model that already contains the *Openness to Change* values main effects, were rejected in favour of the alternative hypotheses. The *Openness to Change* values by race interaction effects for both values comprising the *Openness to Change* value reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$).

The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Openness to Change* values and the valuing individual differences (VID) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa. Furthermore, the regression results indicated that the *self-direction* value main effect significantly contributed towards explaining unique variance in a model that already contains the *self-direction* value by race interaction effects and consequently H_{076} was rejected in favour of the alternative hypotheses. However, $H_{082,}$ stating that the *stimulation* value main effect does not explain unique variance in VID when included in a model that already contains the *stimulation* by race interaction effect, could not be rejected. Based on this evidence, the logical deduction would be that the *stimulation* value main effect does not explain unique variance in VID when included in a model that already contains the *stimulation* by race interaction effect. Furthermore, the individual regression models for *self-direction* ($F=11.648$) and *stimulation* ($F=10.229$) were statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression lines explicating the regression of VID on *self-direction* and *stimulation* are portrayed as Figures 4.14 and 4.15 in Appendix B. For the *self-direction* value the slope of the regression of Y on X_i ($i = 1$) is steeper and positive for the white group relative to the non-white group. This finding was not in line with initial theorising. A negative relationship was expected between *self-direction* values and VID for both the white and non-white groups.

A modestly positive relationship between *self-direction* values and VID was reported for the non-white group. Figures 4.14 portray the regression line of VID on the *self-direction* value as a horizontal line which could be interpreted to mean that no significant relationship exists between the *self-direction* value and VID with regard to the non-white group. The proportion of variance in VID attributable to the interaction effect and the *self-direction* main effect for whites and non-whites can be assessed by examining the standardised beta coefficients in Table 4.52.3. What the moderating effect of race is on the relationship between *self-direction* and VID can only be answered if one examines the relative contributions of the *self-direction* main and interaction effects on VID.

Standardised Beta coefficients (See Table 4.52.3) reveal that the *self-direction* value main effect does not explain more significant variance with regard to VID than the *self-direction* by race interaction effect in the saturated regression model. The partial correlations confirm that the race by *self-direction* interaction effect explains (0.210^2) 4.41% of the variance in VID compared to the (0.154^2) 2.37% variance explained by the *self-direction* main effect. A stronger negative relationship was expected between *self-direction* value and VID with regard to both the white and non-white groups.

The regression lines portrayed in Figure 4.15 reveal that modest negative relationship was found between the *stimulation* value and VID for the white group, whilst a modestly positive relationship was found for the non-white group. A positive relationship was expected for both the white and non-white groups with regard to the *stimulation*-VID linkage. The negative relationship reported for the white group were not in line with initial theorising.

Substantially speaking, only the relationship between the *stimulation* value and VID with regard to the non-white group was confirmed. Hypotheses 75 and 81 was partially corroborated, since it was found that race did indeed moderate the relationship between the *stimulation* value and VID, but the direction of the influence was not in line with *a priori* theorising. As a result, Hypotheses 75, 76, 81 and 82 did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

4.15.1.4 Hypotheses: Hedonism:

Table 4.52.4: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Hedonism value main effects [A] and Hedonism value by race interaction effects [B] with regard to VID.						
Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Hedonism	A	$H_{088:}\beta_1[X_9] = 0 \vert \beta_2[X_9{*}R] \neq 0$ $H_{a88:}\beta_1[X_9] \neq 0 \vert \beta_2[X_9{*}R] \neq 0$	0.028	-0.046	0.027	0.027
	B	$H_{087:}\beta_2[X_9{*}R] = 0 \vert \beta_1[X_9] \neq 0$ $H_{a87:}\beta_2[X_9{*}R] \neq 0 \vert \beta_1[X_9] \neq 0$	-0.234*	-0.226	-0.223	-0.222

*[p<0.05]

A negative relationship was expected between the *Hedonism* value and valuing individual differences (VID) with regard to both white and non-white groups. Results in Table 4.52.4 reveal that H_{087}, which states that the *Hedonism* by race interaction effect does not explain significant unique variance in a model that already contains the *Hedonism* value main effect were rejected in favour of the alternative hypotheses. The *Hedonism* value by race interaction effect reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effect could be interpreted to mean that the relationship between the *Hedonism* value and the valuing individual differences (VID) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa. However, the regression results revealed that the *Hedonism* value main effect did not significantly contributed towards explaining unique variance in VID, when included in a model that already contains the *Hedonism* value by race interaction effects and consequently H_{088} could not be rejected in favour of the alternative hypotheses. H_{a88} maintains that the *Hedonism* value main effect produces variance in valuing individual differences (VID) not attributable to the interaction between race and *Hedonism.* Since hypothesis H_{088} could not be rejected, one can infer that the *Hedonism* value main effect does not explain additional unique variance in VID when included in a model that already contains the *Hedonism* by race interaction effect. Finally, the individual regression model for *Hedonism* ($F=10.199$) was statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression lines explicating the regression of VID on the *Hedonism* value with regard to the white and non-white groups are portrayed as Figure 4.16 in Appendix B. Congruent with initial theorising, a modestly negative relationship was reported for the white group with regard to the relationship between the *Hedonism* value and VID.

It seems that no discernable relationship exists between the *Hedonism* value and VID with regard to the non-white group when investigating Figures 4.16. In Figure 4.16 the regression line of VID on the *self-direction* value is portrayed as a horizontal line which could be interpreted to mean no discernable relationship exists between the *Hedonism* value and VID, regarding the non-white group. What the moderating effect of race is on the relationship between *Hedonism* and VID can only be answered if one examines the relative contributions of the *Hedonism* value main and interaction effects on VID.

Standardised Beta coefficients (See Table 4.52.4) reveal that the *Hedonism* value main effect does not explain significant additional unique variance with regard to VID when included in a model that already contains the *self-direction* by race interaction effect in the saturated regression model. When controlling for the *Hedonism* main effect in the predictor and criterion, the *Hedonism* by race interaction effect explained 4.9% (0.223^2) of the variance in VID.

The direction of the relationship between the *Hedonism* value and VID for both the white and non-white groups was congruent with initial theorising. In addition the *Hedonism* by race interaction effect was statistically different from 0 at an acceptable level of significance ($p<0.05$). As a result, Hypothesis 88 are substantially corroborated, since it survived the opportunity to be refute with an acceptable level of confidence ($p<0.05$).

4.15.1.5 Hypotheses: Self- Enhancement:

Table 4.52.5: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Self-Enhancement value main effects [A] and Self-Enhancement value by race interaction effects [B] with regard to VID.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Achievement	A	H_{094}:β1[X10] = 0|β2[X10*R] ≠ 0 H_{a94}:β1[X10] ≠ 0|β2[X10*R] ≠ 0	0.155*	0.114	0.155	0.152

	B	H_{093}:β2[X10*R] = 0|β1[X10] ≠ 0 H_{a93}:β2[X10*R] ≠ 0|β1[X10] ≠ 0	-0.214*	-0.185	-0.211	-0.210
Power	A	H_{0100}:β1[X11] = 0|β2[X11*R] ≠ 0 H_{a100}:β1[X11] ≠ 0|β2[X11*R] ≠ 0	-0.103	-0.201	-0.098	-0.094
	B	H_{099}:β2[X11*R] = 0|β1[X11] ≠ 0 H_{a99}:β2[X11*R] ≠ 0|β1[X11] ≠ 0	-0.241*	-0.283	-0.224	-0.220

*[p<0.05]

Achievement and *Power* values underlie the second order *Self-Enhancement* factor. Negative relationships between *Self-Enhancement* values and VID were hypothesised for both the white and non-white groups. *Power* and *achievement* are closely defined concepts; insofar as the motivational goal underlying power is the attainment of status and prestige and to control situations and resources (Schwartz, 2005). Per definition, *Self-enhancement* values are expected to be ill at ease with the notion of cultural diversity for both the white and non-white groups.

Results in Table 4.52.5 reveal that H_{093} and H_{099}, which states that the interaction effect of Self-enhancement values by race does not explain significant unique variance in a model that already contains the values main effects, were rejected in favour of the alternative hypotheses. The Self-enhancement values by race interaction effects for both values comprising the Self-enhancement value reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between Self-enhancement values and the valuing individual differences (VID) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa. Furthermore, the regression results revealed that the *achievement* value main effect significantly contributed towards explaining unique variance in a model that already contain the interaction effect and consequently H_{094} was rejected in favour of the alternative hypotheses. However, H_{0100}, stating that the *power* value main effect do not explain unique variance in VID when included in a model that already contains the interaction effect, could not be rejected. Based on this evidence, the logical deduction would be that the *power* value main effect does not explain more unique variance in VID when included in a model that already include the interaction effect. Furthermore, the individual regression models for *achievement*

(F=11.335) *and power* (F=18.318) were statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression of VID on *achievement* and *power* for the white and non-white groups are portrayed in Figures 4.17 and 4.18 in Appendix B. For the *achievement* value the slope of the regression of Y on X_i ($i = 1$) is steeper and positive for the white group relative to the non-white group. This finding was not in line with initial theorising. A negative relationship was expected between *achievement* values and VID for both the white and non-white groups.

Figures 4.17 portray the regression line of VID on the *achievement* value as a horizontal line for the non-white group which could be interpreted to mean that no significant relationship exists between the *achievement* value and VID. What the moderating effect of race is on the relationship between *achievement* and VID can only be answered if one examines the relative contributions of the *achievement* value main and interaction effects on VID.

Standardised Beta coefficients (See Table 4.52.5) reveal that the *achievement* value main effect does not explain more significant variance with regard to VID than the *achievement* by race interaction effect in the saturated regression model. When examining the partial and semi-partial correlations the *achievement* value main effect explained approximately 2.4% (0.155^2) of the variance in VID, when controlling for the interaction effect in the predictor and criterion. When controlling for the *achievement* main effect in the predictor and criterion, the *achievement* by race interaction effect explained 4.45% (0.211^2) of the variance in VID.

The direction of the relationship between the *achievement* value and VID for both the white and non-white groups was not congruent with initial theorising. The *achievement* by race interaction effect was statistically different from 0 at an acceptable level of significance ($p<0.05$).

The regression of VID on the *power* values (See figure 4.18) paints quite a different picture compared to the relationship between the *achievement* value and VID. A relatively strong negative relationship was found for the white and non-white groups, which is in line with *a priori* theorising. A relatively steeper negative correlation was found for the white group compared to the non-white group with regard to the linkage between the *power* value and VID.

The *power* main effect did not significantly ($p < 0.05$) explain variance in VID when included in a model that already contains the interaction between race and the *power* value. When controlling for the *power* main effect in the predictor and criterion, the *power* by race interaction effect explained 5.01% (0.224^2) of the variance in VID.

Results in Table 4.52.5 indicate that the interaction terms are the more important of the two predictors in explaining unique variance in VID. Substantially speaking, only the relationship between the *power* value and VID with regard to the white and non-white group was confirmed. Hypothesis 93 was partially corroborated, since it was found that race did indeed moderate the relationship between the value and VID, but the direction of the influence was not in line with *a priori* theorising. As a result, Hypotheses 93, 94 and 100 did not survive the opportunity to be refuted and therefore cannot be judged to be substantially corroborated. However, hypothesis 99 was statistically confirmed in terms of direction of slope and significance.

4.15.2 One-way interaction effect of race in moderating the relationship between specific values and the tolerance for Affirmative Action (AA) subscale

4.15.2.1 Hypotheses: Conservation

Table 4.52.6: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Conservation value main effects [A] and Conservation value by race interaction effects [B] with regard to AA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Conformity	A	$H_{042:}\beta_1[X_1] = 0 \mid \beta_2[X_1{*}R] \neq 0$ $H_{a42:}\beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R] \neq 0$	0.006	-0.021	0.006	0.006
	B	$H_{041:}\beta_2[X_1{*}R] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a41:}\beta_2[X_1{*}R] \neq 0 \mid \beta_1[X_1] \neq 0$	-0.135*	-0.134	-0.132	-0.132
Tradition	A	$H_{048:}\beta_1[X_2] = 0 \mid \beta_2[X_2{*}R] \neq 0$ $H_{a48:}\beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R] \neq 0$	-0.016	-0.051	-0.016	-0.016
	B	$H_{047:}\beta_2[X_2{*}R] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a47:}\beta_2[X_2{*}R] \neq 0 \mid \beta_1[X_2] \neq 0$	-0.130*	-0.134	-0.125	-0.125
Security	A	$H_{054:}\beta_1[X_3] = 0 \mid \beta_2[X_3{*}R] \neq 0$ $H_{a54:}\beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R] \neq 0$	-0.148*	-0.176	-0.148	-0.146

	B	$H_{053}: \beta_2[X_3*R] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a53}: \beta_2[X_3*R] \neq 0 \mid \beta_1[X_3] \neq 0$	-0.147*	-0.175	-0.147	-0.145

*[p<0.05]

Conformity, tradition and *security* constitute the *Conservation* subscale. A negative relationship was hypothesised between *Conservation* values and tolerance for affirmative action (AA) with regard to both the white and non-white groups. Table 4.52 shows that H_{041}, H_{047} and H_{053} which states that the interaction effect of *Conservation* values by race does not explain significant unique variance in a model that already contains the *Conservation* values main effect were rejected in favour of the alternative hypotheses. The *Conservation* values by race interaction effects for all three values comprising the *Conservation* second order factor reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Conservation* values and the tolerance for affirmative action (AA) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa.

As far as the value main effects are concerned, only the *security* value contributed significantly towards explaining unique variance in a model that already contains the interaction effect and consequently H_{054} was rejected in favour of the alternative hypotheses. H_{042} and H_{048}, which state that the *conformity* and *tradition* value main effects, do not explain unique variance in AA when included in a model that already contains the relevant interaction effects, could not be rejected. Based on this evidence, the logical deduction would be that the *conformity* and *tradition* value main effects do not explain additional unique variance in AA when included in a saturated model that already contains the interaction effects. Lastly, all individual regression models with regard to *conformity* ($F=3.424$), *tradition* ($F=3.473$) *and security* ($F=10.242$) *were* statistically significant ($p < 0.05$).

Figures 4.19; 4.20 and 4.21 portray the regression of tolerance for affirmative action (AA) on the *Conservation* values. Congruent with initial theorising, a negative correlation can be observed in Figure 4.19 between *conformity* value and AA with regard to the non-white group. The horizontal line, observed in Figure 4.19 portrays the regression of AA on the *conformity* value with regard to the white group. Regression lines that take on the form of a flat and horizontal vector, normally signifies that there is little if any correlation between two variables. Figure 4.20 portrays a similar horizontal vector for the regression of AA on the *tradition* value with regard to the white group. One can infer from these graphs that race moderates the relationship between the *conformity* and *tradition* values in much the same way. Figure 4.21 portrays stronger negative correlation for the *security* value with regard to AA for the white group. In general, stronger negative associations were expected between the *Conservation* values and the attitude towards cultural diversity for both the white and non-white groups.

A moderately negative relationship between the *Conservation* values with regard to AA was reported for the non-white group. Figures 4.19; 4.20 and 4.21 portray the regression lines for the non-white group. All three individual values comprising *Conservation* value reported negative relationships with regard to VID, AA and CA for the non-white group. These relationships are congruent with initial theorising.

No conclusive evidence was found that supported the postulated negative relationship between the *Conservation* values with regard to the white group, other than the *security* value. Therefore, only Hypothesis H_{a53}, and H_{a54} were statistically confirmed for both the white and non-white groups. In general strong negative relationship were expected between the *Conservation* values and AA for both white and non-white groups, since considerable evidence in literature suggests that a strong negative relationship exist between *Conservation* values and pro-social behaviours and attitudes (Schwartz & Struch, 1989).

The nature of the moderating effect of race on the relationship between *Conservation* values and AA can only be assessed by looking at the relative contributions of specific value main effects relative to the value by race interaction effects on the dependent variable (AA). Pallant (2001) suggest looking at the standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients associated with the two effects included in the regression model.

Standardised Beta coefficients (See Table 4.52.6) for *conformity* and *tradition* reveal that the interaction effects made a greater contribution towards explaining variance in AA for both values in the saturated model (i.e. regression model that include the main and interaction effects). For the *security* value, the standardised beta coefficient for the value main effect was marginally higher compared to the interaction effect.

The standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients associated with the two effects included in the model indicate that the interaction between race and *Conservation* values contribute more towards explaining unique variance in the dependable variable (AA).

The partial correlations in Table 4.52.6 indicate that when one controls the *conformity* main effect in the predictor and criterion, the *conformity* by race interaction effect explained 1.74% (0.132^2) of the variance in AA. When controlling for the *tradition* main effect in the predictor and criterion, the *tradition* by race interaction effect explained 1.56% (0.125^2) of the variance in AA.

The *security* value main effect explained approximately 2.19% (0.148^2) of the variance in AA, when controlling for the interaction effect in the predictor and criterion. When controlling for the *security* main effect in the predictor and criterion, the *security* by race interaction effect explained 2.16% (0.147^2) of the variance in AA.

The foregoing standardised regression coefficients, partial and semi-partial correlations indicate that the interaction effects seem to be the more important of the two predictors entered into the respective regression models, with the exception of the *security* main effect which explained marginal more unique variance in AA compared to the interaction effect.

4.15.2.2 Hypotheses: Self-Transcendence:

Table 4.52.7: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Self-Transcendence value main effects [A] and Self-Transcendence value by race interaction effects [B] with regard to AA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Benevolence	A	H_{060}: $\beta_1[X_4] = 0 \mid \beta_2[X_4*R] \neq 0$ H_{a60}: $\beta_1[X_4] \neq 0 \mid \beta_2[X_4*R] \neq 0$	0.011	-0.024	0.011	0.011
	B	H_{059}: $\beta_2[X_4*R] = 0 \mid \beta_1[X_4] \neq 0$ H_{a59}: $\beta_2[X_4*R] \neq 0 \mid \beta_1[X_4] \neq 0$	-0.143*	-0.141	-0.139	-0.139
Ecological Welfare	A	H_{066}: $\beta_1[X_5] = 0 \mid \beta_2[X_5*R] \neq 0$ H_{a66}: $\beta_1[X_5] \neq 0 \mid \beta_2[X_5*R] \neq 0$	-0.127*	-0.191	-0.116	-0.113

	B	$H_{065:}\beta_2[X_5{*}R] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a65:}\beta_2[X_5{*}R] \neq 0 \mid \beta_1[X_5] \neq 0$	-0.140*	-0.198	-0.127	-0.124
Fairness	A	$H_{072:}\beta_1[X_6] = 0 \mid \beta_2[X_6{*}R] \neq 0$ $H_{a72:}\beta_1[X_6] \neq 0 \mid \beta_2[X_6{*}R] \neq 0$	0.111*	0.089	0.111	0.110
	B	$H_{071:}\beta_2[X_6{*}R] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a71:}\beta_2[X_6{*}R] \neq 0 \mid \beta_1[X_6] \neq 0$	-0.138*	-0.120	-0.136	-0.136

*[p<0.05]

Benevolence, ecological welfare and *fairness* constitute the *Self-Transcendence* subscale. A positive relationship was expected between *Self-Transcendence* values and tolerance for affirmative action (AA) with regard to both the white and non-white groups. Table 4.52 shows that H_{059}, H_{065} and $_{H071}$ which states that the interaction effect of *Self-Transcendence* values by race does not explain significant unique variance in AA, when included in a model that already contains the *Self-Transcendence* main effects were rejected in favour of the alternative hypotheses. The *Self-Transcendence* values by race interaction effects for all three values comprising the *Self-Transcendence* value reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Self-Transcendence* values and the tolerance for affirmative action (AA) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa. Furthermore, the regression results revealed that *Self-Transcendence* value main effects, with the exception of *benevolence*, significantly contributed towards explaining unique variance in AA, when included in a model that already contains the interaction effect and consequently H_{066} and H_{072} were rejected in favour of the alternative hypotheses. $H_{060,}$ stating that the *benevolence* value main effect do not explain unique variance in AA when included in a model that already contains the *benevolence* by race interaction effect, could not be rejected. Based on this evidence, the logical deduction would be that the *benevolence* value main effect does not explain more unique variance in AA, compared to the *benevolence* by race interaction effect. Furthermore the individual regression models for *benevolence* (F=3.799)*, ecological welfare* (F=10.300) and *fairness* (F=5.077) values were statistically different from zero at an acceptable level of significance ($p < 0.05$)

When looking at the graphical representations of the three specific values of *benevolence*, *ecological welfare* and *fairness* that underlie the *Self-Transcendence* second order factor, it becomes clear that the slopes and intercepts of these three values are distinctly different from one another (See Figures 4.22; 4.23 and 4.24). It was expected that the individual values that underlie the *Self-Transcendence* second order factor would respond in a synchronised fashion towards the dependent variable (AA) due to the substantive overlap across these values. A modestly negative relationship was found for the regression of the AA on the *benevolence* value for both the white and non-white groups. Figure 4.22 reveals that the slope of the regression was more negative for the non-white group compared to the white group. The negative slopes observed in Figure 4.22 indicate that the tolerance for affirmative action decreases when *benevolence* increases with one unit. The general negative relationship found between the *benevolence* value and AA was not expected and is contradictory with most available literature on values (Schwartz, 2005).

A strong negative relationship was also found for the regression of AA on the *ecological welfare* value with regard to both the white and non-white groups (See Figure 4.23). This result is not congruent with initial theorising. A positive relationship was found between the *fairness* value and AA with regard to both the white and non-white groups (See Figure 4.24). This finding was expected and supported the initial hypotheses that individuals who strongly endorse *fairness* values will foster a positive attitude towards cultural diversity in general, and tolerance for affirmative action, in particular.

The standardised regression coefficients and partial correlations shed some light on the relative contributions of the interaction and main effects of values on AA. Examination of Table 4.52.7 reveals that for all three values that underlie the *Self-Transcendence* second order factor, the interaction effect explained more unique variance in AA that the value main effects.

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When considering the partial and semi-partial correlations, the *benevolence* by race interaction effect explained approximately 1.93% (0.139^2) of the variance in AA, when controlling for the *benevolence* value main effect in the predictor and criterion. The *ecological welfare* by race interaction effect explained approximately 1.61% (0.127^2) of the variance in AA, when controlling for the main effect compared to 1.34% (0.116^2) of the variance attributable to the *ecological welfare* main effect. The *fairness* by race interaction effect explained approximately 1.84% (0.136^2) of the unique variance in AA, when controlling for the value main effect, compared to 1.23% (0.111^2) of the variance attributable to the *fairness* main effect.

The standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients associated with the two effects included in the model indicate that the interaction between race and *Self-Transcendence* values contribute more towards explaining unique variance in the dependable variable (AA). Substantially speaking, only the relationship between the *fairness* value and AA with regard to both the white and non-white groups was confirmed by the regression analysis. Hypotheses 59 and 65 were partially corroborated, since it was found that race did indeed moderate the relationships between the *benevolence* and *ecological welfare* values and AA, but the direction of the influence was not in line with *a priori* theorising. As a result, Hypotheses 59, 60, 65 and 66 did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

4.15.2.3 Hypotheses: Openness to Change:

Table 4.52.8: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Openness to Change value main effects [A] and Openness to Change value by race interaction effects [B] with regard to AA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Self-Direction	A	$H_{078}:\beta_1[X_7] = 0 \mid \beta_2[X_7{*}R] \neq 0$ $H_{a78}:\beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R] \neq 0$	-0.027	-0.048	-0.027	-0.027
	B	$H_{077}:\beta_2[X_7{*}R] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a77}:\beta_2[X_7{*}R] \neq 0 \mid \beta_1[X_7] \neq 0$	-0.148*	-0.152	-0.147	-0.147
Stimulation	A	$H_{084}:\beta_1[X_8] = 0 \mid \beta_2[X_8{*}R] \neq 0$ $H_{a84}:\beta_1[X_8] \neq 0 \mid \beta_2[X_8{*}R] \neq 0$	-0.091	-0.151	-0.085	-0.084
	B	$H_{083}:\beta_2[X_8{*}R] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a83}:\beta_2[X_8{*}R] \neq 0 \mid \beta_1[X_8] \neq 0$	-0.154*	-0.189	-0.143	-0.142

*[p<0.05]

Self-direction and *Stimulation* values underlie the *Openness to Change* factor. Expected associations between the *Openness to Change* values and the attitude towards cultural diversity for white and non-white groups were expected to be mixed. A negative relationship was hypothesised between *self-direction* and AA for the white group whilst a positive relationship was predicted between *self-direction* and AA for the non-white group. A positive relationship was expected between the *stimulation* value and AA for both the white and non-white groups.

Results in Table 4.52 reveal that H_{077} and H_{083}, which states that the interaction effect of *Openness to Change* values by race does not explain significant unique variance in AA, when included in a model that already contains the *Openness to Change* values main effects, were rejected in favour of the alternative hypotheses. The *Openness to Change* values by race interaction effects for both values comprising the *Openness to Change* value reported coefficients that are statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Openness to Change* values and the tolerance for affirmative action (AA) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa. Furthermore, the regression results revealed that the *Openness to Change* value main effects did not significantly contributed towards explaining unique variance in AA, when included in a model that already contained the *Openness to Change* values by race interaction effects and consequently H_{078} and H_{084} could not be rejected in favour of the alternative hypotheses. The proportion of variance in AA explained by the *self-direction* and *stimulation* main effects is therefore not significant. However, the individual regression models for *self-direction* and *stimulation* were statistically different from zero at an acceptable level of significance ($p < 0.05$), thus implying that both reported F-values were significant.

The regression lines explicating the regression of AA on *self-direction* and *stimulation* are portrayed as Figures 4.25 and 4.26 in Appendix B. A negative relationship between the *self-direction* value and AA was reported for both the white and non-white groups, although the gradient of the regression line for the white group was relatively more negatively sloped. The negative regression of AA on *self-direction* for both the white and non-white groups is not congruent with initial theorising. A negative relationship between the *self-direction* value and AA was only predicted with regards to the white group. Therefore, the substantive theorising underlying Hypothesis 77 is refuted.

Figures 4.25 portray the regression line of AA on the *self-direction* value as a horizontal line which could be interpreted to mean that no discernable relationship exists between the *self-direction* value and AA. The proportion of variance in AA attributable to the interaction effect and the *self-direction* main effect for whites and non-whites can be assessed by examining the standardised beta coefficients. The relative contribution of the *self-direction* value main effect in comparison with the *self-direction* by race interaction effect can be determined by looking at the standardised regression coefficients and partial correlations in Table 4.52.7.

The partial correlations confirm that the race by *self-direction* interaction effect explains (0.147^2) 2.16% of the variance in AA when controlling for the *self-direction* main effect. A stronger positive relationship was expected between *self-direction* values and AA for the non-white group.

The regression lines portrayed in Figure 4.26 reveal that modest negative relationships were found between the *stimulation* value and AA for non-white group, whilst a moderately negative relationship was found for the white group. A positive relationship was expected for both the white and non-white groups with regard to the *stimulation*-AA relationship. The negative relationships reported for the white and non-white groups were not in line with initial theorising.

Table 4.52.8 indicate that the *stimulation* by race interaction effect explained (0.143^2) 2.04% of the variance in AA. Hypothesis 84 signified that the *stimulation* value main effect did not significantly ($p<0.05$) contribute towards explaining unique variance in AA, when included in a model that already contains the interaction effect. Therefore, it makes no sense to interpret the partial correlation for the *stimulation* main effect.

In summary, the substantive reasoning that underlie hypotheses 77, 78, 83 and 84 did not survive the opportunity to be refute and therefore can not be considered to be empirically corroborated.

4.15.2.4 Hypotheses: Hedonism:

Table 4.52.9: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Hedonism value main effects [A] and Hedonism value by race interaction effects [B] with regard to AA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Hedonism	A	$H_{090}: \beta_1[X_9] = 0 \mid \beta_2[X_9{*}R] \neq 0$ $H_{a90}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9{*}R] \neq 0$	-0.064*	-0.119	-0.062	-0.061

	B	$H_{089:}\beta_2[X_9{*}R] = 0 \vert \beta_1[X_9] \neq 0$ $H_{a89:}\beta_2[X_9{*}R] \neq 0 \vert \beta_1[X_9] \neq 0$	-0.174	-0.194	-0.166	-0.185

*[p<0.05]

A negative relationship was expected between the *Hedonism* value and tolerance for affirmative action (AA) with regard to the white group, but a positive relationship was predicted for the non-white group. Results in Table 4.52 reveal that H_{089}, which states that the *Hedonism* by race interaction effect does not explain significant unique variance in AA, when included in model that already contains the *Hedonism* value main effect were rejected in favour of the alternative hypotheses. The *Hedonism* value by race interaction effect reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effect could be interpreted to mean that the relationship between the *Hedonism* value and the tolerance for affirmative action (AA) subscale is significantly different, in terms of the slope, for white and non-white groups in South Africa. However, the regression results revealed that the *Hedonism* value main effect did not significantly contributed towards explaining unique variance in a model that already contains the *Hedonism* value by race interaction effects and consequently H_{090} could not be rejected in favour of the alternative hypotheses. H_{a90} maintains that the *Hedonism* value main effect produces variance in AA not attributable to the interaction between race and *Hedonism*. Since hypothesis H_{090} could not be rejected in favour of H_{a90}, one can conclude that the *Hedonism* value main effect does not explain additional unique variance in AA when included in a model that already contains the *Hedonism* by race interaction effect. Finally, the individual regression model for *Hedonism* ($F=8.111$) was statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression lines explicating the regression of AA on the *Hedonism* value with regard to the white and non-white groups are portrayed as Figure 4.27 in Appendix B. Congruent with initial theorising, a negative relationship was reported for the white group whilst a positive relationship was found for the non-white groups with regard to the relationship between the *Hedonism* value and AA. Therefore, the substantive theorising underlying Hypothesis 90 is corroborated.

Standardised Beta coefficients (See Table 4.52.8) reveal that the *Hedonism* value main effect does not explain additional unique variance with regard to AA compared to the *Hedonism* by race interaction effect in the saturated regression model. When examining the partial correlation the *Hedonism* by race interaction effect explained approximately 2.7% (0.166^2) of the variance in AA, when controlling for the main effect in the predictor and criterion.

The direction of the relationship between the *Hedonism* value and VID for both the white and non-white groups was congruent with initial theorising. The theorising that culminated into hypothesis 90 survived the opportunity to be refuted. The substantive presupposition that white South Africans will foster a general negative attitude towards the *Hedonism* value in the context of affirmative action, whilst non-whites who highly regard the *hedonism* value will probably express pro-affirmative action attitudes makes practical sense in the contemporary South African society. Statistical support for this supposition has been found.

4.15.2.5 Hypotheses: Self- Enhancement:

Table 4.52.10: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Self-Enhancement value main effects [A] and Self-Enhancement value by race interaction effects [B] with regard to AA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Achievement	A	H_{096}:$\beta_1[X_{10}] = 0 \vert \beta_2[X_{10}*R] \neq 0$ H_{a96}:$\beta_1[X_{10}] \neq 0 \vert \beta_2[X_{10}*R] \neq 0$	0.043	0.017	0.043	0.043
	B	H_{095}:$\beta_2[X_{10}*R] = 0 \vert \beta_1[X_{10}] \neq 0$ H_{a95}:$\beta_2[X_{10}*R] \neq 0 \vert \beta_1[X_{10}] \neq 0$	-0.141*	-0.133	-0.139	-0.139
Power	A	H_{0102}:$\beta_1[X_{11}] = 0 \vert \beta_2[X_{11}*R] \neq 0$ H_{a102}:$\beta_1[X_{11}] \neq 0 \vert \beta_2[X_{11}*R] \neq 0$	-0.154*	-0.229	-0.145	-0.140
	B	H_{0101}:$\beta_2[X_{11}*R] = 0 \vert \beta_1[X_{11}] \neq 0$ H_{a101}:$\beta_2[X_{11}*R] \neq 0 \vert \beta_1[X_{11}] \neq 0$	-0.183*	-0.246	-0.172	-0.167

*[p<0.05]

Achievement and *Power* values underlie the second order *Self-Enhancement* factor. The relationship between the *Self-Enhancement* values and the tolerance for affirmative action (AA) subscale were expected to be mixed with regard to the white and non-white groups. Negative associations were predicted for the white group with regard to the relationships between the *Self-Enhancement* values and AA. On the other hand, a general positive relationship was expected between the *Self-Enhancement* values and AA for the non-white group. The affirmative action legislative framework awards some privileges to members pertaining to the previously disadvantaged sections of the South African population which can prove to be instrumental for the gratification of *Self-Enhancement* values. *Power* and *achievement* are closely defined concepts; insofar as the motivational goal underlying *power* is the attainment of status and prestige and to control situations and resources (Schwartz, 2005). Affirmative action has the ability to advance non-white individuals into institutional power positions which will serve motivation rewards associated with *power* and *achievement* values. Therefore a positive relationship was hypothesised between *Self-Enhancement* values and AA for the non-white group.

Results in Table 4.52 reveal that H_{095} and H_{0101}, which states that the interaction effect of Self-enhancement values by race does not explain significant unique variance in AA, when included in a model that already contains the values main effects were rejected in favour of the alternative hypotheses. The Self-enhancement values by race interaction effects for both values comprising the Self-enhancement value reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between Self-enhancement values and the tolerance for affirmative action (AA) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa.

Furthermore, the regression results revealed that the *power* value main effect significantly contributed towards explaining unique variance in a model that already contain the interaction effect and consequently H_{0102} was rejected in favour of the alternative hypotheses. However, H_{096}, stating that the *achievement* value main effect do not explain unique variance in AA when included in a model that already contains the interaction effect, could not be rejected. Since hypothesis H_{096} could not be rejected, one can infer that the *achievement* value main effect does not explain additional unique variance in AA when included in a model that already contains the *achievement* by race interaction effect. Finally, the individual regression models for *achievement* and *self-direction* were statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression of AA on *achievement* and *power* for the white and non-white groups are portrayed in Figures 4.28 and 4.29 in Appendix B. A positive relationship was reported between the *achievement* values and AA with regard to the white group. A flat and horizontal regression line was found for the regression of AA on the *achievement* value with regard to the non-white group. Regression lines that take on the form of a flat and horizontal vector, normally signifies that there is little if any correlation between two variables. The positive relationship reported between the achievement value and AA for the white group runs contrary to initial theorising and refutes the predicted direction of causality between the two variables. A strong negative relationship was expected between *achievement* values and AA for the white group. In addition, a stronger positive relationship was expected between the *achievement* value and AA with regard to the non-white group.

When examining the partial and semi-partial correlations, the *achievement* by race interaction effect explained approximately 1.93% (0.139^2) of the variance in AA, when controlling for the *achievement* main effect in the predictor and criterion.

The regression of AA on the *power* value (See figure 4.29) paints quite a different picture compared to the relationship between the *achievement* value and AA. A relatively strong negative relationship was found for the white and non-white groups. This result was expected for the white group, but not the non-white group. As a result, the substantive theorising underlying Hypothesis 89 was refuted by these research results.

The standardised correlation coefficients as well as partial and semi-partial correlations reported in Table 4.52.10 suggests that the *power* by race interaction term in the regression model explains relatively more unique variance in AA compared to the *power* value main effect.

The *power* value main effect explained approximately 2.1% (0.145^2) of the variance in AA, when controlling for the interaction effect in the predictor and criterion. When controlling for the *power* main effect in the predictor and criterion, the *power* by race interaction effect explained 2.95% (0.172^2) of the variance in AA.

Substantially speaking, only the relationship between the *power* value and AA with regard to the white group was confirmed. Hypotheses 95 and 101 was partially corroborated, since it was found that race did indeed moderate the relationship between the *achievement* and *power* values with regard to AA, but the direction of the influence was not in line with *a* *priori* theorising. As a result, Hypotheses 95, 96, 101 and 102 did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

4.15.3 One-way interaction effect of race in moderating the relationship between specific values and the cultural diversity as a source of Competitive Advantage (CA) subscale

4.15.3.1 Hypotheses: Conservation:

Table 4.52.11: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Conservation value main effects [A] and Conservation value by race interaction effects [B] with regard to CA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Conformity	A	$H_{044}: \beta_1[X_1] = 0 \mid \beta_2[X_1{*}R] \neq 0$ $H_{a44}: \beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R] \neq 0$	0.210*	0.186	0.206	0.206
	B	$H_{043}: \beta_2[X_1{*}R] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a43}: \beta_2[X_1{*}R] \neq 0 \mid \beta_1[X_1] \neq 0$	-0.122*	-0.081	-0.122	-0.120
Tradition	A	$H_{050}: \beta_1[X_2] = 0 \mid \beta_2[X_2{*}R] \neq 0$ $H_{a50}: \beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R] \neq 0$	0.158*	0.127	0.152	0.152
	B	$H_{049}: \beta_2[X_2{*}R] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a49}: \beta_2[X_2{*}R] \neq 0 \mid \beta_1[X_2] \neq 0$	-0.112*	-0.069	-0.109	-0.108
Security	A	$H_{056}: \beta_1[X_3] = 0 \mid \beta_2[X_3{*}R] \neq 0$ $H_{a56}: \beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R] \neq 0$	0.054	0.029	0.053	0.053
	B	$H_{055}: \beta_2[X_3{*}R] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a55}: \beta_2[X_3{*}R] \neq 0 \mid \beta_1[X_3] \neq 0$	-0.135*	-0.125	-0.132	-0.132

*[p<0.05]

Conformity, tradition and *security* constitute the *Conservation* subscale. A negative relationship was hypothesised between *Conservation* values and the cultural diversity as a source of competitive advantage (CA) subscale with regard to both the white and non-white groups. Table 4.52.11 indicates that H_{043}, H_{049} and H_{055} which states that the *Conservation* by race interaction effect does not explain significant unique variance in CA, when included in a model that already contains the *Conservation* values main effect, were rejected in favour of the alternative hypotheses. The *Conservation* values by race interaction effects for all three values comprising the *Conservation* second order factor reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Conservation* values and the CA subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa.

As far as the value main effects are concerned, only the *security* value did not contributed significantly towards explaining unique variance in CA, when included in a model that already contains the interaction effect and consequently H_{056} could not be rejected in favour of the alternative hypotheses. Results from Table 4.52 indicate that H_{044} and H_{050} were rejected in favour of the alternative hypotheses, which state that the *conformity* and *tradition* value main effects does significantly ($p < 0.05$) explain unique variance in CA when included in a model that already contains the relevant interaction effects. Finally, all individual regression models with regard to *conformity* (F=9.631), *tradition* (F=5.371), *and security* (F=3.501) *were* statistically significant ($p < 0.05$).

Figures 4.30; 4.31 and 4.32 portray the regression of CA on the *Conservation* values. Contrary to initial theorising, a positive relationship can be observed in Figure 4.30 between the *conformity* values and CA with regard to the white and non-white groups. A strong negative relationship was expected between the *conformity* values and CA with regard to both the white and non-white groups. It could be argued that the substantive theorising underlying Hypothesis 44 was refuted by these research results.

Figure 4.31 portrays the regression of the *tradition* value on CA with regard to the white and non-white groups. The regression lines observed in Figure 4.31 is very similar to the observed relationship between the *conformity* value and CA. Positive relationships between the *tradition* value and CA was observed for both groups, although the slope for the white groups was more pronouncedly sloped compared to the non-white. This finding runs contrary to initial theorising. This result largely refutes the substantive reasoning underlying hypotheses 49 and 50.

A moderately positive relationship between the *security* value and CA was reported for the non-white group. Figures 4.32 portray the regression vector for the white group as a horizontal line, which could be interpreted to mean that no significant relationship exists between the *security* value and CA. A stronger negative relationship was expected between the *security* value and CA for the white group. This finding largely refutes the underlying theorising that led to the formulation of hypotheses 55 and 56.

These finding refuted the *a priori* theorising that guided the formulation of hypotheses H_{a44}, H_{a50} and $H_{a56.}$ Considerable evidence in literature suggests that a strong negative relationship exist between *Conservation* values and cultural diversity as a source of competitive advantage (CA) (Schwartz & Struch, 1989).

The nature of the moderating effect of race on the relationship between *Conservation* values and CA can only be assessed by looking at the relative contributions of specific value main effects relative to the value by race interaction effects on the dependent variable (CA). Pallant (2001) suggest looking at the standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients when evaluating the relative contributions of main effects entered into a regression model.

Standardised Beta coefficients (See Table 4.52.11) for the *Conservation* values reveal that the values main effects made a greater contribution towards explaining variance in CA for *conformity* and *tradition* values, but not for the *security* value, when included in a saturated model which already contains the interaction effects. Standardised regression coefficients of the *Conservation* values in Table 4.52.11 reveal that only for the *security* value did the interaction effect explained relatively more unique variance in CA, when included in a model that already contains the *security* value main effect. For *conformity* and *tradition*, the value main effects explained more unique variance in the saturated regression model.

The standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients associated with the *Conservation* values indicate that of the two effects included in the model, the values main effects contribute more towards explaining unique variance in the dependable variable (CA), with the exception of the *security* value.

Substantially speaking, none of the *Conservation* values-CA hypothesised linkages has been statistically established. Hypotheses 43, 49 and 55 was partially corroborated, since it was found that race did indeed moderate the relationship between the *conformity, tradition* and *security* values with regard to CA, but the direction of the influence was not in line with *a* *priori* theorising. As a result, these hypotheses did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

4.15.3.2 Hypotheses: Self-Transcendence:

Table 4.52.12: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Self-Transcendence value main effects [A] and Self-Transcendence value by race interaction effects [B] with regard to CA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Benevolence	A	$H_{062}: \beta_1[X_4] = 0 \mid \beta_2[X_4*R] \neq 0$ $H_{a62}: \beta_1[X_4] \neq 0 \mid \beta_2[X_4*R] \neq 0$	0.152*	0.121	0.148	0.147
	B	$H_{061}: \beta_2[X_4*R] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a61}: \beta_2[X_4*R] \neq 0 \mid \beta_1[X_4] \neq 0$	-0.125*	-0.088	-0.122	-0.121
Ecological Welfare	A	$H_{068}: \beta_1[X_5] = 0 \mid \beta_2[X_5*R] \neq 0$ $H_{a68}: \beta_1[X_5] \neq 0 \mid \beta_2[X_5*R] \neq 0$	0.053	-0.003	0.047	0.047
	B	$H_{067}: \beta_2[X_5*R] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a67}: \beta_2[X_5*R] \neq 0 \mid \beta_1[X_5] \neq 0$	-0.121*	-0.097	-0.108	-0.108
Fairness	A	$H_{074}: \beta_1[X_6] = 0 \mid \beta_2[X_6*R] \neq 0$ $H_{a74}: \beta_1[X_6] \neq 0 \mid \beta_2[X_6*R] \neq 0$	0.205*	0.189	0.203	0.203
	B	$H_{073}: \beta_2[X_6*R] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a73}: \beta_2[X_6*R] \neq 0 \mid \beta_1[X_6] \neq 0$	-0.099	-0.066	-0.099	-0.097

*[p<0.05]

Benevolence, *ecological welfare* and *fairness* constitute the *Self-Transcendence* subscale. A positive relationship was expected between *Self-Transcendence* values and cultural diversity as a source of competitive advantage (CA) with regard to both the white and non-white groups. Table 4.52.12 shows that H_{061} and H_{067} which states that the interaction effect of *benevolence* and *ecological welfare* values by race does not explain significant unique variance in CA, when included in a model that already contains the value main effect were rejected in favour of the alternative hypotheses. Due to the non-significant p-value (i.e p > 0.05) with regard to Hypothesis $H_{073,}$ one can conclude that the *fairness* by race interaction effect did not explain significant (p < 0.05) unique variance in CA, when included in a model that already contains the *fairness* main effect. The statistically significant (p<0.05) interaction effects reported for the *benevolence* and *ecological welfare* values could be interpreted to mean that the relationship between these values and the CA are significantly different, in terms of the slope, for white and non-white groups in South Africa.

Benevolence and *fairness* main effects significantly ($p<0.05$) contributed towards explaining unique variance in CA, when included in a model that already contain the interaction effect and consequently H_{062} and H_{074} were rejected in favour of the alternative hypotheses. Furthermore, the regression results revealed that the *Self-Transcendence* main effects, with the exception of the *ecological welfare* significantly ($p < 0.05$) explain unique variance in CA when included in a model that already contains the value by race interaction effect. Based on this evidence, the logical deduction would be that the *ecological welfare* value main effect does not explain unique variance in CA, when included in a model that already contains the interaction effects.

Furthermore the individual regression model for *benevolence* ($F=5.642$), and *fairness* ($F=2.208$), values were statistically different from zero at an acceptable level of significance ($p < 0.05$). The *ecological welfare* ($F=8.888$), regression model, which contain both the value main effect term and the interaction effect term were not significant ($p = 0.111$; $p > 0.05$) and had to be rejected.

Figures 4.33; 4.34 and 4.35 (See Appendix B) portray the regression of CA on the values that constitute the *Self-Transcendence* second order value factor. A positive relationship was expected between the *Self-Transcendence* values and CA. Upon examination of Figure 4.33, a positive relationship was found for the regression of CA on the *benevolence* value for both the white and non-white groups. In Figure 4.33 one can see that the slope of the regression was more positively inclined for the white group compared to the non-white group. This means that CA increases at a higher rate when *benevolence* increases with one unit for the white group compared to the non-white group. The general positive relationship was expected for the *benevolence* value with regard to CA for both the white and non-white groups. Strong empirical support exists in literature that confirms the positive relationship between the *benevolence* value and pro-social behaviours (Sverko, 1995; Struch, Schwartz & Van der Kloot, 2002; Seligman & Katz, 1996).

Figure 4.34 portray the regression of CA on the *ecological welfare* value as a horizontal line, which could be interpreted to mean that no discernable relationship exists between the latent variables for both the white and non-white groups. A stronger positive relationship was expected between the *ecological welfare* value and CA for both the white and non-white groups. This finding largely refutes the underlying theorising that guided the formulation of hypotheses 67 and 68.

Figure 4.35 portrays the regression of CA on the *fairness* value with regard to the white and non-white groups. A general positive relationship was found for both groups, which is congruent with initial theorising.

The standardised regression coefficients and partial correlations shed some light on the relative contributions of the interaction and main effect of values on CA. Examination of Table 4.52.12 indicates that stronger standardised regression coefficients were found for the *fairness* and *benevolence* values main effects in comparison with the interaction effects for these values. Only the *ecological welfare* value reported standardised regression coefficient that was higher for the interaction effect than for the main effect. Therefore, when considering the values comprising the Self-*Transcendence* values, only the *ecological welfare* interaction effect explained more unique variance in CA, when included in a model that already contains the values main effects.

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When considering the partial correlations, the *benevolence* value main effect explained approximately 2.19% (0.148^2) of the variance in CA, when controlling for the interaction effect in the predictor and criterion. The *benevolence* by race interaction effect explained approximately 1.48% (0.122^2) of the variance in CA, when controlling for the *benevolence* value main effect. The *ecological welfare* by race interaction effect explained approximately 1.16% (0.108^2) of the variance in CA, when controlling for the *ecological welfare* value main effect. The *fairness* value main effect explained approximately 4.12% (0.203^2) of the variance in CA, when controlling for the *fairness* by race interaction effect.

Substantially speaking, only the relationship between the *benevolence* value and CA with regard to the both the white and non-white groups was confirmed. Hypothesis 67 was partially corroborated, since it was found that race did indeed moderate the relationship between the *ecological welfare* value and CA, but the direction of the influence was not in line with *a priori* theorising. As a result, Hypotheses 67, 68 and 73 did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

4.15.3.3 Hypotheses: Openness to Change:

Table 4.52.13: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Openness to Change value main effects [A] and Openness to Change value by race interaction effects [B] with regard to CA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Self-Direction	A	$H_{080}: \beta_1[X_7] = 0 \mid \beta_2[X_7{*}R] \neq 0$ $H_{a80}: \beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R] \neq 0$	0.197*	0.182	0.196	0.195
	B	$H_{079}: \beta_2[X_7{*}R] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a79}: \beta_2[X_7{*}R] \neq 0 \mid \beta_1[X_7] \neq 0$	-0.109*	-0.082	-0.110	-0.108
Stimulation	A	$H_{086}: \beta_1[X_8] = 0 \mid \beta_2[X_8{*}R] \neq 0$ $H_{a86}: \beta_1[X_8] \neq 0 \mid \beta_2[X_8{*}R] \neq 0$	0.067	0.012	0.062	0.061
	B	$H_{085}: \beta_2[X_8{*}R] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a85}: \beta_2[X_8{*}R] \neq 0 \mid \beta_1[X_8] \neq 0$	-0.141*	-0.116	-0.130	-0.130

*[p<0.05]

Self-direction and *Stimulation* values underlie the *Openness to Change* factor. Expected associations between the *Openness to Change* values and the attitude towards cultural diversity for white and non-white groups were expected to be mixed. A negative relationship was hypothesised between *self-direction* value and CA with regard to the white and non-white groups. A positive relationship was expected between the *stimulation* value and CA for both the white and non-white groups.

Results in Table 4.52.13 reveal that H_{079} and H_{085}, which states that the interaction effect of *Openness to Change* values by race does not explain significant unique variance in CA, when included in a model that already contains the *Openness to Change* values main effects, were rejected in favour of the alternative hypotheses. The *Openness to Change* values by race interaction effects for both values comprising the *Openness to Change* value reported coefficients that are statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Openness to Change* values and cultural diversity as a source of competitive advantage (CA) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa. Furthermore, the regression results revealed that the *stimulation* value main effect did not significantly contributed towards explaining unique variance in CA, when included in a model that already contained the *stimulation* value by race interaction effects and consequently H_{086} could not be rejected in favour of the alternative hypotheses. However, the *self-direction* value main effect significantly contributed towards explaining unique variance in CA, when included in a model that already contained the *self-direction* value by race interaction effect and consequently H_{080} was rejected in favour of the alternative hypotheses. Finally, the individual regression models for *self-direction* and *stimulation* were statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression lines explicating the regression of CA on *self-direction* and *stimulation* are portrayed as Figures 4.36 and 4.37 in Appendix B. A positive relationship between the *self-direction* value and CA was reported for both the white and non-white groups, although the gradient of the regression line for the white group was relatively more positively inclined compared to the non-white group. This finding was not congruent with initial theorising since a negative relationship was predicted between the *self-direction* value and CA for the white group. The partial correlations confirm that the race by *self-direction* interaction effect explains (0.110^2) 1.21% of the variance in CA compared to the (0.196^2) 3.8% of variance explained by the *self-direction* main effect. From these statistics it seems that the *self-direction* main effect is the more important of the two predictors in the regression model. However, due to the positive direction of the relationship between the *self-direction* value and CA, hypotheses 79 and 80 can be considered to be substantially refuted.

A moderately positive relationship between the *stimulation* value and CA was reported for both the white and non-white groups. Figures 4.37 portray the regression line of CA on the *stimulation* value with regard to both the white and non-white groups. The proportion of variance in CA attributable to the interaction effect and the *stimulation* main effect for whites and non-whites can be assessed by examining the standardised beta regression coefficients in Table 4.52.13. The relative contribution of the *stimulation* value main effect in comparison with the *stimulation* by race interaction effect can be determined by looking at the standardised regression coefficients and partial correlations.

Standardised Beta coefficients (See Table 4.52.13) reveal that the *stimulation* value main effect does not explain more significant variance with regard to CA than the *stimulation* by race interaction effect in the saturated regression model. The partial correlations confirm that the race by *stimulation* interaction effect explains (0.130^2) 1.69% of the variance in CA when the influence of the *stimulation* main effect is controlled in the predictor and criterion. The general positive relationship between the *stimulation* value and CA was expected and confirm initial theorising regarding this values-attitude linkage.

In summary, the hypotheses regarding the direction of the causality between the *stimulation* values and CA corresponded with the statistical results in Table 4.52.13. The statistical results support the substantive theorising underlying Hypothesis 85. However, no statistical support was found for the direction of the causality between the *self-direction* value and CA. As a result hypotheses 79, 80 and 86 could not be corroborated in the current study.

4.15.3.4 Hypotheses: Hedonism:

Table 4.52.14: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Hedonism value main effects [A] and Hedonism value by race interaction effects [B] with regard to CA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Hedonism	A	$H_{092}: \beta_1[X_9] = 0 \mid \beta_2[X_9*R] \neq 0$ $H_{a92}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9*R] \neq 0$	-0.007	-0.049	-0.007	-0.007
	B	$H_{091}: \beta_2[X_9*R] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a91}: \beta_2[X_9*R] \neq 0 \mid \beta_1[X_9] \neq 0$	-0.133*	-0.135	-0.126	-0.126

*[p<0.05]

A negative relationship was predicted between the *Hedonism* value and cultural diversity as a source of competitive advantage (CA) with regard to both the white and non-white groups. Results in Table 4.52.14 reveal that H_{091}, which states that the *Hedonism* by race interaction effect does not explain significant unique variance in a CA, when included in model that already contains the *Hedonism* value main effect were rejected in favour of the alternative hypotheses. The *Hedonism* value by race interaction effect reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effect could be interpreted to mean that the relationship between the *Hedonism* value and the cultural diversity as a source of competitive advantage (CA) subscale is significantly different, in terms of the slope, for white and non-white groups in South Africa. However, the regression results revealed that the *Hedonism* value main effect did not significantly contributed towards explaining unique variance in a model that already contains the *Hedonism* value by race interaction effects and consequently H_{092} could not be rejected in favour of the alternative hypotheses. H_{a92} maintains that the *Hedonism* value main effect produces variance in CA not attributable to the interaction between race and *Hedonism*. Since hypothesis H_{092} could not be rejected, one can infer that the *Hedonism* value main effect does not explain additional unique variance in CA when included in a model that already contains the *Hedonism* by race interaction effect. Finally, the individual regression model for *Hedonism* (F=3.478) was statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression lines explicating the regression of CA on the *Hedonism* value with regard to the white and non-white groups are portrayed as Figure 4.38 in Appendix B. Congruent with initial theorising, a negative relationship was reported for the white and non-white groups with regard to the relationship between the *Hedonism* value and CA.

Standardised Beta coefficients (See Table 4.52.14) reveal that the *Hedonism* value main effect does not explain additional unique variance with regard to CA. When examining the partial correlations, the *Hedonism* value by race interaction effect explained approximately 1.5876% (0.126^2) of the variance in CA, when the effect of the *Hedonism* value main is controlled in the predictor and the criterion.

The direction of the relationship between the *Hedonism* value and CA for both the white and non-white groups was congruent with initial theorising. In addition the *Hedonism* by race interaction effect was statistically different from 0 at an acceptable level of significance ($p<0.05$). Statistical results from Table 4.52.14 provide support for substantive theorising underlying hypothesis 91.

<u>4.15.3.5 Hypotheses: Self- Enhancement:</u>

Table 4.52.15: Excerpt from Table 4.52; Statistical hypotheses and accompanying analyses results explicating the Self-Enhancement value main effects [A] and Self-Enhancement value by race interaction effects [B] with regard to CA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial

Achievement	A	$H_{098}: \beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R] \neq 0$ $H_{a98}: \beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R] \neq 0$	0.119*	0.089	0.118	0.117
	B	$H_{097}: \beta_2[X_{10}*R] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a97}: \beta_2[X_{10}*R] \neq 0 \mid \beta_1[X_{10}] \neq 0$	-0.112*	-0.089	-0.111	-0.110
Power	A	$H_{0104}: \beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R] \neq 0$ $H_{a104}: \beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R] \neq 0$	-0.031	-0.095	-0.029	-0.029
	B	$H_{0103}: \beta_2[X_{11}*R] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a103}: \beta_2[X_{11}*R] \neq 0 \mid \beta_1[X_{11}] \neq 0$	-0.156*	-0.168	-0.142	-0.142

Achievement and *Power* values underlie the second order *Self-Enhancement* factor. A positive relationship was expected between the *Self-Enhancement* values and cultural diversity as a source of competitive advantage (CA) for both the white and non-white groups. The affirmative action legislative framework awards some privileges to members pertaining to the previously disadvantaged sections of the South African population which can prove to be instrumental for the gratification of *Self-Enhancement* values. *Power* and *achievement* are closely defined concepts; insofar as the motivational goal underlying power is the attainment of status and prestige and to control situations and resources (Schwartz, 2005).

Results in Table 4.52.15 reveal that H_{097} and H_{0103}, which states that the interaction effect of Self-enhancement values by race does not explain significant unique variance in CA, when included in a model that already contains the values main effects were rejected in favour of the alternative hypotheses. The *Self-enhancement* values by race interaction effects for both values comprising the *Self-enhancement* values reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Self-enhancement* values and the cultural diversity as a source of competitive advantage (CA) subscale are significantly different, in terms of the slope, for white and non-white groups in South Africa.

The regression results revealed that the *achievement* value main effect significantly contributed towards explaining unique variance in a model that already contain the interaction effect and consequently H_{098} was rejected in favour of the alternative hypotheses. However, $H_{0104,}$ stating that the *power* value main effect do not explain unique variance in CA when included in a model that already contains the interaction effect, could not be rejected. Since hypothesis H_{0104} could not be rejected, one can infer that the *power* value main effect does not explain additional unique variance in CA when included in a model that already contains the *power* by race interaction effect. Finally, the individual regression models for *power* (F=5.652) and *achievement* (F=3.501) were statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression of CA on *achievement* and *power* for the white and non-white groups are portrayed in Figures 4.39 and 4.40 in Appendix B. A positive relationship was reported between the *achievement* values and CA with regard to the white group. The positive relationship reported between the *achievement* value and CA for the white group is congruent with initial theorising and corroborates the predicted direction of causality between the two variables. The regression of CA on the *achievement* value is portrayed as a horizontal line for the non-white group, which could be interpreted to mean that no significant relationship exists between the *achievement* value and CA.

In Figure 4.40 a moderately negative relationship between *power* values and CA was reported for the white group. The regression of CA on the *power* value is portrayed as a horizontal line for the non-white group, which could be interpreted to mean that no discernable relationship exists between the *power* value and CA with regard to the non-white group. The nature of the moderating effect of race on the relationship between the *power* value and CA can only be assessed by looking at the relative contributions of specific value main effects relative to the value by race interaction effects on the dependent variable (CA).

When examining the partial and semi-partial correlations in Table 4.52.15, the *achievement* value main effect explained approximately 1.39% (0.118^2) of the variance in CA, when controlling for the effect of the race by value interaction term in the predictor and criterion. When controlling for the *achievement* main effect in the predictor and criterion, the *achievement* by race interaction effect explained 1.23% (0.111^2) of the variance in CA. Therefore, as far as the *achievement* values are concerned, the standardised regression coefficients, partial and semi-partial correlation coefficients indicated that the value main effect is the more important of the two predictors.

The direction of the relationship between the *achievement* value and CA for the non-white group was not congruent with initial theorising. A positive relationship was expected for non-white group. However, the positive relationship found for the white group was congruent with initial theorising.

The regression of CA on the *power* value (See figure 4.40) paints quite a different picture compared to the relationship between *achievement* values and CA. A relatively strong negative relationship was found for the white group. This result was not congruent with initial theorising. The standardised correlation coefficients as well as partial and semi-partial correlations suggests that the *power* by race interaction term in the regression model explains relatively more unique variance in CA compared to the *power* value main effect.

When controlling for the *power* main effect in the predictor and criterion, the *power* by race interaction effect explained 2.01% (0.142^2) of the variance in CA. Substantially speaking; only the relationship between the *achievement* value and CA with regard to the white group was confirmed. Hypotheses 97 and 103 were partially corroborated, since it was found that race did indeed moderate the relationship between the *achievement* and *power* values with regard to CA, but the direction of the influence was not in line with *a priori* theorising. As a result, Hypotheses 97, 98, 103 and 104 did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

4.15.4 Two-way interaction effect of race and gender in moderating the relationship between specific values and the Valuing Individual Differences (VID) subscale.

4.15.4.1 Hypotheses: Conservation:

Table 4.53.1: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Conservation value main effects [A] and Conservation value by race and gender interaction effects [B] with regard to VID.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Conformity	A	$H_{0106:}\beta_1[X_1] = 0 \mid \beta_2[X_1{*}R{*}G] \neq 0$ $H_{a106:}\beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R{*}G] \neq 0$	0.196*	0.173	0.197	0.194
	B	$H_{0105:}\beta_2[X_1{*}R{*}G] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a105:}\beta_2[X_1{*}R{*}G] \neq 0 \mid \beta_1[X_1] \neq 0$	-0.182*	-0.157	-0.183	-0.180
Tradition	A	$H_{0112:}\beta_1[X_2] = 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$ $H_{a112:}\beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$	0.176*	0.148	0.176	0.174

	B	H_{0111}:$\beta_2[X_2*R*G] = 0 \mid \beta_1[X_2] \neq 0$ H_{a111}:$\beta_2[X_2*R*G] \neq 0 \mid \beta_1[X_2] \neq 0$	-0.171*	-0.142	-0.171	-0.169
Security	A	H_{0118}:$\beta_1[X_3] = 0 \mid \beta_2[X_3*R*G] \neq 0$ H_{a118}:$\beta_1[X_3] \neq 0 \mid \beta_2[X_3*R*G] \neq 0$	0.082	0.056	0.083	0.081
	B	H_{0117}:$\beta_2[X_3*R*G] = 0 \mid \beta_1[X_3] \neq 0$ H_{a117}:$\beta_2[X_3*R*G] \neq 0 \mid \beta_1[X_3] \neq 0$	-0.203*	-0.193	-0.202	-0.202

*[p<0.05]

Conformity, tradition and *security* constitute the *Conservation* second order value factor. A negative relationship was hypothesised between *Conservation* values and valuing individual differences (VID) with regard to both the dominant and minority groups. Table 4.53 show that H_{0105}, H_{0111} and $H_{0117,}$ which state that the two-way interaction effect of *Conservation* values by race and gender do not explain significant unique variance in a model that already contain the *Conservation* value main effects were rejected in favour of the alternative hypotheses. The *Conservation* by race and gender interaction effects for all three values comprising the *Conservation* second order factor reported coefficients that is statistically different from 0 at an acceptable level of significance (p<0.05). The statistically significant (p<0.05) interaction effects could be interpreted to mean that the relationship between *Conservation* values and the valuing individual differences (VID) subscale are significantly different, in terms of the slope, for dominant and minority groups in South Africa.

As far as the value main effects are concerned, only the *security* value did not contributed significantly (p<0.05) towards explaining unique variance in a model that already contains the interaction effect and consequently H_{0118} could not be rejected in favour of the alternative hypotheses. Based on this evidence, the logical deduction would be that only the *security* value main effect did not contribute significantly (p<0.05) towards explaining additional unique variance in VID when included in a saturated model that already contains the interaction effect. H_{0106} and $H_{0112,}$ which state that the *conformity* and *tradition* value main effects, do not explain unique variance in VID when included in a model that already contains the relevant interaction effects, were rejected in favour of the alternative hypotheses. Lastly, all individual regression models with regard to *conformity* (F=16.119), *tradition* (F=12.810) and *security* (F=911.136) were statistically significant (p < 0.05).

Figures 4.41; 4.42 and 4.43 portray the regression of valuing individual differences (VID) on the *Conservation* values. Contrary to initial theorising, a positive relationship was observed in Figures 4.41 and Figure 4.42 between the *conformity* and *tradition* values and VID with regard to both the dominant and minority groups. In both of these graphs the regression lines are more positively sloped with regard to the dominant group compared to the regression line for the minority group. This result can be interpreted to mean that a one unit increase in the *conformity* or *tradition* value will result in a more pronounce increase in VID for the dominant group compared to the minority group.

On the other hand, Figure 4.43 reveals that the regression of VID on the *security* value differed dramatically compared to the regression lines observed in Figures 4.41 and 4.42. Congruent with initial theorising, a negative correlation can be observed in Figure 4.43 between *security* value and VID with regard to the dominant group. However, a horizontal line is portrayed for the regression of VID on the *security* value with regards to the minority group. Regression lines that take on the form of a flat and horizontal vector, normally signifies that there is little if any correlation between two variables. In general stronger negative associations were expected between the *security* value and the attitude towards cultural diversity for both the dominant and minority groups.

The statistical results found with regard to the relationship between the *Conservation* values and VID challenges the substantive theorising underlying Hypotheses 105, 111 and 117. These results were also not congruent with empirical results in the values literature. Voluminous evidence in literature suggests that a strong negative relationship exist between *Conservation* values and pro-social attitudes and behaviours (Schwartz & Struch, 1989).

The nature of the moderating effect of race and gender on the relationship between *Conservation* values and VID can only be assessed by looking at the relative contributions of specific value main effects relative to the value by race and gender interaction effects on the dependent variable (VID). Pallant (2001) suggest looking at the standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients associated with the two effects included in the regression model.

Standardised Beta coefficients (See Table 4.53.16) for *conformity* and *tradition* reveal that the value main effects made a greater contribution towards explaining variance in VID for both values in the saturated model (i.e. regression model that include the main and interaction effects), with the exception of the *security* value. For the *security* value, the standardised beta coefficient value was marginally higher for the interaction effect compared to the value main effect, but not at a significant level (i.e. $p > 0.05$).

The partial and semi-partial correlations in Table 4.53.16 indicate that the *conformity* value main effect explained approximately 3.84% (0.197^2) of the variance in VID, when controlling for the interaction effect in the predictor and criterion. When controlling for the *conformity* main effect in the predictor and criterion, the *conformity* by race and gender interaction effect explained 3.34% (0.183^2) of the variance in VID.

The *tradition* value main effect explained approximately 3.09% (0.176^2) of the variance in VID, when controlling for the interaction effect in the predictor and criterion. When controlling for the *tradition* main effect in the predictor and criterion, the *tradition* by race and gender interaction effect explained 2.92% (0.171^2) of the variance in VID.

The *security* value by race and gender interaction effect explained approximately 4.08% (0.202^2) of the variance in VID, when controlling for the main effect in the predictor and criterion. No credible deduction can be made of the relative contribution of the *security* main effect, due to the statistically non-significant value reported for the *security* value main effect.

The foregoing standardised regression coefficients, partial and semi-partial correlations indicate that the *Conservation* main effects seem to be the more important of the two predictors entered into the respective regression models, with the exception of the *security* value interaction effect which explained marginal more unique variance in VID compared to the main effect.

Substantially speaking, only the relationship between the *security* value and VID with regard to the dominant group was confirmed. Hypotheses 105, 111 and 117 was partially corroborated, since it was found that race and gender did indeed moderate the relationship between the *conformity, tradition* and *security* values with regard to VID, but the direction of the influence was not in line with *a priori* theorising. As a result, Hypotheses 105, 106, 111, 112, 117 and 118 did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

Table 4.53: Statistical hypotheses and accompanying research results with regard to the influence of value effects on the attitude towards cultural diversity moderated by race and gender

STATISTICAL HYPOTHESIS: [A] MAIN EFFECTS: VALUES [B] INTERACTION EFFECT: VALUES*RACE* GENDER		STATISTICAL RESULTS: [MODERATED REGRESSION ANALYSIS]											
SVS	CDBS	MODEL SUMMARY		ANOVA							COEFICIENTS		
VALUES	VID (η_2)	R^2	Standard Error	Regression				Residual		Total	Standardised Beta Coefficients	t-value	Sig.
				Sum of Squares	Mean Square	F-Ratio	Sig.	Sum of Squares	Mean Square	Sum of Squares			
Two-way interaction effect of Race and Gender on the relationship between Values and Valuing Individual Differences (VID) with regard to the dominant and minority groups													
Conservation:													
• Conformity (X_1): [A]	$H_{0106:}\beta_1[X_1] = 0 \mid \beta_2[X_1{*}R{*}G] \neq 0$ $H_{a106:}\beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R{*}G] \neq 0$	0.062	0.60493	11.797	5.899	16.119	0.0	177.483	0.366	189.280	0.196	4.419	0.00
[B]	$H_{0105:}\beta_2[X_1{*}R{*}G] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a105:}\beta_2[X_1{*}R{*}G] \neq 0 \mid \beta_1[X_1] \neq 0$	0.062	0.60493	11.797	5.899	16.119	0.0	177.483	0.366	189.280	-0.182	-4.103	0.00
• Tradition (X_2 [A]	$H_{0112:}\beta_1[X_2] = 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$ $H_{a112:}\beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$	0.050	0.60922	9.509	4.754	12.810	0.0	179.638	0.371	189.147	0.176	3.926	0.00
[B]	$H_{0111:}\beta_2[X_2{*}R{*}G] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a111:}\beta_2[X_2{*}R{*}G] \neq 0 \mid \beta_1[X_2] \neq 0$	0.050	0.60922	9.509	4.754	12.810	0.0	179.638	0.371	189.147	-0.171	-3.809	0.00
• Security (X_3): [A]	$H_{0118:}\beta_1[X_3] = 0 \mid \beta_2[X_3{*}R{*}G] \neq 0$ $H_{a118:}\beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R{*}G] \neq 0$	0.044	0.61085	8.310	4.155	11.136	0.0	180.970	0.373	189.280	0.082	1.823	0.069
[B]	$H_{0117:}\beta_2[X_3{*}R{*}G] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a117:}\beta_2[X_3{*}R{*}G] \neq 0 \mid \beta_1[X_3] \neq 0$	0.044	0.61085	8.310	4.155	11.136	0.0	180.970	0.373	189.280	-0.203	-4.545	0.00

Self- Transcendence:													
• Benevolence (X_4): [A]	$H_{0124}: \beta_1[X_4] = 0 \vert \beta_2[X_4*R*G] \neq 0$ $H_{a124}: \beta_1[X_4] \neq 0 \vert \beta_2[X_4*R*G] \neq 0$	0.070	0.60273	13.317	6.659	18.329	0.0	175.830	0.363	189.147	0.214	4.865	0.00
[B]	$H_{0123}: \beta_2[X_4*R*G] = 0 \vert \beta_1[X_4] \neq 0$ $H_{a123}: \beta_2[X_4*R*G] \neq 0 \vert \beta_1[X_4] \neq 0$	0.070	0.60273	13.317	6.659	18.329	0.0	175.830	0.363	189.147	-0.176	-4.004	0.00
• Ecological Welfare (X_5): [A]	$H_{0130}: \beta_1[X_5] = 0 \vert \beta_2[X_5*R*G] \neq 0$ $H_{a130}: \beta_1[X_5] \neq 0 \vert \beta_2[X_5*R*G] \neq 0$	0.027	0.61670	5.070	2.535	6.665	0.001	184.077	0.380	189.147	0.068	1.479	0.140
[B]	$H_{0129}: \beta_2[X_5*R*G] = 0 \vert \beta_1[X_5] \neq 0$ $H_{a129}: \beta_2[X_5*R*G] \neq 0 \vert \beta_1[X_5] \neq 0$	0.027	0.61670	5.070	2.535	6.665	0.001	184.077	0.380	189.147	-0.166	-3.593	0.00
• Fairness (X_6): [A]	$H_{0136}: \beta_1[X_6] = 0 \vert \beta_2[X_6*R*G] \neq 0$ $H_{a136}: \beta_1[X_6] \neq 0 \vert \beta_2[X_6*R*G] \neq 0$	0.082	0.59739	16.308	8.154	22.848	0.00	172.729	0.357	189.037	0.263	5.983	0.00
[B]	$H_{0135}: \beta_2[X_6*R*G] = 0 \vert \beta_1[X_6] \neq 0$ $H_{a135}: \beta_2[X_6*R*G] \neq 0 \vert \beta_1[X_6] \neq 0$	0.082	0.59739	16.308	8.154	22.848	0.00	172.729	0.357	189.037	-0.176	-4.009	0.00
Openness to Change:													
• Self-direction (X_7): [A]	$H_{0142}: \beta_1[X_7] = 0 \vert \beta_2[X_7*R*G] \neq 0$ $H_{a142}: \beta_1[X_7] \neq 0 \vert \beta_2[X_7*R*G] \neq 0$	0.066	0.68371	12.514	6.257	17.167	0.0	176.766	0.364	189.280	0.196	4.434	0.00
	$H_{0141}: \beta_2[X_7*R*G] = 0 \vert \beta_1[X_7] \neq 0$ $H_{a141}: \beta_2[X_7*R*G] \neq 0 \vert \beta_1[X_7] \neq 0$	0.066	0.68371	12.514	6.257	17.167	0.0	176.766	0.364	189.280	-0.193	-4.366	0.00
• Stimulation (X_8): [B]	$H_{0148}: \beta_1[X_8] = 0 \vert \beta_2[X_8*R*G] \neq 0$ $H_{a148}: \beta_1[X_8] \neq 0 \vert \beta_2[X_8*R*G] \neq 0$	0.037	0.61301	7.025	3.513	9.347	0.00	182.255	0.376	189.280	0.061	1.332	0.184
	$H_{0147}: \beta_2[X_8*R*G] = 0 \vert \beta_1[X_8] \neq 0$ $H_{a147}: \beta_2[X_8*R*G] \neq 0 \vert \beta_1[X_8] \neq 0$	0.037	0.61301	7.025	3.513	9.347	0.00	182.255	0.376	189.280	-0.199	-4.317	0.00
Hedonism (X_9): [A]	$H_{0154}: \beta_1[X_9] = 0 \vert \beta_2[X_9*R*G] \neq 0$ $H_{a154}: \beta_1[X_9] \neq 0 \vert \beta_2[X_9*R*G] \neq 0$	0.038	0.61280	7.148	3.574	9.518	0.00	182.132	0.376	189.280	-0.003	-0.063	0.950
[B]	$H_{0153}: \beta_2[X_9*R*G] = 0 \vert \beta_1[X_9] \neq 0$ $H_{a153}: \beta_2[X_9*R*G] \neq 0 \vert \beta_1[X_9] \neq 0$	0.038	0.61280	7.148	3.574	9.518	0.00	182.132	0.376	189.280	-0.194	-4.273	0.00

Self-Enhancement:													
• Achievement (X_{10}): [A]	H_{0160}: $\beta_1[X_{10}] = 0 \vert \beta_2[X_{10}*R*G] \neq 0$ H_{a160}: $\beta_1[X_{10}] \neq 0 \vert \beta_2[X_{10}*R*G] \neq 0$	0.056	0.60732	10.632	5.316	14.413	0.00	178.515	0.369	189.147	0.175	3.923	0.00
[B]	H_{0159}: $\beta_2[X_{10}*R*G] = 0 \vert \beta_1[X_{10}] \neq 0$ H_{a159}: $\beta_2[X_{10}*R*G] \neq 0 \vert \beta_1[X_{10}] \neq 0$	0.056	0.60732	10.632	5.316	14.413	0.00	178.515	0.369	189.147	-0.184	-4.129	0.00
• Power (X_{11}): [A]	H_{0166}: $\beta_1[X_{11}] = 0 \vert \beta_2[X_{11}*R*G] \neq 0$ H_{a166}: $\beta_1[X_{11}] \neq 0 \vert \beta_2[X_{11}*R*G] \neq 0$	0.058	0.60646	10.901	5.451	14.820	0.00	178.379	0.368	189.280	-0.107	-2.281	0.023
[B]	H_{0165}: $\beta_2[X_{11}*R*G] = 0 \vert \beta_1[X_{11}] \neq 0$ H_{a165}: $\beta_2[X_{11}*R*G] \neq 0 \vert \beta_1[X_{11}] \neq 0$	0.058	0.60646	10.901	5.451	14.820	0.00	178.379	0.368	189.280	-0.183	-3.909	0.00
STATISTICAL HYPOTHESIS: **[A] MAIN EFFECTS: VALUES** **[B] INTERACTION EFFECT: VALUES*RACE**		**STATISTICAL RESULTS:** **[MODERARTED REGRESSION ANLYSIS]**											
SVS	**CDBS**	**MODEL SUMMURY**		**ANOVA**							**COEFICIENTS**		
VALUES	**AA (η_1)**	**R^2**	**Standard Error**	**Regression**				**Residual**		**Total**	**Standardised Beta Coefficients**	**t-value**	**Sig.**
				Sum of Squares	**Mean Square**	**F-Ratio**	**Sig.**	**Sum of Squares**	**Mean Square**	**Sum of Squares**			
Two-way interaction effect of Race and Gender on the relationship between Values and tolerance for Affirmative Action (AA) with regard to the dominant and minority groups													

Conservation:													
• Conformity (X_1): [A]	$H_{0108}: \beta_1[X_1] = 0 \mid \beta_2[X_1{*}R{*}G] \neq 0$ $H_{a108}: \beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R{*}G] \neq 0$	0.010	1.03072	5.011	2.505	2.358	0.096	515.254	1.062	520.265	-0.037	-0.822	0.411
[B]	$H_{0107}: \beta_2[X_1{*}R{*}G] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a107}: \beta_2[X_1{*}R{*}G] \neq 0 \mid \beta_1[X_1] \neq 0$	0.010	1.03072	5.011	2.505	2.358	0.096	515.254	1.062	520.265	-0.086	-1.888	0.060
• Tradition (X_2 [A]	$H_{0114}: \beta_1[X_2] = 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$ $H_{a114}: \beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$	0.013	0.12887	6.486	3.243	3.064	0.048	512.347	1.059	518.833	-0.076	-1.661	0.097
[B]	$H_{0113}: \beta_2[X_2{*}R{*}G] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a113}: \beta_2[X_2{*}R{*}G] \neq 0 \mid \beta_1[X_2] \neq 0$	0.013	0.12887	6.486	3.243	3.064	0.048	512.347	1.059	518.833	-0.070	-1.531	0.127
• Security (X_3): [A]	$H_{0120}: \beta_1[X_3] = 0 \mid \beta_2[X_3{*}R{*}G] \neq 0$ $H_{a120}: \beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R{*}G] \neq 0$	0.039	1.01535	20.262	10.131	9.827	0.00	500.003	1.031	520.265	-0.164	-3.648	0.00
[B]	$H_{0119}: \beta_2[X_3{*}R{*}G] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a119}: \beta_2[X_3{*}R{*}G] \neq 0 \mid \beta_1[X_3] \neq 0$	0.039	1.01535	20.262	10.131	9.827	0.00	500.003	1.031	520.265	-0.092	-2.046	0.041
Self- Transcendence:													
• Benevolence (X_4): [A]	$H_{0126}: \beta_1[X_4] = 0 \mid \beta_2[X_4{*}R{*}G] \neq 0$ $H_{a126}: \beta_1[X_4] \neq 0 \mid \beta_2[X_4{*}R{*}G] \neq 0$	0.010	1.03018	5.173	2.587	2.437	0.088	513.660	1.061	518.833	-0.40	-0.890	0.374
[B]	$H_{0125}: \beta_2[X_4{*}R{*}G] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a125}: \beta_2[X_4{*}R{*}G] \neq 0 \mid \beta_1[X_4] \neq 0$	0.010	1.03018	5.173	2.587	2.437	0.088	513.660	1.061	518.833	-0.088	-1.938	0.053
• Ecolo gical Welfare (X_5): [A]	$H_{0132}: \beta_1[X_5] = 0 \mid \beta_2[X_5{*}R{*}G] \neq 0$ $H_{a132}: \beta_1[X_5] \neq 0 \mid \beta_2[X_5{*}R{*}G] \neq 0$	0.037	1.01580	19.419	9.710	9.410	0.00	499.414	1.032	518.833	-0.161	-3.511	0.00
[B]	$H_{0131}: \beta_2[X_5{*}R{*}G] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a131}: \beta_2[X_5{*}R{*}G] \neq 0 \mid \beta_1[X_5] \neq 0$	0.037	1.01580	19.419	9.710	9.410	0.00	499.414	1.032	518.833	-0.75	-1.644	0.101
• Fairness (X_6): [A]	$H_{0138}: \beta_1[X_6] = 0 \mid \beta_2[X_6{*}R{*}G] \neq 0$ $H_{a138}: \beta_1[X_6] \neq 0 \mid \beta_2[X_6{*}R{*}G] \neq 0$	0.012	1.02721	6.088	3.044	2.885	0.057	510.702	1.055	516.791	0.073	1.603	0.110
[B]	$H_{0137}: \beta_2[X_6{*}R{*}G] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a137}: \beta_2[X_6{*}R{*}G] \neq 0 \mid \beta_1[X_6] \neq 0$	0.012	1.02721	6.088	3.044	2.885	0.057	510.702	1.055	516.791	-0.092	-2.009	0.045
Openness to Change:													
• Self-direction (X_7): [A]	$H_{0144}: \beta_1[X_7] = 0 \mid \beta_2[X_7{*}R{*}G] \neq 0$ $H_{a144}: \beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R{*}G] \neq 0$	0.012	1.02957	6.162	3.081	2.906	0.056	514.103	1.060	520.265	-0.052	-1.136	0.256
[B]	$H_{0143}: \beta_2[X_7{*}R{*}G] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a143}: \beta_2[X_7{*}R{*}G] \neq 0 \mid \beta_1[X_7] \neq 0$	0.012	1.02957	6.162	3.081	2.906	0.056	514.103	1.060	520.265	-0.089	-1.964	0.050
	$H_{0150}: \beta_1[X_8] = 0 \mid \beta_2[X_8{*}R{*}G] \neq 0$	0.026	1.02203	13.662	6.831	6.540	0.002	506.603	1.045	520.265	-0.122	-2.631	0.009

• Stimulation (X_8): [A] [B]	H_{a150}: $\beta_1[X_8] \neq 0 \vert \beta_2[X_8*R*G] \neq 0$ H_{0149}: $\beta_2[X_8*R*G] = 0 \vert \beta_1[X_8] \neq 0$ H_{a149}: $\beta_2[X_8*R*G] \neq 0 \vert \beta_1[X_8] \neq 0$	0.026	1.02203	13.662	6.831	6.540	0.002	506.603	1.045	520.265	-0.080	-1.735	0.083
Hedonism (X_9): [A]	H_{0156}: $\beta_1[X_9] = 0 \vert \beta_2[X_9*R*G] \neq 0$ H_{a156}: $\beta_1[X_9] \neq 0 \vert \beta_2[X_9*R*G] \neq 0$	0.025	1.02276	12.941	6.470	6.186	0.002	507.324	1.046	520.265	-0.114	-2.498	0.013
[B]	H_{0155}: $\beta_2[X_9*R*G] = 0 \vert \beta_1[X_9] \neq 0$ H_{a155}: $\beta_2[X_9*R*G] \neq 0 \vert \beta_1[X_9] \neq 0$	0.025	1.02276	12.941	6.470	6.186	0.002	507.324	1.046	20.265	-0.090	-1.962	0.050
Self-Enhancement: • Achievement (X_{10}): [A]	H_{0162}: $\beta_1[X_{10}] = 0 \vert \beta_2[X_{10}*R*G] \neq 0$ H_{a162}: $\beta_1[X_{10}] \neq 0 \vert \beta_2[X_{10}*R*G] \neq 0$	0.008	1.03136	4.005	2.002	1.882	0.153	514.829	1.064	518.833	0.00	0.002	0.998
[B]	H_{0161}: $\beta_2[X_{10}*R*G] = 0 \vert \beta_1[X_{10}] \neq 0$ H_{a161}: $\beta_2[X_{10}*R*G] \neq 0 \vert \beta_1[X_{10}] \neq 0$	0.008	1.03136	4.005	2.002	1.882	0.153	514.829	1.064	518.833	-0.088	-1.925	0.055
• Power (X_{11}): [A]	H_{0168}: $\beta_1[X_{11}] = 0 \vert \beta_2[X_{11}*R*G] \neq 0$ H_{a168}: $\beta_1[X_{11}] \neq 0 \vert \beta_2[X_{11}*R*G] \neq 0$	0.064	1.00183	33.487	16.743	16.682	0.00	486.778	1.004	520.265	-0.228	-4.891	0.000
[B]	H_{0167}: $\beta_2[X_{11}*R*G] = 0 \vert \beta_1[X_{11}] \neq 0$ H_{a167}: $\beta_2[X_{11}*R*G] \neq 0 \vert \beta_1[X_{11}] \neq 0$	0.064	1.00183	33.487	16.743	16.682	0.00	486.778	1.004	520.265	-0.060	-1.278	0.202
SVS	**CDBS**	**MODEL SUMMURY**		**ANOVA**							**COEFICIENTS**		
VALUES	**CA (η_3)**	**R^2**	**Standard Error**	**Regression**				**Residuals**		**Total**	**Standardised Beta Coefficients**	**t-value**	**Sig.**

				Sum of Squares	Mean Square	F-Ratio	Sig.	Sum of Squares	Mean Square	Sum of Squares			
Two-way interaction effect of Race and Gender on the relationship between Values and cultural diversity as a source of Competitive Advantage (CA) with regard to the dominant and minority groups													
Conservation:													
• Conformity (X_1): [A]	H_{0110}:$\beta_1[X_1] = 0 \mid \beta_2[X_1*R*G] \neq 0$ H_{a110}:$\beta_1[X_1] \neq 0 \mid \beta_2[X_1*R*G] \neq 0$	0.033	0.86169	12.286	6.143	8.273	0.00	360.121	0.743	372.408	0.179	3.975	0.00
[B]	H_{0109}:$\beta_2[X_1*R*G] = 0 \mid \beta_1[X_1] \neq 0$ H_{a109}:$\beta_2[X_1*R*G] \neq 0 \mid \beta_1[X_1] \neq 0$	0.033	0.86169	12.286	6.143	8.273	0.00	360.121	0.743	372.408	-0.062	-1.369	0.172
• Tradition (X_2) [A]	H_{0116}:$\beta_1[X_2] = 0 \mid \beta_2[X_2*R*G] \neq 0$ H_{a116}:$\beta_1[X_2] \neq 0 \mid \beta_2[X_2*R*G] \neq 0$	0.020	0.86811	7.526	3.763	4.993	0.007	364.746	0.754	372.272	0.140	3.067	0.02
[B]	H_{0115}:$\beta_2[X_2*R*G] = 0 \mid \beta_1[X_2] \neq 0$ H_{a115}:$\beta_2[X_2*R*G] \neq 0 \mid \beta_1[X_2] \neq 0$	0.020	0.86811	7.526	3.763	4.993	0.007	364.746	0.754	372.272	-0.058	-1.265	0.206
• Security (X_3): [A]	H_{0122}:$\beta_1[X_3] = 0 \mid \beta_2[X_2*R*G] \neq 0$ H_{a122}:$\beta_1[X_3] \neq 0 \mid \beta_2[X_2*R*G] \neq 0$	0.007	0.87335	2.481	1.241	1.626	0.198	369.927	0.763	372.408	0.037	0.813	0.416
[B]	H_{0121}:$\beta_2[X_3*R*G] = 0 \mid \beta_1[X_3] \neq 0$ H_{a121}:$\beta_2[X_3*R*G] \neq 0 \mid \beta_1[X_3] \neq 0$	0.007	0.87335	2.481	1.241	1.626	0.198	369.927	0.763	372.408	-0.077	-1.698	0.090
Self- Transcendence:													
• Benevolence (X_4): [A]	H_{0128}:$\beta_1[X_4] = 0 \mid \beta_2[X_4*R*G] \neq 0$ H_{a128}:$\beta_1[X_4] \neq 0 \mid \beta_2[X_4*R*G] \neq 0$	0.024	0.86627	9.067	4.533	6.041	0.003	363.205	0.750	372.272	0.149	3.299	0.001
[B]	H_{0127}:$\beta_2[X_4*R*G] = 0 \mid \beta_1[X_4] \neq 0$ H_{a127}:$\beta_2[X_4*R*G] \neq 0 \mid \beta_1[X_4] \neq 0$	0.024	0.86627	9.067	4.533	6.041	0.003	363.205	0.750	372.272	-0.062	-1.371	0.171
• Ecolo gical Welfare (X_5): [A]	H_{0134}:$\beta_1[X_5] = 0 \mid \beta_2[X_5*R*G] \neq 0$ H_{a134}:$\beta_1[X_5] \neq 0 \mid \beta_2[X_5*R*G] \neq 0$	0.005	0.87492	1.774	0.887	1.159	0.315	370.498	0.765	372.272	0.023	0.496	0.620
[B]	H_{0133}:$\beta_2[X_5*R*G] = 0 \mid \beta_1[X_5] \neq 0$ H_{a133}:$\beta_2[X_5*R*G] \neq 0 \mid \beta_1[X_5] \neq 0$	0.005	0.87492	1.774	0.887	1.159	0.315	370.498	0.765	372.272	-0.071	-1.516	0.130
• Fairness (X_6): [A]	H_{0140}:$\beta_1[X_6] = 0 \mid \beta_2[X_6*R*G] \neq 0$ H_{a140}:$\beta_1[X_6] \neq 0 \mid \beta_2[X_6*R*G] \neq 0$	0.032	0.86273	12.031	6.015	8.082	0.00	360.241	0.744	372.272	0.176	3.901	0.00
[B]	H_{0139}:$\beta_2[X_6*R*G] = 0 \mid \beta_1[X_6] \neq 0$ H_{a139}:$\beta_2[X_6*R*G] \neq 0 \mid \beta_1[X_6] \neq 0$	0.032	0.86273	12.031	6.015	8.082	0.00	360.241	0.744	372.272	-0.070	-1.546	0.123

Openness to Change: • Self-direction (X_7): [A]	H_{0146}:$\beta_1[X_7] = 0 \mid \beta_2[X_7{*}R{*}G] \neq 0$ H_{a146}:$\beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R{*}G] \neq 0$	0.037	0.85970	13.950	6.975	9.437	0.00	358.458	0.739	372.408	0.191	4.244	0.00
	H_{0145}:$\beta_2[X_7{*}R{*}G] = 0 \mid \beta_1[X_7] \neq 0$ H_{a145}:$\beta_2[X_7{*}R{*}G] \neq 0 \mid \beta_1[X_7] \neq 0$	0.037	0.85970	13.950	6.975	9.437	0.00	358.458	0.739	372.408	-0.066	-1.465	0.143
• Stimulation (X_8): [B]	H_{0152}:$\beta_1[X_8] = 0 \mid \beta_2[X_8{*}R{*}G] \neq 0$ H_{a152}:$\beta_1[X_8] \neq 0 \mid \beta_2[X_8{*}R{*}G] \neq 0$	0.05	0.87416	1.793	0.896	1.173	0.310	370.615	0.764	372.408	0.050	1.078	0.282
	H_{0151}:$\beta_2[X_8{*}R{*}G] = 0 \mid \beta_1[X_8] \neq 0$ H_{a151}:$\beta_2[X_8{*}R{*}G] \neq 0 \mid \beta_1[X_8] \neq 0$	0.05	0.87416	1.793	0.896	1.173	0.310	370.615	0.764	372.408	-0.062	-1.325	0.186
Hedonism (X_9): [A]	H_{0158}:$\beta_1[X_9] = 0 \mid \beta_2[X_9{*}R{*}G] \neq 0$ H_{a158}:$\beta_1[X_9] \neq 0 \mid \beta_2[X_9{*}R{*}G] \neq 0$	0.04	0.87430	1.674	0.837	1.095	0.335	370.734	0.764	372.408	-0.023	-0.506	0.613
[B]	H_{0157}:$\beta_2[X_9{*}R{*}G] = 0 \mid \beta_1[X_9] \neq 0$ H_{a157}:$\beta_2[X_9{*}R{*}G] \neq 0 \mid \beta_1[X_9] \neq 0$	0.04	0.87430	1.674	0.837	1.095	0.335	370.734	0.764	372.408	-0.059	-1.271	0.204
Self-Enhancement: • Achievement (X_{10}): [A]	H_{0164}:$\beta_1[X_{10}] = 0 \mid \beta_2[X_{10}{*}R{*}G] \neq 0$ H_{a164}:$\beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}{*}R{*}G] \neq 0$	0.021	0.86771	7.858	3.929	5.218	0.06	364.414	0.753	372.272	0.139	3.064	0.002
[B]	H_{0163}:$\beta_2[X_{10}{*}R{*}G] = 0 \mid \beta_1[X_{10}] \neq 0$ H_{a163}:$\beta_2[X_{10}{*}R{*}G] \neq 0 \mid \beta_1[X_{10}] \neq 0$	0.021	0.86771	7.858	3.929	5.218	0.06	364.414	0.753	372.272	-0.063	-1.400	0.162
• Power (X_{11}): [A]	H_{0170}:$\beta_1[X_{11}] = 0 \mid \beta_2[X_{11}{*}R{*}G] \neq 0$ H_{a170}:$\beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}{*}R{*}G] \neq 0$	0.011	0.87124	4.264	2.132	2.809	0.061	368.144	0.759	372.408	-0.071	-1.486	0.138
[B]	H_{0169}:$\beta_2[X_{11}{*}R{*}G] = 0 \mid \beta_1[X_{11}] \neq 0$ H_{a169}:$\beta_2[X_{11}{*}R{*}G] \neq 0 \mid \beta_1[X_{11}] \neq 0$	0.011	0.87124	4.264	2.132	2.809	0.061	368.144	0.759	372.408	-0.60	-1.250	0.212

4.15.4.2 Hypotheses: Self-Transcendence:

Table 4.53.2: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Self-Transcendence value main effects [A] and Self-Transcendence value by race and gender interaction effects [B] with regard to VID.						
Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Benevolence	A	$H_{0124:}\beta_1[X_4] = 0 \mid \beta_2[X_4{*}R{*}G] \neq 0$ $H_{a124:}\beta_1[X_4] \neq 0 \mid \beta_2[X_4{*}R{*}G] \neq 0$	0.214*	0.199	0.216	0.213
	B	$H_{0123:}\beta_2[X_4{*}R{*}G] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a123:}\beta_2[X_4{*}R{*}G] \neq 0 \mid \beta_1[X_4] \neq 0$	-0.176*	-0.158	-0.179	-0.175
Ecological Welfare	A	$H_{0130:}\beta_1[X_5] = 0 \mid \beta_2[X_5{*}R{*}G] \neq 0$ $H_{a130:}\beta_1[X_5] \neq 0 \mid \beta_2[X_5{*}R{*}G] \neq 0$	0.068	0.029	0.067	0.066
	B	$H_{0129:}\beta_2[X_5{*}R{*}G] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a129:}\beta_2[X_5{*}R{*}G] \neq 0 \mid \beta_1[X_5] \neq 0$	-0.166*	-0.150	-0.161	-0.161
Fairness	A	$H_{0136:}\beta_1[X_6] = 0 \mid \beta_2[X_6{*}R{*}G] \neq 0$ $H_{a136:}\beta_1[X_6] \neq 0 \mid \beta_2[X_6{*}R{*}G] \neq 0$	0.263*	0.237	0.262	0.260
	B	$H_{0135:}\beta_2[X_6{*}R{*}G] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a135:}\beta_2[X_6{*}R{*}G] \neq 0 \mid \beta_1[X_6] \neq 0$	-0.176*	-0.137	-0.179	-0.174

*[p<0.05]

A positive relationship was expected between *Self-Transcendence* values and valuing individual differences with regard to both the dominant and minority groups. Table 4.53 indicates that H_{0123}, H_{0129} and H_{0135}, which states that the interaction effect of *Self-Transcendence* values by race and gender does not explain significant unique variance in a model that already contains the *Self-Transcendence* values main effects were rejected in favour of the alternative hypotheses. The *Self-Transcendence* values by race and gender interaction effects for all three values comprising the *Self-Transcendence* value reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Self-Transcendence* values and the valuing individual differences (VID) subscale are significantly different, in terms of slope, for dominant and minority groups in South Africa. Furthermore, the regression results revealed that *Self-Transcendence* value main effects, with the exception of *ecological welfare*, significantly contributed towards explaining unique variance in a model that already contains the *Self-Transcendence* interaction effect and consequently H_{0124} and H_{0136} were rejected in favour of the alternative hypotheses. H_{0130}, stating that the *ecological welfare* value main effect does not explain unique variance in VID when included in a model that already contains the *ecological welfare* by race and gender interaction effect, could not be rejected. Based on this evidence, the logical deduction would be that the *ecological welfare* value main effect does not explain unique variance in VID, when included in a model that already contains the interaction effect. Furthermore individual regression model for the *benevolence* (F=18.329), *ecological welfare* (F=6.665) and *fairness* (F=22.848) values were statistically different from zero at an acceptable level of significance ($p < 0.05$)

Similar to previous regression analyses where the *Self-Transcendence* values were utilised as the independent variables of interest, *benevolence* and *fairness* reported positive correlations with the general attitude towards cultural diversity. However, the *ecological welfare* value has consistently throughout the analyses revealed results that run contrary to the other two values that comprise the *Self-Transcendence* second order value factor. Furthermore, the slope of the regression of Y on X_i ($i = 1, 2, 3$) is steeper for the dominant group relative to the non-dominant group across all three values, *benevolence, ecological welfare* and f*airness*, which make up the *Self-Transcendence* value (See Appendix B). In Figures 4.44, 4.45 and 4.46 (Appendix B) positive regressions lines are observed for the dominant group with regard to *benevolence, ecological welfare* and f*airness* values and VID. This finding was expected and supported *a priori* hypotheses that individuals who strongly endorse *Self-Transcendence* values will foster a positive attitude towards cultural diversity. Mixed results were reported with regard to the minority group. The regression of VID on the *benevolence* and *fairness* values were positive, however, a horizontal line portrayed the regression of VID on the *ecological welfare* value for the minority group, which could be interpreted to mean that no significant relationship exists between these values. A stronger positive relationship was expected between the *ecological welfare* value and VID for the non-white group.

When looking at Figure 4.44, a positive relationship between the *benevolence* value and VID was reported for both the dominant and minority groups. This finding corroborates the underlying theorising that culminated into the advancement hypotheses 123 and 124.

Figure 4.46 portrays a positive relationship between the *fairness* value and VID for both the dominant and minority groups. This was congruent with initial theorising and corroborates the substantive theorising underlying hypotheses 135 and 136.

The Standardised Beta coefficients (See Table 4.53.17) revealed that the *benevolence* and *fairness* value main effects explained relatively more unique variance in VID, than the interaction effects. The exception being, the *ecological welfare* value interaction effect that reported a higher standardised regression coefficient when included in a model that already contains the main effect.

The partial correlations in Table 4.53.17 indicate that the *benevolence* value main effect explained approximately 4.57% (0.216^2) of the variance in VID, when controlling for the interaction effect in the predictor and criterion. When controlling for the *benevolence* main effect in the predictor and criterion, the *benevolence* by race interaction effect explained 3.20% (0.179^2) of the variance in VID.

When controlling for the *ecological welfare* main effect in the predictor and criterion, the *ecological welfare* by race and gender interaction effect explained 2.59% (0.161^2) of the variance in VID.

The *fairness* value main effect explained approximately 6.86% (0.262^2) of the variance in VID, when controlling for the interaction effect in the predictor and criterion. When controlling for the *fairness* main effect in the predictor and criterion, the *fairness* interaction effect explained 3.20% (0.179^2) of the variance in VID.

The foregoing standardised regression coefficients, partial and semi-partial correlations indicate that the *Self-Transcendence* main effects seem to be the more important of the two predictors entered into the respective regression models, with the exception of the *ecological welfare* value, where the interaction effect explained more unique variance in VID compared to the main effect.

4.15.4.3 Hypotheses: Openness to Change:

Table 4.53.3: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Openness to Change value main effects [A] and Openness to Change value by race and gender interaction effects [B] with regard to VID.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Self-Direction	A	$H_{0142:}\beta_1[X_7] = 0 \mid \beta_2[X_7{*}R{*}G] \neq 0$ $H_{a142:}\beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R{*}G] \neq 0$	0.196*	0.171	0.197	0.195
	B	$H_{0141:}\beta_2[X_7{*}R{*}G] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a141:}\beta_2[X_7{*}R{*}G] \neq 0 \mid \beta_1[X_7] \neq 0$	-0.193*	-0.168	-0.194	-0.192
Stimulation	A	$H_{0148:}\beta_1[X_8] = 0 \mid \beta_2[X_8{*}R{*}G] \neq 0$ $H_{a148:}\beta_1[X_8] \neq 0 \mid \beta_2[X_8{*}R{*}G] \neq 0$	0.061	0.011	0.060	0.059
	B	$H_{0147:}\beta_2[X_8{*}R{*}G] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a147:}\beta_2[X_8{*}R{*}G] \neq 0 \mid \beta_1[X_8] \neq 0$	-0.199*	-0.183	-0.192	-0.192

*[p<0.05]

Expected associations between the *Openness to Change* values and the attitude towards cultural diversity for dominant and minority groups were expected to be mixed. Negative associations between *self-direction* value and VID were expected for both the dominant and minority groups, whilst positive relationships were expected between *stimulation* values and VID.

Results in Table 4.53.18 reveal that H_{0141} and H_{0147}, which states that the interaction effect of *Openness to Change* values by race and gender does not explain significant unique variance in a model that already contains the *Openness to Change* values main effects, were rejected in favour of the alternative hypotheses. The *Openness to Change* values by race and gender interaction effects for both values comprising the *Openness to Change* value reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$).

The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Openness to Change* values and the valuing individual differences (VID) subscale are significantly different, in terms of the slope, for dominant and minority groups in South Africa. Furthermore, the regression results indicated that the *self-direction* value main effect significantly contributed towards explaining unique variance in a model that already contains the interaction effect and consequently H_{0142} was rejected in favour of the alternative hypotheses. However, $H_{0148,}$ stating that the *stimulation* value main effect does not explain unique variance in VID when included in a model that already contains the *stimulation* by race and gender interaction effect, could not be rejected. Based on this evidence, the logical deduction would be that the *stimulation* value main effect does not explain unique variance in VID when included in a model that already includes the *stimulation* by race and gender interaction effect. Furthermore, the individual regression models for *self-direction* (F=17.167) and *stimulation* (F=9.347) were statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression lines explicating the regression of VID on *self-direction* and *stimulation* are portrayed as Figures 4.47 and 4.48 in Appendix B. Positive regression lines were revealed for the regression of VID on the *self-direction* value with regard to both the dominant and minority groups. However, the slope of the regression of Y on X_i ($i = 1$) was steeper for the dominant group relative to the minority group. A negative relationship was expected between *self-direction* values and VID for both the dominant and minority groups. This finding refutes the underlying theorising that culminated into the formation of hypotheses 141 and 142.

The regression lines portrayed in Figure 4.48 reveal that modest relationships were found between the *stimulation* value and VID for both the dominant as well as the minority groups. A positive relationship was expected for both the dominant and minority groups with regard to the *stimulation*-VID linkage. The regression of VID on the *self-direction* value is portrayed as horizontal lines for both groups (See Figure 4.48), which could be interpreted to mean that no discernable relationship exists between the *stimulation* value and VID.

Pallant (2001) suggest looking at the standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients when investigating the relative contributions of variables that are entered into a regression model. The proportion of variance in VID attributable to the interaction effect and the *self-direction* main effect for the dominant as well as the minority groups can be assessed by examining the standardised beta coefficients in Table 4.53.18. The standardised regression coefficient reported for the *self-direction* main effect was relatively higher compared with the standardised beta coefficient for the interaction effect. The inverse was found with regard to the *stimulation* value, where a stronger standardised regression coefficient was found for the interaction effect compared to the *stimulation* main effect.

Standardised Beta coefficients (See Table 4.53.18) reveal that the *self-direction* value main effect does explain more significant variance with regard to VID than the *self-direction* by race and gender interaction effect in the saturated regression model. The partial correlations confirm that the main effect explains relatively more of the variance (0.197^2) 3.88% in VID compared to the (0.194^2) 3.76% variance explained by the *self-direction* interaction effect. In general a stronger negative relationship was expected between *self-direction* values and VID with regard to both the dominant and minority groups.

When controlling for the *stimulation* main effect in the predictor and criterion, the *stimulation* interaction effect explained 3.68% (0.192^2) of the variance in VID. No credible deduction can be made of the relative contribution of the *stimulation* main effect, due to the statistically non-significant value reported for the *security* value main effect.

Substantially speaking, none of the *Openness to Change* values-VID hypothesised linkages has been statistically established. Hypotheses 141 and 147 were partially corroborated, since it was found that race and gender did indeed moderate the relationship between the *self-direction* and *stimulation* values with regard to CA, but the direction of the influence was not in line with *a priori* theorising. As a result, these hypotheses did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

4.15.4.4 Hypotheses: Hedonism:

Table 4.53.4: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Hedonism value main effects [A] and Hedonism value by race and interaction effects [B] with regard to VID.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Hedonism	A	$H_{0154:}\beta_1[X_9] = 0 \mid \beta_2[X_9{*}R{*}G] \neq 0$ $H_{a154:}\beta_1[X_9] \neq 0 \mid \beta_2[X_9{*}R{*}G] \neq 0$	-0.003	-0.039	-0.003	-0.003
	B	$H_{0153:}\beta_2[X_9{*}R{*}G] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a153:}\beta_2[X_9{*}R{*}G] \neq 0 \mid \beta_1[X_9] \neq 0$	-0.194*	-0.194	-0.190	-0.190

*[p<0.05]

A negative relationship was expected between the *Hedonism* value and valuing individual differences (VID) with regard to both dominant and minority groups. Results in Table 4.53 reveal that H_{0153}, which states that the *Hedonism* by race and gender interaction effect does not explain significant unique variance in a model that already contains the *Hedonism* value main effect were rejected in favour of the alternative hypotheses. The *Hedonism* interaction effect reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effect could be interpreted to mean that the relationship between the *Hedonism* value and the valuing individual differences (VID) subscale are significantly different, in terms of the slope, for dominant and minority groups in South Africa.

However, the regression results revealed that the *Hedonism* value main effect did not significantly contributed towards explaining unique variance in a model that already contains the *Hedonism* interaction effect and consequently H_{0154} could not be rejected in favour of the alternative hypotheses. H_{a154} maintains that the *Hedonism* value main effect produces variance in valuing individual differences (VID) not attributable to the interaction between race, gender and the *Hedonism* value. Since hypothesis H_{0154} could not be rejected, one can infer that the *Hedonism* value main effect does not explain additional unique variance in VID when included in a model that already contains the *Hedonism* interaction effect. Finally, the individual regression model for *Hedonism* ($F=9.518$) was statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression lines explicating the regression of VID on the *Hedonism* value with regard to the dominant and minority groups are portrayed as Figure 4.49 in Appendix B. Congruent with initial theorising, a moderately negative relationship was reported for the dominant group. However, the regression of VID on the *hedonism* value for the minority groups, are portrayed as a horizontal line which could be interpreted to mean that no discernable relationship exists between the *Hedonism* value and VID. What the moderating effect of race and gender is on the relationship between *Hedonism* and VID can only be answered if one examines the relative contributions of the *Hedonism* value main and interaction effects on VID.

Pallant (2001) suggest looking at the standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients when investigating the relative contributions of variables that are entered into a regression model.

Standardised Beta coefficients (See Table 4.53.19) reveal that when controlling for the *Hedonism* main effect in the predictor and criterion, the *Hedonism* interaction effect explained 3.61% (0.190^2) of the variance in VID.

The direction of the relationship between the *Hedonism* value and VID for the dominant group was congruent with initial theorising. In addition the *Hedonism* by race and gender interaction effect was statistically different from 0 at an acceptable level of significance ($p<0.05$). This finding partially supports the underlying theorising that culminated into hypotheses 153 and 154. However, the direction of the reported relationship between the *Hedonism* value and VID for the minority group was not congruent with initial theorising. Therefore, hypotheses 153 and 154 can not be deemed to be substantially corroborated.

4.15.4.5 Hypotheses: Self- Enhancement:

Table 4.53.5: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Self-Enhancement value main effects [A] and Self-Enhancement value by race and gender interaction effects [B] with regard to VID.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Achievement	A	$H_{0160}: \beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R*G] \neq 0$ $H_{a160}: \beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R*G] \neq 0$	0.175*	0.152	0.176	0.173
	B	$H_{0159}: \beta_2[X_{10}*R*G] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a159}: \beta_2[X_{10}*R*G] \neq 0 \mid \beta_1[X_{10}] \neq 0$	-0.184*	-0.162	-0.184	-0.182
Power	A	$H_{0166}: \beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R*G] \neq 0$ $H_{a166}: \beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R*G] \neq 0$	-0.107*	-0.167	-0.103	-0.101
	B	$H_{0165}: \beta_2[X_{11}*R*G] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a165}: \beta_2[X_{11}*R*G] \neq 0 \mid \beta_1[X_{11}] \neq 0$	-0.183*	-0.218	-0.175	-0.172

*[p<0.05]

Achievement and *Power* values underlie the second order *Self-Enhancement* factor. Negative relationships between *Self-Enhancement* values and VID were hypothesised for both the dominant and minority groups.

Results in Table 4.53 reveal that H_{0159} and H_{0165}, which states that the interaction effect of *Self-enhancement* values by race and gender do not explain significant unique variance in a model that already contains the values main effects, were rejected in favour of the alternative hypotheses. The *Self-enhancement* values by race and gender interaction effects for both values comprising the *Self-enhancement* second order value factor reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effects could be interpreted to mean that the relationship between *Self-enhancement* values and the valuing individual differences (VID) subscale are significantly different, in terms of the slope, for dominant and minority groups in South Africa. Furthermore, the regression results revealed that the *Self-enhancement* main effects significantly contributed towards explaining unique variance in a model that already contain the interaction effect and consequently H_{0160} and H_{0166} were rejected in favour of the alternative hypotheses. Based on this evidence, the logical deduction would be that the *Self-enhancement* value main effects do explain unique variance in VID when included in a model that already includes the interaction effect. Furthermore, the individual regression models for *achievement* ($F=14.413$) and *power* ($F=14.820$) were statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression of VID on the *achievement* and *power* values for the dominant and minority groups are portrayed in Figures 4.50 and 4.51 in Appendix B. A positive relationship was found between the *achievement* value and VID with regard to both the dominant and minority groups. Figure 4.50 indicates that the slope of the regression of Y on X_i ($i = 1$) is steeper and positive for the dominant group relative to the minority group. The divergence in slope with regard to the dominant and minority groups imply that differential rates of change apply to each group. Since the slope of the regression line for the dominant group is relatively steeper compared to the minority group, one would expect a change in the *achievement* value to result in a relatively bigger increase in VID for the dominant group. A negative relationship was expected between *achievement* values and VID for both the dominant and minority groups. The positive results indicated in Figure 4.50 largely refute the substantive theorising that culminated into the formation of Hypotheses 159 and 160.

Figure 4.51 reveal that negative relationships were found between the *power* value and VID with regard to both the dominant and minority groups. These results are congruent with initial theorising and largely corroborate the substantive propositions underlying hypotheses 165 and 166.

Standardised Beta coefficients (See Table 4.53.20) reveal that the *achievement* value main effect does not explain more significant variance with regard to VID than the *achievement* interaction effect in the saturated regression model. When examining the partial correlations the *achievement* value main effect explained approximately 3.09% (0.176^2) of the variance in VID, when controlling for the interaction effect in the predictor and criterion. When controlling for the *achievement* main effect in the predictor and criterion, the *achievement* by race and gender interaction effect explained 3.38% (0.184^2) of the variance in VID.

The direction of the relationship between the *achievement* value and VID for both the dominant and minority groups was not congruent with initial theorising. The *achievement* by race interaction effect was statistically different from 0 at an acceptable level of significance ($p<0.05$).

The regression of VID on the *power* value (See figure 4.51) paints quite a different picture compared to the relationship between *achievement* value and VID. A relatively strong negative relationship was found for the dominant and minority groups, which is in line with *a priori* theorising. A relatively steeper negative correlation was found for the dominant group compared to the minority group with regard to the linkage between the *power* value and VID.

The partial correlations in Table 4.53.20 reveal that the *power* value main effect explained approximately 1.06% (0.103^2) of the variance in VID, when controlling for the interaction effect in the predictor and criterion. When controlling for the *power* main effect in the predictor and criterion, the *power* by race and gender interaction effect explained 3.06% (0.175^2) of the variance in VID.

Results in Table 4.53.20 indicate that the *Self-enhancement* interaction terms are the more important of the two predictors in explaining unique variance in VID.

4.15.5 Two-way interaction effect of race and gender in moderating the relationship between specific values and the tolerance for Affirmative Action (AA) subscale.

4.15.5.1 Hypotheses: Conservation:

Table 4.53.6: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Conservation value main effects [A] and Conservation value by race and gender interaction effects [B] with regard to AA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Conformity	A	H_{0108}: $\beta_1[X_1] = 0 \mid \beta_2[X_1{*}R{*}G] \neq 0$ H_{a108}: $\beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R{*}G] \neq 0$	-0.037	-0.049	-0.037	-0.037
	B	H_{0107}: $\beta_2[X_1{*}R{*}G] = 0 \mid \beta_1[X_1] \neq 0$ H_{a107}: $\beta_2[X_1{*}R{*}G] \neq 0 \mid \beta_1[X_1] \neq 0$	-0.086	-0.091	-0.085	-0.085
Tradition	A	H_{0114}: $\beta_1[X_2] = 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$ H_{a114}: $\beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$	-0.076	-0.088	-0.075	-0.075
	B	H_{0113}: $\beta_2[X_2{*}R{*}G] = 0 \mid \beta_1[X_2] \neq 0$ H_{a113}: $\beta_2[X_2{*}R{*}G] \neq 0 \mid \beta_1[X_2] \neq 0$	-0.070	-0.083	-0.069	-0.069
Security	A	H_{0120}: $\beta_1[X_3] = 0 \mid \beta_2[X_3{*}R{*}G] \neq 0$ H_{a120}: $\beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R{*}G] \neq 0$	-0.164*	-0.175	-0.163	-0.162
	B	H_{0119}: $\beta_2[X_3{*}R{*}G] = 0 \mid \beta_1[X_3] \neq 0$ H_{a119}: $\beta_2[X_3{*}R{*}G] \neq 0 \mid \beta_1[X_3] \neq 0$	-0.092*	-0.112	-0.093	-0.091

*[p<0.05]

Conformity, tradition and *security* constitute the *Conservation* subscale. A negative relationship was hypothesised between *Conservation* values and tolerance for affirmative action (AA) with regard to both the dominant and minority groups. Table 4.53 shows that H_{0107} and H_{0113} which states that the interaction effect of *conformity* and *tradition* values by race and gender does not explain significant unique variance in a model that already contains the main effect could not be rejected in favour of the alternative hypotheses. Only the interaction effect for the *security* value reported a regression coefficient that is statistically different from 0 at an acceptable level of significance ($p<0.05$). This statistically significant ($p<0.05$) interaction effect could be interpreted to mean that the relationship between the *security* value and the tolerance for affirmative action (AA) subscale are significantly different, in terms of the slope, for dominant and minority groups in South Africa.

As far as the value main effects are concerned, only the *security* value contributed significantly towards explaining unique variance in a model that already contains the interaction effect and consequently H_{0120} was rejected in favour of the alternative hypotheses. H_{0108} and H_{0114}, which state that the *conformity* and *tradition* value main effects, do not explain unique variance in AA when included in a model that already contains the relevant interaction effects, could not be rejected. Based on this evidence, the logical deduction would be that the *conformity* and *tradition* value main effects do not explain additional unique variance in AA when included in a saturated model that already contains the interaction effects. Lastly, all individual regression models with regard to the *Conservation* value, apart from *conformity,* were statistically significant ($p < 0.05$).

Figures 4.52; 4.53 and 4.54 portray the regression of tolerance for affirmative action (AA) on the *Conservation* values. Congruent with initial theorising, a negative correlation can be observed in Figure 4.52 between *conformity* value and AA with regard to the minority group. A horizontal regression line is observed in Figure 4.52 with regards to the regression of AA on the *conformity* value for the dominant group. Regression lines that take on the form of a flat and horizontal vector, normally signifies that there is little if any correlation between two variables. A stronger negative correlation was expected between the *conformity* value and AA for the dominant group. The results reported in Table 4.53 largely refute the substantive theorising that culminated into the formation of Hypotheses 107 and 108.

Figure 4.53 portrays the regression of AA on the *tradition* value. Congruent with initial theorising an inverse relationship was found between the *tradition* value and AA with regard to the minority group. However, a positive relationship was reported between the *tradition* value and AA for the dominant group. This finding is not congruent with initial theorising and largely refutes the substantive propositions that underlie Hypotheses 113 and 114.

Figure 4.54 portrays stronger negative correlations for the *security* value with regard to AA for the dominant as well as the minority groups. This finding is congruent with initial theorising and provides support for hypotheses 119 and 120.

The *security* value main effect explained approximately 2.65% (0.163^2) of the variance in AA, when controlling for the interaction effect in the predictor and criterion. When controlling for the *security* main effect in the predictor and criterion, the *security* by race and gender interaction effect explained 0.86% (0.093^2) of the variance in AA.

Finally, statistical support was found for hypotheses 119 and 120. The direction of the relationship was in line with *a priori* theorising.

4.15.5.2 Hypotheses: Self-Transcendence:

Table 4.53.7: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Self-Transcendence value main effects [A] and Self-Transcendence value by race and gender interaction effects [B] with regard to AA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Benevolence	A	H_{0126}: $\beta_1[X_4] = 0 \mid \beta_2[X_4{*}R{*}G] \neq 0$ H_{a126}: $\beta_1[X_4] \neq 0 \mid \beta_2[X_4{*}R{*}G] \neq 0$	-0.040	-0.048	-0.040	-0.040
	B	H_{0125}: $\beta_2[X_4{*}R{*}G] = 0 \mid \beta_1[X_4] \neq 0$ H_{a125}: $\beta_2[X_4{*}R{*}G] \neq 0 \mid \beta_1[X_4] \neq 0$	-0.088	-0.091	-0.088	-0.088
Ecological Welfare	A	H_{0132}: $\beta_1[X_5] = 0 \mid \beta_2[X_5{*}R{*}G] \neq 0$ H_{a132}: $\beta_1[X_5] \neq 0 \mid \beta_2[X_5{*}R{*}G] \neq 0$	-0.161*	-0.179	-0.158	-0.157
	B	H_{0131}: $\beta_2[X_5{*}R{*}G] = 0 \mid \beta_1[X_5] \neq 0$ H_{a131}: $\beta_2[X_5{*}R{*}G] \neq 0 \mid \beta_1[X_5] \neq 0$	-0.075	-0.114	-0.075	-0.073
Fairness	A	H_{0138}: $\beta_1[X_6] = 0 \mid \beta_2[X_6{*}R{*}G] \neq 0$ H_{a138}: $\beta_1[X_6] \neq 0 \mid \beta_2[X_6{*}R{*}G] \neq 0$	0.073	0.059	0.073	0.072
	B	H_{0137}: $\beta_2[X_6{*}R{*}G] = 0 \mid \beta_1[X_6] \neq 0$ H_{a137}: $\beta_2[X_6{*}R{*}G] \neq 0 \mid \beta_1[X_6] \neq 0$	-0.092*	-0.081	-0.091	-0.091

*[p<0.05]

Benevolence, ecological welfare and *fairness* constitute the *Self-Transcendence* subscale. A positive relationship was expected between *Self-Transcendence* values and tolerance for affirmative action (AA) with regard to both the dominant and minority groups. Table 4.53 shows that H_{0125} and H_{0131} which states that the interaction effect of the *benevolence* and *ecological welfare* values by race and gender do not explain significant unique variance in AA, when included in a model that already contains the value main effects could not be rejected in favour of the alternative hypotheses. The *fairness* value by race and gender interaction effects reported a coefficient that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effect could be interpreted to mean that the relationship between the *fairness* value and the tolerance for affirmative action (AA) subscale is different, in terms of the slope, for dominant and minority groups in South Africa.

Furthermore, the regression results revealed that *Self-Transcendence* value main effects, with the exception of *ecological welfare*, did not significantly contributed towards explaining unique variance in AA, when included in a model that already contains the interaction effect and consequently H_{0126} and H_{0138} could not be rejected in favour of the alternative hypotheses. H_{0132}, stating that the *ecological welfare* value main effect does not explain unique variance in AA when included in a model that already contains the interaction effect, was rejected with an acceptable level of confidence ($p<0.05$). Based on this evidence, the logical deduction would be that the *benevolence* and *fairness* value main effects do not explain more unique variance in AA, when included in a model that already contains the interaction effect. Furthermore the individual regression models for *benevolence,* and *fairness* values did not report model statistics that were statistically different from zero at an acceptable level of significance (i.e. $p > 0.05$). Only the *ecological welfare* regression model reported significance levels that are indicative of model parameters that are statistically different from zero in the population from which the sample was selected.

When looking at the graphical representations of the three specific values of *benevolence*, *ecological welfare* and *fairness* that underlie the *Self-Transcendence* second order factor, it becomes clear that the slopes and intercepts of these three values are distinctly different from one another (See Figures 4.55; 4.56 and 4.57). It was expected that the individual values that underlie the *Self-Transcendence* second order factor would respond in a synchronised fashion towards the dependent variable (AA) due to the substantive overlap across these values.

Figure 4.55 portrays the individual regression of AA on the *benevolence* value as horizontal line for both the minority and dominant groups. The horizontal line could be interpreted to mean that no significant relationship exists between the *benevolence* value and AA with regard to the dominant and minority groups. A modest negative relationship was found for the regression of AA on the *benevolence* value for the minority group. On the other hand, a modestly positive relationship was observed between the *benevolence* value and AA with regard to the dominant group. The observed regression lines with regard to the *benevolence* value and AA contradicts *a priori* theorising. A strong positive relationship was expected between the *benevolence* value and AA with regard to both the dominant and minority groups. The general negative relationship found between the *benevolence* value and AA was not expected and is at odds with most available literature on values (Schwartz, 2005).

A strong negative relationship was also found for the regression of AA on the *ecological welfare* value with regard to both the dominant and minority groups. This result is not congruent with initial theorising. On the contrary a positive relationship was found between the *fairness* value and AA with regard to both the dominant and minority groups. This finding was expected and supported the initial hypotheses that individuals who strongly endorse *fairness* values will foster a positive attitude towards cultural diversity in general and tolerance for affirmative action in particular.

The standardised regression coefficients and partial correlations shed some light on the relative contributions of the interaction and main effects of values with regard to AA. Table 4.53.22 indicates the relative contributions of each regression term which were included into the regression model.

The *ecological welfare* value main effect explained approximately 2.49% (0.158^2) of the variance in AA, when controlling for the interaction effect in the predictor and criterion. When controlling for the *fairness* main effect in the predictor and criterion, the interaction effect explained 0.82% (0.091^2) of the variance in AA.

Finally, only statistical support was found for the hypothesised relationship between the *fairness* value and AA. This relationship can be considered to be substantially corroborated.

4.15.5.3 Hypotheses: Openness to Change:

Table 4.53.8: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Openness to Change value main effects [A] and Openness to Change value by race and gender interaction effects [B] with regard to AA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Self-Direction	A	$H_{0144:}\beta_1[X_7] = 0 \vert \beta_2[X_7{*}R{*}G] \neq 0$ $H_{a144:}\beta_1[X_7] \neq 0 \vert \beta_2[X_7{*}R{*}G] \neq 0$	-0.052	-0.063	-0.052	-0.051

	B	H_{0143}:$\beta_2[X_7*R*G] = 0 \mid \beta_1[X_7] \neq 0$ H_{a143}:$\beta_2[X_7*R*G] \neq 0 \mid \beta_1[X_7] \neq 0$	-0.089*	-0.096	-0.089	-0.089
Stimulation	A	H_{0150}:$\beta_1[X_8] = 0 \mid \beta_2[X_8*R*G] \neq 0$ H_{a150}:$\beta_1[X_8] \neq 0 \mid \beta_2[X_8*R*G] \neq 0$	-0.122*	-0.142	-0.119	-0.118
	B	H_{0149}:$\beta_2[X_8*R*G] = 0 \mid \beta_1[X_8] \neq 0$ H_{a149}:$\beta_2[X_8*R*G] \neq 0 \mid \beta_1[X_8] \neq 0$	-0.080	-0.111	-0.079	-0.078

*[p<0.05]

Self-direction and *Stimulation* values underlie the *Openness to Change* factor. Expected associations between the *Openness to Change* values and the tolerance for affirmative action (AA) subscale were expected to be mixed with regard to the dominant and minority groups. A negative relationship was hypothesised between the *self-direction* value and AA for the dominant group, whilst a positive relationship was predicted between *self-direction* and AA for the minority group. A positive relationship was expected between the *stimulation* value and AA with regard to both the dominant and minority groups.

Results in Table 4.53 reveal that H_{0143}, which states that the interaction effect of the *self-direction* value by race and gender do not explain significant unique variance in AA, when included in a model that already contains the value main effect, were rejected in favour of the alternative hypotheses. The *self-direction* value interaction effect reported coefficients that are statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effect could be interpreted to mean that the relationship between the *self-direction* values and the tolerance for affirmative action (AA) subscale is significantly different, in terms of the slope, for dominant and minority groups in South Africa.

However, H_{0149}, which states that the interaction effect of the *stimulation* value by race and gender do not explain significant unique variance in AA, when included in a model that already contains the value main effects, could not be rejected in favour of the alternative hypotheses. The *stimulation* value interaction effect reported coefficients that are statistically not different from 0 (i.e. $p>0.05$). The statistically non-significant interaction effect could be interpreted to mean that the relationship between the *stimulation* values and the tolerance for affirmative action (AA) subscale is not significantly different, in terms of the slope, for dominant and minority groups in South Africa. This result could also be interpreted to mean that the two way interaction effect of race and gender do not have a significant moderating effect on the relationship between the *stimulation* value and AA.

Furthermore, the regression results revealed that the *self-direction* value main effect did not significantly contributed towards explaining unique variance in AA, when included in a model that already contained the interaction effect and, consequently, H_{0144} could not be rejected in favour of the alternative hypotheses. The proportion of variance in AA explained by the *self-direction* main effects is therefore not significant ($p<0.05$). Hypothesis H_{0150} was rejected which indicates that the *stimulation* value main effect did contribute towards explaining significant variance in AA, when included into a model that already contained the *stimulation* interaction effect.

The regression lines explicating the regression of VID on *self-direction* and *stimulation* are portrayed as Figures 4.58 and 4.59 in Appendix B. Negative relationships between the *Openness to Change* value and AA were reported for both the dominant and minority groups. The negative regression of AA on *self-direction* with regards to the dominant group is congruent with initial theorising. However, a positive relationship was expected for the non-white group. Therefore, the substantive theorising underlying Hypothesis 143 can not be regarded as substantially corroborated.

The proportion of variance in AA attributable to the interaction effect and the *self-direction* main effect for the dominant and minority groups can be assessed by examining the standardised beta coefficients. The relative contribution of the *self-direction* value main effect in comparison with the *self-direction* by race and gender interaction effect can be determined by looking at the standardised regression coefficients and partial correlations in Table 4.53.23.

The standardised beta coefficients reveal that the *self-direction* value main effect does not explain more significant variance with regard to AA compared to the *self-direction* by race and gender interaction effect in the saturated regression model. Stated more simply, the *self-direction* main effect contribute relatively less in explaining unique variance in AA when included in a model that already contains the interaction effect, compared to the interaction effect. The partial correlations confirm that the *self-direction* interaction effect explains (0.089^2) 0.79% of the variance in AA. A positive relationship was expected between *self-*

direction values and AA with regards to the minority group. The direction of the casual influence was not congruent with initial theorising.

The regression lines portrayed in Figure 4.59 reveal that negative relationships were found between the *stimulation* value and AA with regard to both the minority and majority groups. A positive relationship was expected for both the dominant and minority groups with regard to the *stimulation*-AA relationship. The negative relationships reported for the dominant and minority groups were not in line with initial theorising.

The standardised regression coefficients and partial correlations reported for the regression of AA on *stimulation* were similar to the *self-direction* value effects. The *stimulation* value main effect explained significantly more variance in AA than the *stimulation* value interaction effect. The *stimulation* value main effect explained (0.119^2) 1.41% of the variance in AA, when the influence of the interaction effect was controlled in the predictor and criterion.

In summary, the results from the regression analysis revealed that the *self-direction* and *stimulation* values differed significantly for the minority and dominant groups. The *self-direction* interaction effect explained significantly more unique variance in AA compared to the *self-direction* main effect. However, the *stimulation* main effect explained more unique variance at a significant level with regard to AA. No substantive support was found for the hypothesised relationships between the *Openness to Change* values and AA for both the white and non-white groups. Therefore, hypotheses 143, 144, 149 and 150 can not be regarded as substantially corroborated.

4.15.5.4 Hypotheses: Hedonism:

Table 4.53.9: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Hedonism value main effects [A] and Hedonism value by race and gender interaction effects [B] with regard to AA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Hedonism	A	$H_{0156:}\beta_1[X_9] = 0 \mid \beta_2[X_9*R*G] \neq 0$ $H_{a156:}\beta_1[X_9] \neq 0 \mid \beta_2[X_9*R*G] \neq 0$	-0.114*	-0.131	-0.113	-0.112

	B	$H_{0155:}\beta_2[X_9*R*G] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a155:}\beta_2[X_9*R*G] \neq 0 \mid \beta_1[X_9] \neq 0$	-0.090*	-0.111	-0.089	-0.088

*[p<0.05]

A negative relationship was expected between the *Hedonism* value and tolerance for affirmative action (AA) with regard to the dominant group, but a positive relationship was predicted for the minority group. Results in Table 4.53 reveal that H_{0155}, which states that the *Hedonism* by race and gender interaction effect does not explain significant unique variance in AA, when included in model that already contains the *Hedonism* value main effect were rejected in favour of the alternative hypotheses. The *Hedonism* value by race and gender interaction effect reported coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The statistically significant ($p<0.05$) interaction effect could be interpreted to mean that the relationship between the *Hedonism* value and the tolerance for affirmative action (AA) subscale is significantly different, in terms of the slope, for dominant and minority groups in South Africa.

Also, the *Hedonism* value main effect significantly contributed towards explaining unique variance in a model that already contains the *Hedonism* value by race and gender interaction effect and consequently H_{0156} was rejected in favour of the alternative hypotheses. H_{a156} maintains that the *Hedonism* value main effect produces variance in AA not attributable to the *Hedonism* interaction effect. Since hypothesis H_{0156} had to be rejected, one can infer that the *Hedonism* value main effect does explain additional unique variance in AA when included in a model that already contains the *Hedonism* by race and gender interaction effect. Finally, the individual regression model for *Hedonism* was statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression lines explicating the regression of VID on the *Hedonism* value with regard to the dominant and minority groups are portrayed as Figure 4.60 in Appendix B. Congruent with initial theorising, a negative relationship was reported for the dominant group. Contrary to initial theorising a negative relationship was found between the *Hedonism* value and AA with regard to the minority group. Therefore, the substantive theorising underlying Hypothesis 155 is partial refuted since a positive relationship was predicted between the *Hedonism* value and AA for the minority group.

Standardised Beta coefficients (See Table 4.53.24) reveal that the *Hedonism* value main effect does explain additional unique variance with regard to AA compared to the *Hedonism* by race and gender interaction effect in the saturated regression model. When examining the partial correlations the *Hedonism* value main effect explained approximately 1.27% (0.113^2) of the variance in AA, when controlling for the interaction effect in the predictor and criterion. When controlling for the *Hedonism* main effect in the predictor and criterion, the *Hedonism* interaction effect explained 0.79% (0.089^2) of the variance in AA.

The direction of the relationship between the *Hedonism* value and VID for the dominant group was congruent with initial theorising. However, the expected positive relationship between the *Hedonism* value and AA for the minority group was not confirmed in the regression analyses. In summary, the *Hedonism* values main effect was the more important of the two predictors entered into the regression model.

Substantially speaking, only the relationship between the *Hedonism* value and AA with regard to the dominant was confirmed. Hypotheses 155 was partially corroborated, since it was found that race and gender did indeed moderate the relationship between the *Hedonism* values with regard to AA, but the direction of the influence was not in line with *a priori* theorising. As a result, Hypotheses 155 and 156 did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

4.15.5.5 Hypotheses: Self- Enhancement:

Table 4.53.10: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Self-Enhancement value main effects [A] and Self-Enhancement value by race and gender interaction effects [B] with regard to AA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Achievement	A	$H_{0162}: \beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R*G] \neq 0$ $H_{a162}: \beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R*G] \neq 0$	0.000	-0.011	0.000	0.000
	B	$H_{0161}: \beta_2[X_{10}*R*G] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a161}: \beta_2[X_{10}*R*G] \neq 0 \mid \beta_1[X_{10}] \neq 0$	-0.088	-0.088	-0.087	-0.087
Power	A	$H_{0168}: \beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R*G] \neq 0$ $H_{a168}: \beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R*G] \neq 0$	-0.228*	-0.247	-0.217	-0.215

	B	H_{0167}: $\beta_2[X_{11}*R*G] = 0 \mid \beta_1[X_{11}] \neq 0$ H_{a167}: $\beta_2[X_{11}*R*G] \neq 0 \mid \beta_1[X_{11}] \neq 0$	-0.060	-0.135	-0.058	-0.056

*[p<0.05]

Achievement and *Power* values underlie the *Self-Enhancement* second order value factor. The relationships between the *Self-Enhancement* values and the tolerance for affirmative action (AA) subscale were expected to be mixed with regard to the dominant and minority groups. Negative associations were predicted for the dominant group with regard to the relationships between the *Self-Enhancement* values and AA. On the other hand, a general positive relationship was expected between the *Self-Enhancement* values and AA for the minority group. The affirmative action legislative framework awards some privileges to members pertaining to the previously disadvantaged sections of the South African population which can prove to be instrumental for the gratification of *Self-Enhancement* values. *Power* and *achievement* are closely defined concepts; insofar as the motivational goal underlying *power* is the attainment of status and prestige and to control situations and resources (Schwartz, 2005). Affirmative action has the ability to advance the interests of minorities which in turn has the potential to satisfy the motivation rewards associated with *power* and *achievement* values. Therefore a positive relationship was hypothesised between *Self-Enhancement* values and AA for the minority group.

Results in Table 4.53 reveal that H_{0161} and H_{0167}, which states that the interaction effect of *Self-enhancement* do not explain significant unique variance in AA, when included in a model that already contains the value main effects could not be rejected in favour of the alternative hypotheses. The *Self-enhancement* interaction effects for both values comprising the *Self-enhancement* value reported coefficients that is statistically not different from 0 at an acceptable level of significance ($p<0.05$). The statistically non-significant ($p<0.05$) interaction effects could be interpreted to mean that no discernable differences exist in terms of slopes of the regression lines for the dominant and minority groups with regard to the relationship between *Self-enhancement* values and the tolerance for affirmative action (AA).

Furthermore, the regression results revealed that the *power* value main effect significantly contributed towards explaining unique variance in a model that already contain the interaction effect and consequently H_{0168} was rejected in favour of the alternative hypotheses. However, H_{0162}, stating that the *achievement* value main effect do not explain unique variance in AA when included in a model that already contains the interaction effect, could not be rejected. Since hypothesis H_{0162} could not be rejected, one can infer that the *achievement* value main effect does not explain additional unique variance in AA when included in a model that already contains the *achievement* interaction effect. Finally, only the individual regression model with regards to *power* (F=16.682) was statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression of AA on *achievement* and *power* for the dominant and minority groups are portrayed in Figures 4.61 and 4.62 in Appendix B. A positive relationship was reported between the *achievement* values and AA with regard to the dominant group. This result would suggest that the rate of change in AA for a one unit increase in the *achievement* value is greater for the dominant group than for the minority group. The positive relationship that was reported between the achievement value and AA for the dominant group runs contrary to initial theorising and refutes the predicted direction of causality between the two variables. A strong negative relationship was expected between *achievement* values and AA for the dominant group since it was argued that the promotion of affirmative action initiatives by members of the dominant group will rarely lead to motivational outcomes that will satisfy the *achievement* values.

Figure 4.61 portrays the regression of AA on the *achievement* value with regard to the minority group as a horizontal line which could be interpreted to mean that no significant relationship exists between the *achievement* value and AA. What the moderating effect of race and gender are on the relationship between the *achievement* value and AA can only be answered if one examines the relative contributions of *achievement* value main and interaction effects on AA.

No credible deductions can be made of the relative contribution of the *security* value, due to the statistically non-significant value reported for the *security* value main effect.

The regression of AA on the *power* value (See figure 4.62) paints quite a different picture compared to the relationship between *achievement* values and AA. A relatively strong negative relationship was found for the dominant and minority groups. This result was expected for the dominant group, but not the minority group. As a result, the substantive theorising underlying Hypothesis 167 was partially refuted by these research results.

The standardised correlation coefficients as well as partial and semi-partial correlations reported in Table 4.53.25 suggests that the *power* main effect explains relatively more unique variance in AA compared to the *power* interaction effect.

The *power* value main effect explained approximately 4.7% (0.217^2) of the variance in AA, when controlling for the interaction effect in the predictor and criterion.

In summary, Table 4.53.25 indicates that only the *power* value main effect explains significant variance in AA, when included in a model that already contains the *power* interaction effect. None of the other value main and/or interaction effects returned significant regression coefficients ($p<0.05$). Substantially speaking, only the relationship between the *power* value and AA with regard to the white group was confirmed. Hypotheses 95 and 101 was partially corroborated, since it was found Hypotheses 161, 162, 167 and 168 did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

4.15.6 Two-way interaction effect of race and gender in moderating the relationship between specific values and the cultural diversity as a source of Competitive Advantage (CA) subscale.

4.15.6.1 Hypotheses: Conservation:

Table 4.53.11: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Conservation value main effects [A] and Conservation value by race and gender interaction effects [B] with regard to CA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Conformity	A	$H_{0110}: \beta_1[X_1] = 0 \mid \beta_2[X_1*R*G] \neq 0$ $H_{a110}: \beta_1[X_1] \neq 0 \mid \beta_2[X_1*R*G] \neq 0$	0.179*	0.171	0.178	0.177
	B	$H_{0109}: \beta_2[X_1*R*G] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a109}: \beta_2[X_1*R*G] \neq 0 \mid \beta_1[X_1] \neq 0$	-0.062	-0.039	-0.062	-0.061
Tradition	A	$H_{0116}: \beta_1[X_2] = 0 \mid \beta_2[X_2*R*G] \neq 0$ $H_{a116}: \beta_1[X_2] \neq 0 \mid \beta_2[X_2*R*G] \neq 0$	0.140*	0.130	0.138	0.138
	B	$H_{0115}: \beta_2[X_2*R*G] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a115}: \beta_2[X_2*R*G] \neq 0 \mid \beta_1[X_2] \neq 0$	-0.058	-0.034	-0.057	-0.057

Security	A	H_{0122}:$\beta_1[X_3] = 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$ H_{a122}:$\beta_1[X_3] \neq 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$	0.037	0.027	0.037	0.037
	B	H_{0121}:$\beta_2[X_3{*}R{*}G] = 0 \mid \beta_1[X_3] \neq 0$ H_{a121}:$\beta_2[X_3{*}R{*}G] \neq 0 \mid \beta_1[X_3] \neq 0$	-0.077	-0.073	-0.077	-0.077

*[p<0.05]

Conformity, tradition and *security* constitute the *Conservation* subscale. A negative relationship was hypothesised between *Conservation* values and the cultural diversity as a source of competitive advantage (CA) subscale with regard to both the dominant and minority groups. Table 4.53.26 indicates that H_{0109}, H_{0115} and H_{0121} which states that the *Conservation* by race and gender interaction effect does not explain significant unique variance in CA, when included in a model that already contains the *Conservation* values main effect, could not be rejected in favour of the alternative hypotheses. The *Conservation* values by race and gender interaction effects for all three values comprising the *Conservation* second order factor reported coefficients that is statistically not different from 0 at an acceptable level of significance ($p<0.05$). The statistically non-significant (i.e. $p > 0.05$) interaction effects can be interpreted to mean that no discernable differences exist in the slopes of the regression lines for the dominant and minority groups with regard to the relationship between the *Conservation* values and the cultural diversity as a source of competitive advantage (CA) subscale.

As far as the value main effects are concerned, only the *security* value did not contributed significantly towards explaining unique variance in CA, when included in a model that already contains the interaction effect and consequently H_{0122} could not be rejected in favour of the alternative hypotheses. Results from Table 4.53 indicate that H_{0110} and H_{0116} were rejected in favour of the alternative hypotheses, which state that the *conformity* and *tradition* value main effects does significantly ($p < 0.05$) explain unique variance in CA when included in a model that already contains the relevant interaction effects. Lastly, all individual regression models with regard to the *Conservation* value, apart from *security,* were statistically significant ($p < 0.05$).

Figures 4.63; 4.64 and 4.65 portray the regression of CA on the *Conservation* values. Contrary to initial theorising, a positive relationship can be observed in Figure 4.63 between the *conformity* values and CA with regard to the dominant and minority groups. A strong negative relationship was expected between the *conformity* values and CA with regard to both the dominant and minority groups. It could be argued that the substantive theorising underlying Hypothesis 109 was refuted by these research results.

Figure 4.64 portrays the regression of the *tradition* value on CA with regard to the dominant and minority groups. The regression lines observed in Figure 4.64 is very similar to the observed relationship between the *conformity* value and CA. Positive relationships between the *tradition* value and CA was observed for both groups, although the slope for the dominant group was more pronounce compared to the minority group. This finding runs contrary to initial theorising, since a strong negative relationship was expected between the *tradition* value and CA. The positive results indicated in Figure 4.64 largely refute the substantive theorising that culminated into the formation of Hypotheses 115 and 116.

In Figure 4.65 a moderately negative relationship is observed between the *security* value and CA with regard to the dominant group. The regression of CA on the *security* value for the minority group is portrayed as a horizontal line. This horizontal line could be interpreted to mean that no discernable relationship exists between the *security* value and CA. This result runs contrary to initial theorising. A stronger negative relationship was expected between the *security* value and CA for the both the dominant and minority groups.

With the exception of the regression of the *security* value on CA with regard to the dominant group, the regression results contradicts the *a priori* theorising that guided the formulation of hypotheses H_{a121} and $H_{a122.}$

The nature of the moderating effect of race on the relationship between *Conservation* values and CA can only be assessed by looking at the relative contributions of specific value main effects relative to the value by race interaction effects on the dependent variable (CA). Pallant (2001) suggest looking at the standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients when evaluating the relative contributions of main effects entered into a regression model.

No credible deduction can be made of the relative contribution of the *Conservation* interaction effects, due to the statistically non-significant values found for the values. Only the *conformity* and *tradition* main effects reported significant regression coefficients. The *security* value did not report a significant F-value ($p<0.05$).

As a result, the standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients associated with the *Conservation* values indicate that of the two effects included in the model, the values main effects contribute more towards explaining unique variance in the dependable variable (CA), with the exception of the *security* value.

No conclusive evidence was found that corroborated the substantive theorising that was advanced with regard to the relationship between the *Conservation* values and CA. As a result hypotheses 109, 110, 115, 116, 121 and 122 did not survive the opportunity to be refuted.

4.15.6.2 Hypotheses: Self-Transcendence:

Table 4.53.12: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Self-Transcendence value main effects [A] and Self-Transcendence value by race and gender interaction effects [B] with regard to CA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Benevolence	A	$H_{0128}: \beta_1[X_4] = 0 \mid \beta_2[X_4{*}R{*}G] \neq 0$ $H_{a128}: \beta_1[X_4] \neq 0 \mid \beta_2[X_4{*}R{*}G] \neq 0$	0.149*	0.143	0.148	0.148
	B	$H_{0127}: \beta_2[X_4{*}R{*}G] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a127}: \beta_2[X_4{*}R{*}G] \neq 0 \mid \beta_1[X_4] \neq 0$	-0.062	-0.049	-0.062	-0.062
Ecological Welfare	A	$H_{0134}: \beta_1[X_5] = 0 \mid \beta_2[X_5{*}R{*}G] \neq 0$ $H_{a134}: \beta_1[X_5] \neq 0 \mid \beta_2[X_5{*}R{*}G] \neq 0$	0.023	0.006	0.023	0.022
	B	$H_{0133}: \beta_2[X_5{*}R{*}G] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a133}: \beta_2[X_5{*}R{*}G] \neq 0 \mid \beta_1[X_5] \neq 0$	-0.071	-0.065	-0.069	-0.069
Fairness	A	$H_{0140}: \beta_1[X_6] = 0 \mid \beta_2[X_6{*}R{*}G] \neq 0$ $H_{a140}: \beta_1[X_6] \neq 0 \mid \beta_2[X_6{*}R{*}G] \neq 0$	0.176*	0.166	0.175	0.174
	B	$H_{0139}: \beta_2[X_6{*}R{*}G] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a139}: \beta_2[X_6{*}R{*}G] \neq 0 \mid \beta_1[X_6] \neq 0$	-0.070	-0.043	-0.070	-0.069

*[p<0.05]

Benevolence, *ecological welfare* and *fairness* constitute the *Self-Transcendence* subscale. A positive relationship was expected between *Self-Transcendence* values and cultural diversity as a source of competitive advantage (CA) with regard to both the dominant and minority groups. Table 4.53.27 shows that H_{0127}, H_{0133} and H_{0139} which states that the interaction effect of the *Self-Transcendence* values by race and gender does not explain significant unique variance in CA, when included in a model that already contains the value main effect, could not be rejected in favour of the alternative hypotheses. Due to the non-significant p-values (i.e. $p > 0.05$) associated with the *Self-Transcendence* interaction effects, one can conclude that the interaction effects did not explain significant ($p < 0.05$) unique variance in CA, when included in a model that already contains the *Self-Transcendence* main effects. The non-significant interaction effects can be interpreted to mean that no discernable differences exist in the slopes of the regression lines for the dominant and minority groups with regard to the relationship between the *Self-Transcendence* values and CA.

Benevolence and *fairness* main effects significantly ($p<0.05$) contributed towards explaining unique variance in CA, when included in a model that already contain the interaction effect and consequently H_{0128} and H_{0140} were rejected in favour of the alternative hypotheses. This means that the *Self-Transcendence* main effects, with the exception of the *ecological welfare* value, significantly ($p < 0.05$) explain unique variance in CA when included in a model that already contains the interaction effects.

Furthermore the individual regression models for *benevolence* ($F=6.041$) and *fairness* ($F=80.82$) values were statistically different from zero at an acceptable level of significance ($p<0.05$). The *ecological welfare* regression model which contains both the *ecological welfare* ($F=1.159$) value main effect and the *ecological welfare* interaction effect terms, was not significant ($p = 0.315$; $P > 0.05$) and had to be rejected.

Figures 4.66; 4.67 and 4.68 (See Appendix B) portray the regression of CA on the values that constitute the *Self-Transcendence* second order value factor. A positive relationship was expected between the *Self-Transcendence* values and CA. A general positive relationship was expected for the *benevolence* value with regard to CA for both the dominant and minority groups. Figure 4.66 confirms that a positive relationship exist between the *benevolence* value and CA with regard to both the dominant and minority groups. Strong empirical support exists in literature that confirms the positive relationship between the *benevolence* value and pro-social behaviours and out-group attitudes (Sverko, 1995; Struch, Schwartz & Van der Kloot, 2002; Seligman & Katz, 1996).

Figure 4.67 reveal that a modestly negative relationship was found between the *ecological welfare* value and CA with regard to the dominant group. This finding is not congruent with initial theorising. Furthermore, Figure 4.67 portrays the regression line of CA on the *ecological welfare* value as a horizontal with regard to the minority group. This result could be interpreted to mean that no discernable relationship exists between the *ecological welfare* value and CA. This result was not expected since empirical results on values and ingroup-outgroup behaviours suggest that a positive relationship can be expected between *Self-Transcendence* values and the attitude towards cultural diversity (Seligman & Katz, 1996).

Figure 4.68 portrays the regression of CA on the *fairness* value with regard to the dominant and minority groups. A general positive relationship was found for both groups, which is congruent with initial theorising.

The standardised regression coefficients and partial correlations shed some light on the relative contributions of the interaction and main effects of the *Self-Transcendence* values on AA. Examination of Table 4.53.27 indicates that stronger standardised regression coefficients were reported for the *fairness* and *benevolence* value main effects in comparison with the respective interaction effects for these values.

When considering the partial correlations, the *benevolence* value main effect explained approximately 2.22% (0.148^2) of the variance in CA, when controlling for the interaction effect in the predictor and criterion. No credible deduction can be made of the relative contribution of the *benevolence* interaction effect, due to the statistically non-significant value reported for the value main effect. The same logic applies to the *ecological welfare* value that reported no significant interaction or main effects. On the other hand, the *fairness* value main effect explained approximately 3.06% (0.175^2) of the variance in CA, when controlling for the *fairness* by race and gender interaction effect.

The standardised regression coefficients, partial correlation coefficients and semi-partial correlation coefficients associated with the two effects included in the model indicate that the values main effects in general contributed more towards explaining unique variance in the dependable variable (CA), except in the case of the *ecological welfare* value. As far as the directionality of the hypothesised causality is concerned, only hypotheses 128 and 140 were corroborated. The hypothesised relationships regarding the *benevolence* and *fairness* values main effects corresponded with the statistical results, although the interaction effects did not significantly ($p<0.05$) contribute towards explaining unique variance.

4.15.6.3 Hypotheses: Openness to Change:

Table 4.53.13: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Openness to Change value main effects [A] and Openness to Change value by race and gender interaction effects [B] with regard to CA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Self-Direction	A	$H_{0146:}\beta_1[X_7] = 0 \mid \beta_2[X_7{*}R{*}G] \neq 0$ $H_{a146:}\beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R{*}G] \neq 0$	0.191*	0.182	0.189	0.189
	B	$H_{0145:}\beta_2[X_7{*}R{*}G] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a145:}\beta_2[X_7{*}R{*}G] \neq 0 \mid \beta_1[X_7] \neq 0$	-0.066	-0.041	-0.066	-0.065
Stimulation	A	$H_{0152:}\beta_1[X_8] = 0 \mid \beta_2[X_8{*}R{*}G] \neq 0$ $H_{a152:}\beta_1[X_8] \neq 0 \mid \beta_2[X_8{*}R{*}G] \neq 0$	0.050	0.035	0.049	0.049
	B	$H_{0151:}\beta_2[X_8{*}R{*}G] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a151:}\beta_2[X_8{*}R{*}G] \neq 0 \mid \beta_1[X_8] \neq 0$	-0.062	-0.049	-0.060	-0.060

*[$p<0.05$]

Self-direction and *Stimulation* values underlie the *Openness to Change* factor. Expected associations between the *Openness to Change* values and the attitude towards cultural diversity for dominant and minority groups were expected to be mixed. A negative relationship was hypothesised between *self-direction* value and CA with regard to the dominant and minority groups. A positive relationship was expected between the *stimulation* value and CA with regard to both the dominant and minority groups.

Results in Table 4.53 indicate that H_{0145} and H_{0151}, which states that the interaction effect of *Openness to Change* values by race and gender does not explain significant unique variance in CA, when included in a model that already contains the *Openness to Change* values main effects, could not be rejected in favour of the alternative hypotheses. The *Openness to Change* interaction effects for both values comprising the *Openness to Change* second order factor, did not report coefficients that are statistically different from 0 at an acceptable level of significance ($p<0.05$). The non-significant (i.e. $p>0.05$) interaction effects can be interpreted to mean that no discernable differences exist in terms of the slopes of the regression lines for the dominant and minority groups with regard to the relationship between the *Openness to Change* values and CA.

Furthermore, the regression results revealed that the *stimulation* value main effect did not significantly contributed towards explaining unique variance in CA, when included in a model that already contained the *stimulation* value interaction effect and consequently H_{0152} could not be rejected in favour of the alternative hypotheses. However, the *self-direction* value main effect significantly contributed towards explaining unique variance in CA, when included in a model that already contained the *self-direction* value interaction effect and consequently H_{0146} was rejected in favour of the alternative hypotheses. Lastly, the individual regression model for the *self-direction* value was statistically different from zero at an acceptable level of significance ($p < 0.05$). However, the regression model with regard to the *stimulation* value, which contains both the value main effect and the interaction effect terms, was not significant ($p = 0.310$; $p > 0.05$).

The regression lines explicating the regression of CA on *self-direction* and *stimulation* are portrayed as Figures 4.69 and 4.70 in Appendix B. A positive relationship between the *self-direction* value and CA was reported for both the dominant and minority groups, although the gradient of the regression line for the dominant group was relatively more positively inclined compared to the minority group. This finding was not congruent with initial theorising since a negative relationship was predicted between the *self-direction* value and CA with regard to both the dominant and minority groups. The partial correlations confirm that the *self-direction* main effect (0.189^2) 3.57% of variance in CA, when the influence of the interaction effect is controlled. No credible deduction can be made of the relative contribution of the *self-direction* interaction effect, due to the statistically non-significant value reported for the interaction effect.

A moderately positive relationship between the *stimulation* values and CA was reported for the dominant group. Figures 4.70 portrays the regression line of CA on the *stimulation* value as a horizontal line which could be interpreted to mean that no discernable relationship exists between the *stimulation* value and CA with regard to the minority group.

The proportion of variance in CA attributable to the *stimulation* interaction effect and the *stimulation* main effect for dominant and minority group members can be assessed by examining the standardised beta regression coefficients in Table 4.53.28. The relative contribution of the *stimulation* value main effect in comparison with the *stimulation* interaction effect can be determined by looking at the standardised regression coefficients and partial correlations.

The standardised regression coefficients of the *stimulation* value main and interaction effect were not significant (i.e. $p > 0.05$). No credible deduction can be made of the relative contribution of the *stimulation* main and interaction effects, due to the statistically non-significant values that was reported.

Only the *self-direction* value main effect explained additional unique variance when included in a model that already contains the *self-direction* value by race and gender interaction effect. The partial correlations confirm that the *self-direction* main effect explained (0.189^2) 3.57% of the variance in CA.

In summary, the hypotheses regarding the direction of the causality between the *stimulation* values and CA with regard to the white group corresponded with Figure 4.70. However, the statistical results reported with regards to Hypothesis 151 was not significant at an acceptable level of confidence ($p<0.05$). In addition no statistical support was found for the direction of the causality between the *self-direction* value and CA.

4.15.6.4 Hypotheses: Hedonism:

Table 4.53.14: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Hedonism value main effects [A] and Hedonism value by race and gender interaction effects [B] with regard to CA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Hedonism	A	$H_{0158:}\beta_1[X_9] = 0 \mid \beta_2[X_9{*}R{*}G] \neq 0$ $H_{a158:}\beta_1[X_9] \neq 0 \mid \beta_2[X_9{*}R{*}G] \neq 0$	-0.023	-0.034	-0.023	-0.023
	B	$H_{0157:}\beta_2[X_9{*}R{*}G] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a157:}\beta_2[X_9{*}R{*}G] \neq 0 \mid \beta_1[X_9] \neq 0$	-0.059	-0.063	-0.058	-0.058

A negative relationship was predicted between the *Hedonism* value and cultural diversity as a source of competitive advantage (CA) with regard to both the dominant and minority groups. Results in Table 4.53 reveal that H_{0157}, which states that the *Hedonism* by race and gender interaction effect does not explain significant unique variance in a CA, when included in model that already contains the *Hedonism* value main effect, could not be rejected in favour of the alternative hypotheses. The *Hedonism* value by race and gender interaction effect, did not report coefficients that is statistically different from 0 at an acceptable level of significance ($p<0.05$). The non-significant ($p>0.05$) interaction effects can be interpreted to mean that no discernable differences exist in terms of the slopes of the regression lines for the dominant and minority groups with regard to the relationship between the *Hedonism* values and CA.

Furthermore, the regression results revealed that the *Hedonism* value main effect did not significantly contributed towards explaining unique variance in a model that already contains the *Hedonism* value by race and gender interaction effect and consequently H_{0158} could not be rejected in favour of the alternative hypotheses. H_{a158} maintains that the *Hedonism* value main effect produces variance in CA not attributable to the interaction between race, gender and *Hedonism*. Since hypothesis H_{a158} had to be rejected, one can infer that the *Hedonism* value main effect does not explain additional unique variance in CA when included in a model that already contains the *Hedonism* interaction effect. Finally, the individual regression model for *Hedonism* was not statistically different from zero at an acceptable level of significance (i.e. $F= 1.095$; $p > 0.05$).

The regression lines explicating the regression of CA on the *Hedonism* value with regard to the dominant and minority groups are portrayed as Figure 4.71 in Appendix B. Congruent with initial theorising, a negative relationship was reported for the dominant and minority groups with regard to the relationship between the *Hedonism* value and CA.

The direction of the relationship between the *Hedonism* value and CA for both the dominant and minority groups was congruent with initial theorising. However, the *Hedonism* by race and gender interaction effect was not statistically different from 0 at an acceptable level of significance ($p<0.05$). Consequently, the substantive reasoning that culminated in the formulation of 157 and 158 could not be confirmed in the current study.

4.15.6.5 Hypotheses: Self- Enhancement:

Table 4.53.15: Excerpt from Table 4.53; Statistical hypotheses and accompanying analyses results explicating the Self-Enhancement value main effects [A] and Self-Enhancement value by race and gender interaction effects [B] with regard to CA.

Main and Interaction effects	Code	Statistical Hypothesis	Standardised Beta Coefficients	Partial and Semi-Partial Correlations		
				Zero Order	Partial	Semi-Partial
Achievement	A	H_{0164}:$\beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R*G] \neq 0$ H_{a164}:$\beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R*G] \neq 0$	0.139*	0.131	0.138	0.138
	B	H_{0163}:$\beta_2[X_{10}*R*G] = 0 \mid \beta_1[X_{10}] \neq 0$ H_{a163}:$\beta_2[X_{10}*R*G] \neq 0 \mid \beta_1[X_{10}] \neq 0$	-0.063	-0.046	-0.063	-0.063
Power	A	H_{0170}:$\beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R*G] \neq 0$ H_{a170}:$\beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R*G] \neq 0$	-0.071	-0.091	-0.067	-0.067
	B	H_{0169}:$\beta_2[X_{11}*R*G] = 0 \mid \beta_1[X_{11}] \neq 0$ H_{a169}:$\beta_2[X_{11}*R*G] \neq 0 \mid \beta_1[X_{11}] \neq 0$	-0.060	-0.083	-0.057	-0.056

*[p<0.05]

Achievement and *Power* values underlie the second order *Self-Enhancement* factor. A positive relationship was expected between the *Self-Enhancement* values and cultural diversity as a source of competitive advantage (CA) for both the dominant and minority groups.

Results in Table 4.53 reveal that H_{0163} and H_{0169}, which states that the interaction effect of Self-enhancement values by race and gender do not explain significant unique variance in CA, when included in a model that already contains the value main effects, could not be rejected in favour of the alternative hypotheses. The *Self-Enhancement* value by race and gender interaction effects for both values comprising the *Self-Enhancement* values reported coefficients that is statistically not different from 0 at an acceptable level of significance ($p<0.05$). The non-significant (i.e. $p>0.05$) interaction effects can be interpreted to mean that no discernable differences exist in terms of the slopes of the regression lines for the dominant and minority groups with regard to the relationship between the *Self-Enhancement* values and CA.

The regression results revealed that the *achievement* value main effect significantly contributed towards explaining unique variance in a model that already contain the interaction effect and consequently H_{0164} was rejected in favour of the alternative hypothesis. However, H_{0170}, stating that the *power* value main effect does not explain unique variance in CA when included in a model that already contains the interaction effect, could not be rejected. Since hypothesis H_{a170} had to be rejected, one can infer that the *power* value main effect does not explain additional unique variance in CA when included in a model that already contains the *power* by race and gender interaction effect. Finally, the individual regression models for *power* and *achievement* were not statistically different from zero at an acceptable level of significance ($p < 0.05$).

The regression of CA on *achievement* and *power* for the dominant and minority groups are portrayed in Figures 4.72 and 4.73 in Appendix B. A positive relationship was reported between the *achievement* value and CA with regard to the dominant and minority groups. The positive relationship reported between the *achievement* value and CA for both the dominant and minority groups were congruent with initial theorising and corroborates the predicted direction of causality between the two variables. When examining the partial correlations in Table 4.53.30, the *achievement* value main effect explained approximately 1.90% (0.138^2) of the variance in CA, when controlling for the interaction effect in the predictor and criterion. No credible deduction can be made of the relative contribution of the *achievement* interaction effect, due to the statistically non-significant value reported for the effect. Therefore, as far as the *achievement* values are concerned, the standardised regression coefficients, partial and semi-partial correlation coefficients indicated that the value main effect is the more important of the two predictors.

A moderately negative relationship between *power* value and CA was reported for the dominant group. Figure 4.73 portrays the regression of CA on the *power* value with regard to the minority group as a horizontal line which could be interpreted to mean that no significant relationship exists between the *power* value and CA. The regression line portraying the relationship between the *power* value and CA was relatively more inversely sloped for the dominant group. This means that CA will proportionally decrease at a higher rate when an increase in *power* value takes place, compared to the minority group.

No credible deduction can be made of the relative contribution of the *power* value main and interaction effects, due to the statistically non-significant value reported for the value.

The regression of CA on the *power* value (See Figure 4.73) paints quite a different picture compared to the relationship between *achievement* values and CA. Negative relationships were found for both the dominant and minority groups. This result was congruent with initial theorising.

Substantially speaking, none of the *Self-Enhancement* values-CA hypothesised linkages has been statistically established. As a result, these hypotheses did not survive the opportunity to be refuted and therefore can not be judged to be substantially corroborated.

4.16 CHAPTER SUMMURY

In this chapter the research results were reported and interpreted. The structure of the chapter culminated naturally from the three main research objectives, namely:

- Validation of the SVS and the CDBS
- Development of a generic SEM model explicating the influence of the values on the attitudes towards cultural diversity.
- Investigating the moderating effect of race and gender on hypothesised values-attitude linkages via regression analyses.

As a result, the first section of Chapter four was dedicated towards validating the exogenous and endogenous measurement models. Whereas the first section was fundamentally concerned with investigating the merits of the two measurement models in operationalising the latent constructs, “the attitude towards cultural diversity” and “values”, in their original configurations, the second section of the chapter was utilised for the refinement of the original measurement models. The ability of the SVS and CDBS to provide pure and comprehensive sets of stimuli that elicits behavioural responses that are fundamentally a function of the underlying latent construct were considered a critical first step before the structural relationships between latent variables can be accessed via the construction of a generic structural model.

After the measurement integrity of the measures has been established, the refined measurement models were used for the construction of the generic structural model. The third section of the chapter was reserved for discussing the procedure that was followed in the construction of the generic structural model and to report on the most important SEM results. The goodness-of-fit indices and selected model parameters were interpreted and discussed.

In the last section of the chapter the moderating effect of race and gender with regard to the relationship between values and the three dimensions underlying the attitude towards cultural diversity, namely tolerance for affirmative action (AA), valuing individual differences (VID) and cultural diversity as a source of competitive advantage (CA) were evaluated and interpreted.

CHAPTER 5

GENERAL CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

5.1 INTRODUCTION

South Africa is characterised as one of the most diverse countries in the world, not only in terms of gender and race, but even more so by the numerous subcultures within the country. The South African context is clearly unique in terms of culture, race, ethnical grouping, attitudes and values which are manifested in no less than 11 official language groups (Statistics South Africa, 2006). Although South Africa has historically been characterised as being a very culturally diverse country, the previous political administration governed the country on the basic premise of separate development for various racial groups, resulting in a highly segregated society.

However, with the change in the political dispensation, the new government's focal point of interest has been the dismantling of traditional sources of power that deter the transformation of the broader South African society along more demographically representative and equitable lines. Prolific societal changes have accrued at all levels of the South African society over the past 15 years, with the world of work being no exception. Affirmative action has been earmarked by the current South African government as the primary initiative to advance the integration of non-whites, women and the disabled into the South African workforce. However, the broad-based empowerment of members from the previously disadvantaged sections of society has not been sufficiently forthcoming (Commission for Employment Equity, 2007). This lack of successful integration of diverse cultures into the South African workforce is alarming if one considers the amount of resources that have been invested in the overall reconstruction of the broader South African society. A real need exists to identify the antecedents that influence attitudes and behaviours towards cultural diversity.

In Chapter 2 it was argued that traditional sources of power and influence were deeply entrenched over centuries in the South African society and still, directly and indirectly, serve the needs of members belonging to the dominant cultural group. The deeply ingrained social beliefs and attitudes advanced and maintained during the apartheid years had a lasting affect on the social psyche of all South Africans and still play an important role in the construction of the discourse of both white and non-white cultures. Consequently, it was argued that prevailing societal discourses – the collection of historically ingrained social ideas and principles – have to be dissected and analysed if one wishes to understand which forces shape contemporary South African cultural perceptions. Sverko and Vizek-Vidovíc (1995) have stated that the larger socio-cultural context in which individuals find themselves has a significant influence on other spheres of life, such as work and family life. To this end, critical discourse analysis (CDA) was identified as an analysis technique that is particularly well suited to investigate the deep-seated belief and value constellations that underlie and govern the behaviours and attitudes towards cultural diversity, since the technique adopts a macro frame of reference in examining larger societal power structures (Zanoni & Janssens, 2004).

In the most ideal scenario, theorising should culminate in a comprehensive nomological network of variables that elucidate the structure and content of the relationships between values and one's attitude towards cultural diversity. Initiatives aimed at integrating individuals from culturally diverse backgrounds into a communal workforce will only be possible to the extent to which there is comprehensive understanding of the dynamic forces that underlie the attitude towards cultural diversity and the manner in which these antecedents combine to produce culturally salient beliefs, perceptions and attitudes.

Personal values were identified as one of the most important antecedents likely to shape the attitude towards cultural diversity. Researchers have extensively examined the concept of culture through values (Singelis, Hubbard, Her & An, 2003). Values remain central in the study of most social topics and social researchers will attest the importance of values in the study of intergroup attitudes and beliefs (Hitlin & Piliavin, 2004; Schwartz, 1992, 1994, 2005; Schwartz & Bilsky, 1987, 1990; Stone-Romero, 1994; Triandis, Kurowski & Gelfand, 1994).

Furthermore, it was argued that race and gender have significant moderating effects on the relationship between values and the attitudes towards cultural diversity. Therefore, it seemed particularly fitting to investigate value-attitude linkages via an intergroup approach. The rationale for this decision stems from the basic premise that important differences exist in value-attitude linkages depending on group status. Stated more simply, the moderating effect of race and gender on the attitude towards cultural diversity is dependent on group membership. The effect of values on the attitude towards cultural diversity can either be attenuated, amplified or even nullified, depending on which group the individual belongs to. Since research that explicitly investigates the relationship (Schwartz, 1992) between value structures and the attitude toward cultural diversity is very limited, existing theoretical models that investigate the value orientations which predispose people to form particular attitudes and behaviours were utilised to gain a theoretical grasp of this dynamic psychological process (see Tajfel & Turner, 1979; Kristiansen & Zanna, 1994; Katz, 1981; De Bono, 1987; Berger, 1977; Kagitcibasi, 1997; Smith & Schwartz, 1997 for reviews). Theoretical models that explain dynamic psychological processes akin to the value-attitude linkages which have been investigated in the current study were used to formulate hypotheses and to fundamentally underlie the generic structural model.

The basic theoretical model that culminated through the process of theory generation, referred to as the generic structural model depicts hypothesised theoretical relationships between various values and the attitude towards cultural diversity. These substantive relationships between the latent constructs were empirically tested through SEM and formed the primary objective of the study. However, before the structural relationships between the latent variables could be evaluated, considerable time and effort were allocated to vindicating the integrity of the measurement components comprising the structural model. To this end, validating the exogenous and endogenous measurement models as proposed by the original authors formed the secondary objective of the study. Consequently, the measurement models were refined and the new measurement configurations were evaluated through confirmatory factor analysis using SEM. The refined measurement models were used for the construction of the generic structural model.

If the structural model were to be found valid, i.e. the proposed structural model was replicated in the data, it would imply that values may indeed influence the attitude towards cultural diversity.

However, due to the limitations of SEM with regard to gauging the moderating effects of race and gender on the attitude towards cultural diversity, important research propositions were left unanswered. The basic research proposition which stated that race and gender moderates the relationship between values and the attitude towards cultural diversity was tested using moderated regression analysis. The basic question that the moderated regression attempted to answer was ‘Does the value by race or value by race and gender interaction effects explain additional unique variance in a model that already contains the value main effect?’ If the interaction effect explained additional unique variance, one can reasonable argue that race and gender do indeed moderate the relationship between values and the attitude towards cultural diversity.

In sum, the following broad research objectives formed the basis of the current research study:

- ❖ Validation of the SVS and the CDBS
- ❖ Development of a generic SEM model explicating the influence of values on the attitudes towards cultural diversity.
- ❖ Investigating the moderating effect of race and gender on hypothesised values-attitude linkages via regression analysis.

Overall, it was expected that the structural model would fit the data reasonably well and that significant relationships would be found between the values that comprised the generic structural model and the attitude towards cultural diversity. Furthermore, it was expected that the relationship between values and the attitude towards cultural diversity would be moderated by race and gender. The research results will be discussed below.

5.2 RESULTS: MEASUREMENT MODELS

5.2.1 Evaluation of the measurement component of the structural model

The overall fit of the measurement components used to operationalise the latent constructs which were included in the structural model, was assessed at the hand of relevant goodness-of-fit indices. The overall fit of the measurement models is briefly reviewed in the subsequent section

5.2.1.1 Goodness-of-fit indices and standardised residuals

The measurement of latent constructs necessarily implies that some degree of isomorphism exists between the attributes of the to-be-measured latent constructs and the attributes of the numeric system (Stevens, 1946). If isomorphism is presumed to exist between the two systems, then it is permissible to present attributes of the to-be-measured latent construct in numerical terms. Following this line of argument, measurement of latent variables is the process through which attributes of the constructs are gauged indirectly by observable indicators that fundamentally are pure and comprehensive manifestations of the nature of the to-be-measured latent construct. The assignment of numerical properties to latent constructs is only permissible if the numerical scales reflect the attributes of the latent constructs in an isomorphic manner. This indirect method of measurement is what Campbell (as cited in Pfanzagl, 1971, p. 31) referred to as fundamental or derived measurement where “numerical scales are constructed by mapping an empirical relational system isomorphically into a numerical relational system”.

The goodness-of-fit indices and residual statistics combined provide important information regarding the relative success with which latent constructs have been operationalised by indicator variables. According to classical measurement theory, the success with which indicator variables truthfully gauge properties of the latent constructs that they are designated to measure depends on how much of the variance reflected by measures are attributable to the to-be-measured construct relative to random residual effects (Nunnally & Bernstein, 1994). Bearing in mind that psychological measurement is indirect measurement via a sample of behaviour; the classical measurement theory acknowledges the fact that it is virtually impossible to elicit a pure sample of behaviour which is totally dependent on the to-be-measured construct. By implication, responses to the test stimuli will, in all likelihood, be influenced by other non-relevant influences which, in turn, will distort responses. Good measures typically reflect relatively more unique variance than random error variance.

Differences between observed and fitted covariance / correlation matrices are indicated as residuals in the LISREL output analysis (Jöreskog & Sörbom, 1996). Upon examination of the measurement model residuals, it was found that 133 observed covariance terms in the observed sample covariance matrix (out of 1326 covariance terms) were being poorly estimated by the model parameter estimates.

The modification indices reveal that no additional paths would significantly improve the fit of the endogenous measurement model if they were to be freed up. However, the multiple significant modification indices (>6.64) found with regard to the exogenous measurement model raises serious questions about the dimensionality of the SVS. In total 82 significant modification indices were reported for the refined exogenous measurement model. From this evidence one can deduce that the SVS is rife with multicolinearity and largely threatens the psychometric integrity of the exogenous measurement model.

Having said this, the overall goodness-of-fit indices indicated that the measurement component of the structural model fits the data reasonably well (See Tables 4.43). When examining the individual model parameters (summed up in Table 4.42), only three items (AA2R, Var3 and Var31) did not adhere to the minimum acceptable criteria and decision-making rules. Given the relatively few items that did not adhere to the minimum acceptable criteria and decision-making rules, the refinement process can be regarded as successful, since the data were subjected to rigorous decision-making criteria. In the final analysis the refined instruments successfully replicated the structure as developed on the training data. This evidence instils confidence in the measurement integrity of the refined measurement instruments.

5.3 RESULTS: GENERIC STRUCTURAL MODEL

5.3.1 Evaluation of the structural component of the structural model

The overall fit of the proposed generic structural model was assessed at the hand of goodness-of-fit indices. Relevant fit indices are reported in the subsequent section.

5.3.1.1 Goodness-of-fit indices and standardised residuals

The measurement components of the generic structural model seemed to fit the data reasonably well. Establishing the measurement integrity of the measurement components was deemed to be an important prerequisite for drawing inferences from the structural model since any deduction made on the basis of the structural model will become ambiguous if the measurement components have not been shown to purely and comprehensively operationalise the to-be-measured construct initially (Theron, 2007). Following this line of reasoning, it was only permissible to evaluate the fit indices of the structural model if the measurement components boasted acceptable fit statistics. Notwithstanding the alleged multicolinearity that has plagued the refined SVS, the fit indices of the measurement models imply that the reproduced covariance matrix closely resembles the observed covariance matrix.

The goodness-of-fit indices (see Table 4.44) and the standardised residuals (see Table 4.45 and Figures 4.6 and 4.7) were evaluated jointly. Forty-six large negative residuals and fifty-seven large positive residuals imply that numerous covariance terms in the observed sample covariance matrix were being poorly estimated by the derived model parameter estimates. Table 4.45 reveals that the majority of large residual terms have been reported with regard to the refined SVS (only 20 of the 103 large residuals are reported for the refined CDBS). Once again measurement inconsistencies identified in earlier analyses surfaced in the form of multicolinearity. Evidence for this claim is found when one examines the residual structure of the generic structural model (see Table 4.45).

The stem-and-leaf plot in Figure 4.6 portrays the distribution of residual terms as distributed fairly symmetrically around zero. The Q-plot (see Figure 4.7) portrays the standardised residuals for pairs of variables as deviating slightly from the 45º reference line at both the lower and upper ends of the graph. These results are consistent with earlier analyses and signify that the structural model not only reflects unique latent trait variance, but considerable random error variance, as well, which somewhat erodes the confidence with which one can make theoretical inferences based on the proposed structural model.

Based on the goodness-of-fit indices reported in Table 4.44, the overall fit of the structural model can be described as very good, given the guidelines presented in the literature (see Table 3.5 for a summary of the guidelines used for the interpretation of fit indices), although the large number of significantly large positive and negative residuals somewhat derogate the overall credibility of the fit indices. The full information format of the LISREL programme provides numerous indices that can be used to diagnose certain trends in the multivariate analysis Analysing SEM data as a coherent whole helps the researcher to gain a more conclusive understanding of the empirical implications of formulated theories. Due to certain contradictions in the statistical results, it was decided to take a closer look at some of the specific model parameters presented in the LISREL output. In the next section specific model parameters are discussed with an eye to linking statistical results to the hypothesised research propositions.

5.3.1.2 Model parameters

Table 5.1 provides a summary of the original substantive and statistical research hypotheses along with the empirical deductions that can be inferred from the statistical results. Seven of the twenty-two *a priori* hypotheses have been confirmed by the statistical results. Hypothesised relationships between variables were considered to be fully corroborated if the direction of the hypothesised relationship corresponded with the sign of the statistical results and if the relationship was statistically significant ($p < 0.05$). Upon examination of Table 5.1 it becomes apparent that some of the relationships between the variables are significant, but the direction of the causal influence is not congruent with initial theorising. In such a scenario it was argued that no conclusive statistical support was found for the specific research proposition and the hypothesis therefore could not be regarded as substantially corroborated.

Hypotheses H_{03}, H_{04}, H_{06}, H_{07}, H_{08}, H_{09}, H_{010}, H_{012}, H_{015}, H_{017}, H_{018}, H_{019}, H_{020}, H_{021} and H_{022} did not survive the opportunity to be refuted and, as a result, were not deemed to be substantially corroborated. However, statistical support was found for hypotheses H_{a2}, H_{a5}, H_{a11}, H_{a14}, H_{a16}, H_{a23} and H_{a24} (See Table 5.1).

Table 5.1: Summary of the original substantive and statistical research hypotheses with accompanying empirical results

SUBSTANTIVE HYPOTHESIS				STATISTICAL HYPOTHESIS			EMPIRICAL RESULTS		
SVS	CDBS								
VALUES	VID	AA	CA	VID (η_2)	AA (η_1)	CA (η_3)	Reported direction of relationship	Statistical significance (p< 0.05) of relationship	Overall conclusion of hypothesis
Γ (gamma) regression coefficients (γ_{ij}) describing the strength of the regression of η_i on ξ_j in the structural model									
Conservation: • Tradition (ξ_1)	Negative (H_{a2})			$H_{02:}\ \gamma_{21} = 0$ $H_{a2:}\ \gamma_{21} < 0$			NEGATIVE	SIGNIFICANT	**CONFIRMED**
		Negative (H_{a3})			$H_{03:}\ \gamma_{11} = 0$ $H_{a3:}\ \gamma_{11} < 0$		NEGATIVE	NON-SIGNIFICANT	NOT CONFIRMED
			Negative (H_{a4})			$H_{04:}\ \gamma_{31} = 0$ $H_{a4:}\ \gamma_{31} < 0$	POSITIVE	NON-SIGNIFICANT	NOT CONFIRMED
Self-transcendence: • Benevolence (ξ_2)	Positive (H_{a5})			$H_{05:}\ \gamma_{22} = 0$ $H_{a5:}\ \gamma_{22} > 0$			POSITIVE	SIGNIFICANT	**CONFIRMED**
		Positive (H_{a6})			$H_{06:}\ \gamma_{12} = 0$ $H_{a6:}\ \gamma_{12} > 0$		POSITIVE	NON-SIGNIFICANT	NOT CONFIRMED
			Positive (H_{a7})			$H_{07:}\ \gamma_{32} = 0$ $H_{a7:}\ \gamma_{32} > 0$	NEGATIVE	NON-SIGNIFICANT	NOT CONFIRMED

• Ecological Welfare (ξ_3)	Positive (H_{a8})			$H_{08}: \gamma_{23} = 0$ $H_{a8}: \gamma_{23} > 0$			NEGATIVE	SIGNIFICANT	NOT CONFIRMED
		Positive (H_{a9})			$H_{09}: \gamma_{13} = 0$ $H_{a9}: \gamma_{13} > 0$		NEGATIVE	SIGNIFICANT	NOT CONFIRMED
			Positive (H_{a10})			$H_{010}: \gamma_{33} = 0$ $H_{a10}: \gamma_{33} > 0$	NEGATIVE	SIGNIFICANT	NOT CONFIRMED
• Fairness (ξ_4)	Positive (H_{a11})			$H_{011}: \gamma_{24} = 0$ $H_{a11}: \gamma_{24} > 0$			POSITIVE	SIGNIFICANT	**CONFIRMED**
		Positive (H_{a12})			$H_{012}: \gamma_{14} = 0$ $H_{a12}: \gamma_{14} > 0$		POSITIVE	NON-SIGNIFICANT	NOT CONFIRMED
			Positive (H_{a13})			$H_{013}: \gamma_{34} = 0$; $H_{a13}: \gamma_{34} > 0$	POSITIVE	NON-SIGNIFICANT	NOT CONFIRMED
Openness to Change: • Stimulation (ξ_5)	Positive (H_{a14})			$H_{014}: \gamma_{25} = 0$ $H_{a14}: \gamma_{25} > 0$			POSITIVE	SIGNIFICANT	**CONFIRMED**

		Positive (H_{a15})			$H_{015:}\ \gamma_{15} = 0$ $H_{a15:}\ \gamma_{15} > 0$		POSITIVE	NON-SIGNIFICANT	NOT CONFIRMED
			Positive (H_{a16})			$H_{016:}\ \gamma_{35} = 0$ $H_{a16:}\ \gamma_{35} > 0$	POSITIVE	SIGNIFICANT	**CONFIRMED**
Hedonism (ξ_6):	Negative (H_{a17})			$H_{017:}\ \gamma_{26} = 0$ $H_{a17:}\ \gamma_{26} < 0$			NEGATIVE	NON-SIGNIFICANT	NOT CONFIRMED
		Negative (H_{a18})			$H_{018:}\ \gamma_{16} = 0$ $H_{a18:}\ \gamma_{16} < 0$		NEGATIVE	NON-SIGNIFICANT	NOT CONFIRMED
			Negative (H_{a19})			$H_{019:}\ \gamma_{36} = 0$ $H_{a19:}\ \gamma_{36} < 0$	NEGATIVE	NON-SIGNIFICANT	NOT CONFIRMED
Self-enhancement: • Power (ξ_7)	Negative (H_{a20})			$H_{020:}\ \gamma_{27} = 0$ $H_{a20:}\ \gamma_{27} < 0$			NEGATIVE	NON-SIGNIFICANT	NOT CONFIRMED
		Negative (H_{a21})			$H_{021:}\ \gamma_{17} = 0$ $H_{a21:}\ \gamma_{17} < 0$		NEGATIVE	NON-SIGNIFICANT	NOT CONFIRMED

			Positive (H_{a22})			$H_{022:}\ \gamma_{37} = 0$ $H_{a22:}\ \gamma_{37} > 0$	NEGATIVE	NON-SIGNIFICANT	NOT CONFIRMED
B (beta) regression coefficients (β_{ij}) describing the strength of the regression of η_i on η_j in the structural model									
Valuing Individual Differences (η_2):		Positive (H_{a23})			$H_{023:}\ \beta_{12} = 0$ $H_{a23:}\ \beta_{12} > 0$		POSITIVE	SIGNIFICANT	**CONFIRMED**
			Positive (H_{a24})			$H_{024:}\ \beta_{32} = 0$ $H_{a24:}\ \beta_{32} > 0$	POSITIVE	SIGNIFICANT	**CONFIRMED**

Hypotheses Conservation:

- *Tradition*

$H_{02:}\, \gamma_{21} = 0$; $H_{a2:}\, \gamma_{21} < 0$; $H_{03:}\, \gamma_{11} = 0$; $H_{a3:}\, \gamma_{11} < 0$; $H_{04:}\, \gamma_{31} = 0$; $H_{a4:}\, \gamma_{31} < 0$

It was hypothesised that a negative relationship exists between the *tradition* value and valuing individual differences (VID); tolerance for affirmative action (AA); and cultural diversity as a source of competitive advantage (CA). Hypothesis two was substantially corroborated, but no conclusive support was found in favour of hypotheses three and four.

The sign of the reported relationship between the tradition value and AA was congruent with initial theorising but the null hypothesis, which states that the tradition value has no statically significant effect on AA, could not be rejected in favour of the alternative hypothesis. No theoretically defendable argument could be found for this research result.

According to social identity theory, social complexity refers to the way in which individuals subjectively represent the relationships among their multiple in-group memberships (Brewer, 2000; Migdal, Hewstone & Mullen, 1998; Urban & Miller, 1998). One of the fundamental premises of the theory is that individuals with low social identity complexity see their in-groups as highly overlapping and convergent, whereas those with high complexity see their different in-groups as distinct and cutting across multiple membership groups (Brewer, 2000). One would expect in-group membership to be negatively related to tolerance for out-groups (i.e. cultural diversity) when members perceive their in-group values to be very divergent from those of out-groups (low complexity) (Brewer & Pierce, 2005). Considerable evidence was found in the literature (see Chapter two) to suggest that cultural groups in South Africa perceive their in-group values to be markedly unique and divergent from other cultural groups (low complexity). Brewer and Pierce (2005) found that low complexity groups generally placed high importance on conservation and power values. As a result, one would have expected South African groups that prioritise conservation and power values to be opposed to cultural diversity.

As a result, the non-significant positive relationship that was reported between the *tradition* value and CA was very surprising, since strong evidence in the literature suggests that negative relationships exist between *Conservation* values and pro-social attitudes and behaviours (Schwartz, Struch & Bilsky, 1990). Both the direction of the reported causality, as well as the statistically non-significant t-value, indicate that the hypothesised relationship between the *tradition* value and CA has not survived the opportunity to be refuted in the current study.

Hypothesis Self-Transcendence:

A general positive relationship was expected between the *Self-Transcendence* values and valuing individual differences (VID), tolerance for affirmative action (AA) and cultural diversity as a source of competitive advantage (CA) subscales. Although five of the nine *Self-Transcendence* relationships with the attitude towards cultural diversity reported statistically significant relationships, only two hypotheses (H_{a5} and H_{a11}) were completely corroborated in terms of both the direction of causality and statistical significance of the hypothesised relationships.

- *Benevolence*

$H_{05:}\ \gamma_{22} = 0$; $H_{a5:}\ \gamma_{22} > 0$; $H_{06:}\ \gamma_{12} = 0$; $H_{a6:}\ \gamma_{12} > 0$; $H_{07:}\ \gamma_{32} = 0$; $H_{a7:}\ \gamma_{32} > 0$

Hypotheses five, six and seven proposed that a strong positive relationship exists between the *benevolence* value and valuing individual differences (VID); tolerance for affirmative action (AA); and cultural diversity as a source of competitive advantage (CA) subscales. Statistical support has been found for hypothesis five, which states that a positive relationship exists between the *benevolence* value and VID. The *Benevolence* values are critical for smooth group functioning and are believed to be derived from the orgasmic need of affiliation (Korman, 1974; Maslow, 1965; Kluckhohn, 1951; Schwartz, 2005). In a study that examined the attitude to maintain the white majority in Australia, Feather (1970) found that equality (a property of the *self-transcendence* value type) was a predictor of white college students in a university sample. In Biernat, Vescio and Theno's (1996) study regarding the role of values in understanding out-group attitudes, it was found that white respondents who ascribed high importance to egalitarian values generally reflected more positive attitudes towards people of colour. Similarly, Rokeach and Ball-Rokeach (1988) found equality values to be positively related to antiracist and liberal attitudes.

Results similar to those reported with regard to the relationship between the *benevolence* value and VID were expected for AA and CA. Contrary to initial predictions, non-significant beta path coefficients were found for hypotheses six and seven.

An alternative explanation for why no conclusive empirical support was found for the proposed relationship between the *benevolence* value and AA can be found by investigating the motivational intent of the *benevolence* value. Schwartz (as cited in Bardi & Schwartz, 2003, p. 1208) states that the motivational intent of the *benevolence* value is directed towards the enhancement of the welfare of those "people with whom one is in frequent personal contact", which would typically imply in-group members. When examining the compilation of the sample used in the current investigation, it becomes apparent that the majority of respondents that participated in the study were white (51.1%). The pro-social in-group bias inherent in the *benevolence* value construct would typically result in a racially slanted (negative) response tendency especially when the majority of respondents partaking in the study are perceptually negatively inclined towards such a racially nuanced theme as affirmative action.

- *Ecological Welfare*

$H_{08:}\,\gamma_{23} = 0$; $H_{a8:}\,\gamma_{23} > 0$; $H_{09:}\,\gamma_{13} = 0$; $H_{a9:}\,\gamma_{13} > 0$; $H_{010:}\,\gamma_{33} = 0$; $H_{a10:}\,\gamma_{33} > 0$;

The reported research results with regard to the relationship between the *Ecological Welfare* value and valuing individual differences (VID); tolerance for affirmative action (AA); and cultural diversity as a source of competitive advantage (CA) subscales conflicted with hypotheses eight, nine and ten. The strong, statistically significant, negative relationship found between the *ecological welfare* value and the attitude towards cultural diversity was unexpected. A strong positive relationship was expected since the subscale was culled from the *Universalism* scale, which promulgates the understanding, appreciating, tolerance and protection of all people and for nature (Schwartz, 1992). Schwartz (2009) acknowledges that refinement of the original ten-value taxonomy is required to deal with some methodological problems. In line with the refinements that have been made in the current study, Schwartz (2009) proposes that the *Universalism* value type should be divided into three sub-dimensions, which he formulated as *social concern* (e.g., concern and action for justice and equality for the weak in society); *nature* (e.g., concern and action to preserve the environment, world of nature); and *tolerance* (understanding and accepting ideas and people who are different).

In a recent study by Schultz, Gouveia, Cameron, Tankha, Schmuck and Franek (2005) titled *Values and their Relationship to Environmental Concern and Conservation Behavior*, it was found that *Self-Transcendence* values in general and *Universalism* in particular are positively correlated with biospheric (i.e. concern for plants and animals) environmental concerns and negatively with egoistic environmental concerns. Empirical results from the foregoing study suggest that *Universalism* is a significant predictor of biospheric and egoistic environmental concerns (Schultz et al., 2005). Considering the myriad of empirical evidence in literature, it was hypothesised that a positive relationship exists between the *ecological welfare* value and the attitude towards cultural diversity.

So the question remains: Why is *ecological welfare* negatively related with VID, AA and CA. Schultz et al. (2005) state that one should examine the motivational intent (i.e. the substantial meaning) of the value type prior to considering its multivariate relationship with other variables. In Schwartz's values theory, *Self-Transcendence* values conceptualise a concern for "the welfare and interests of others" (Schwartz et al., 2001, p. 317). This could be interpreted to mean that *self-transcendent* values emphasize aspects that fall outside the scope of in-group members and typically incorporate other living things, including the natural environment. Schultz et al. (2005) argue that people who generally care and value their natural surroundings incorporate aspects of nature within their cognitive representation and personal identity. Borrowing from Tajfel & Turner's (1979) social identity theory, one would expect individuals who perceive *Universalism* values to form a key part of their self-image to manifest behaviours that are congruent with this self-image. Therefore, individuals that highly prioritise *Universalism* values are bound to show a general concern for individuals pertaining to out-groups as well as for the greater natural environment in which all human life subsists.

Schultz et al. (2005) argue that one of the reasons why high prioritisation of *Universalism* values does not necessarily translate into positive biospheric attitudes and behaviours is related to the global emphasis on environmental issues. Schwartz et al. (2001, p. 327) state that "because the environment is an object external to self and self-extensions, worries about it may be inherently macro worries. Therefore, it could be argued that pro-environmental attitudes will only translate into positive behaviours if a direct perceptible threat to the individual that is posed by an environmental problem exists.

Considering the South African research results with regard to the *ecological welfare* value, it does not seem wholly implausible that the perceptual seriousness of environmental problems has not reached a sufficiently malignant level to activate pro-social behaviours yet. If this is indeed the case, the negative relationship reported between the *ecological welfare* value and the attitude towards cultural diversity are ascribable to a lack depth for macro system concerns which falls outside South Africans' immediate psychological and physical boundaries.

- *Fairness*

$H_{011:}\gamma_{24} = 0$; $H_{a11:}\gamma_{24} > 0$; $H_{012:}\gamma_{14} = 0$; $H_{a12:}\gamma_{14} > 0$; $H_{013:}\gamma_{34} = 0$; $H_{a13:}\gamma_{34} > 0$

Hypothesis eleven was substantially corroborated by the statistical results. Thus, statistical support was found for the proposed positive relationship between the *fairness* value and VID. Statiscal results related to hypotheses twelve and thirteen reported positive relationships with regard to AA and CA respectively, which was congruent with initial theorising. However, from a statistical perspective, the non-significant gamma parameter implies that, if one assumes the null hypotheses ($H_{012:}\ \gamma_{14} = 0$; $H_{013:}\ \gamma_{34} = 0$) to be true of the population, i.e. no significant relationship exists between the *fairness* value and AA as well as CA, the chance of obtaining a result similar to those in hypotheses twelve and thirteen in the sample is very good (Theron, 2007). As a result, hypotheses 12 and 13 had to be rejected.

The lack of statistical support for the proposed relationship between the *fairness* value and tolerance for affirmative action could be attributed to the perception that the implementation of affirmative action in South African organisations predominantly benefits black males and as such is perceived as unfair by the other minority groups (e.g. white females, coulereds, indians).

Due to the perceived unfair enforcing of diversity, it could be argued that the South African workforce does not believe in the notion that a culturally diversity workforce leads to a competitive advantage compared to less culturally diverse institutions.

No conclusive alternative explanation could be furnished for the non-significant relationship found between the *fairness* value and AA, as well as CA.

Hypothesis Openness to Change:

A general positive relationship was proposed between the *stimulation* value and valuing individual differences (VID); tolerance for affirmative action (AA); and cultural diversity as a source of competitive advantage (CA) subscales. The hypothesised relationships between the *stimulation* value and VID, as well as CA, were confirmed by the statistical results.

- *Stimulation*

$H_{014:}\gamma_{25} = 0$; $H_{a14:}\gamma_{25} > 0$; $H_{015:}\gamma_{15} = 0$; $H_{a15:}\gamma_{15} > 0$; $H_{016:}\gamma_{35} = 0$; $H_{a16:}\gamma_{35} > 0$

Statistical support was found for the proposed relationship between the *stimulation* value and VID and CA. Therefore hypotheses 14 and 16 survived the opportunity to be refuted and can be considered to be substantially corroborated. On the other hand, no statistical support was found for the proposed relationship between the *stimulation* value and AA.

Actions related to excitement, novelty, and challenging lifestyles are generally related to the motivational goals of the *stimulation* value (Schwartz, 1992). Sawyerr, Strauss and Yan (2005) found that the personality traits of tolerance for ambiguity and openness to experience are closely linked to the *stimulation* value. Individuals who support parties that are politically positioned to the left have been found to be more open to ambiguity and novel situations (Chen & Hooijberg, 2000). Liberally orientated individuals generally show greater support for diversity programmes (Chen & Hooijberg, 2000).

Although political orientations are rarely expressed in terms of the "Left vs Right" ideology in South Africa, the categorisation scheme is valuable for summarising socio-political and cultural tendencies. Bearing in mind that the majority of the sample utilised in the current study was white it is plausible that most respondents in the sample would adhere to a more traditional (i.e. right) political orientation. Furthermore, the affirmative action legislative framework awards some privileges to members from the previously disadvantaged sections of the South African population. Preferential treatment is given to individuals from the previously disadvantages sections of the South African society, sometimes at the expense of individuals from the white cultural group. Following this line of argument, it may well be that the majority of white respondents in the sample did not express a positive attitude towards the tolerance for affirmative action subscale, but were positively inclined towards the VID and CA subscales.

Hypothesis Hedonism:

A general negative relationship was proposed between the *Hedonism* value and valuing individual differences (VID); tolerance for affirmative action (AA); and cultural diversity as a source of competitive advantage (CA) subscales. None of the hypothesised relationships with regard to the *Hedonism* value were statistically corroborated.

- *Hedonism*

$H_{017:}\gamma_{26} = 0$; $H_{a17:}\gamma_{26} < 0$; $H_{018:}\gamma_{16} = 0$; $H_{a18:}\gamma_{16} < 0$; $H_{019:}\gamma_{36} = 0$; $H_{a19:}\gamma_{36} < 0$

No conclusive statistical support was found for the hypothesised relationship between *Hedonism* and VID, AA and CA. The negative sign of the reported relationships, albeit statistically non-significant, instils some confidence in the *a priori* theorising that culminated in the formulation of hypotheses 17, 18 and 19. However, the non-significant t-values (-0.23; -0.72 -1.17) reported for hypotheses 17, 18 and 19 can be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables does not differ significantly from zero and therefore the null hypothesis stating that the *hedonism* value has no statically significant effect on VID, AA and CA could be not be rejected in favour of the alternative hypothesis.

No substantially defendable alternative theory could be found to challenge the originally proposed negative relationship found between the *Hedonism* value and the attitude towards cultural diversity.

In an effort to extend his work on the content and structure of individual value types cross-culturally, Schwartz (2003) identified seven interconnected cultural-level value dimensions. The culture-level dimensions are made up from Schwartz's (1992) original ten value types and are analogously arranged in the same circular complex as the individual value types. The second-order cultural level value types have been labelled by Schwartz (2003) as mastery, hierarchy, embeddedness, harmony, egalitarianism, intellectual autonomy and affective autonomy.

Leong & Ward (2006, p. 801) described the motivational intent of the cultural-level value dimensions as follows:

> *Mastery emphasizes the need for control over the social environment by self assertion and encouraging the active pursuit of individual goals, often at the expense of others. Hierarchy is linked to the acceptance of legitimate status differentials and unequal resource distribution. Embeddedness reflects values associated with a collective orientation, including respect for tradition, maintenance of social order, and harmonious relationships with people from the immediate surrounding environment. Harmony encompasses values that emphasize self-transcendence and a symbiotic relationship with nature. Egalitarianism entails voluntary social commitment, a desire to enhance the wellbeing of other people, and an emphasis on equal status relationships. Lastly, autonomy can be divided into affective and intellectual components with the former reflecting stimulation and hedonism and the latter encouraging the pursuit of personal interests and growth. It is important to note that these cultural-level value dimensions were derived from individual-level analyses of value differences. Therefore, the cultural-level typologies are similar, but not identical, to the individual-level framework.*

Congruent with initial theorising, Leong and Ward (2006) found a negative relationship between multicultural optimism and affective autonomy ($r_= -0.18$, $p<0.05$) and between intellectual autonomy and cultural assimilation ($r_= -0.25$, $p<0.05$). Based on the foregoing evidence, it seems plausible that that a negative relationship exists between the *Hedonism* value and the attitude towards cultural diversity, although the proposed relationship could not be empirically corroborated in the current investigation.

Hypothesis Self-Enhancement:

A general negative relationship was proposed between the *Power* value and valuing individual differences (VID); tolerance for affirmative action (AA); and cultural diversity as a source of competitive advantage (CA) subscales. None of the hypothesised relationships with regard to the *Power* value were statistically corroborated.

- *Power*

$H_{020:}\, \gamma_{27} = 0$; $H_{a20:}\, \gamma_{27} < 0$; $H_{021:}\, \gamma_{17} = 0$; $H_{a21:}\, \gamma_{17} < 0$; $H_{022:}\, \gamma_{37} = 0$; $H_{a22:}\, \gamma_{37} > 0$

No conclusive statistical support was found for the hypothesised relationship between *power* and VID, AA and CA. The negative sign of the reported relationships, albeit statistically non-significant, instils some confidence in the *a priori* theorising that culminated in the formulation of hypotheses 20, 21 and 22. However, the non-significant t-value (-1.33; -1.22; -0.18) reported for hypotheses 17, 18 and 19 can be interpreted as *prima facie* evidence that the hypothesised relationship between the latent variables does not differ significantly from zero and therefore the null hypothesis stating that the *power* value has no statistically significant effect on VID, AA and CA could be not be rejected in favour of the alternative hypothesis.

Substantial evidence was found in the literature that *Self-enhancement* values correlate negatively with pro-social attitudes (Sagiv & Schwartz, 2002; Scholtz, 2004; Schwartz, 1996; Schwartz et al., 2001; Schwartz et al, 1990; Suarez-Orozco, 2002).

The lack of statistical support for the proposed relationship between the *power* value and the attitude towards cultural diversity may be attributed to the limited exposure of the respondents to formal authority and leadership positions that encompass power sources. For this reason it could be argued that the *power* values have not fully developed for most of the respondents that participated in the study.

5.4 RESULTS: REGRESSION ANALYSIS

The inability to gauge the moderating effects of race and gender on the relationships between values and valuing individual differences (VID); tolerance for affirmative action (AA); and cultural diversity as a source of competitive advantage (CA) subscales with SEM left important research propositions unanswered. Simple linear regression analysis or more specifically moderated regression analysis was used to gauge the moderating effects of race and gender on the relationships between the latent variables comprising the comprehensive structural model. The regression results are summarised in Tables 5.2 and 5.3. These tables can also be used to evaluate the validity of the *a priori* hypotheses. Substantive hypotheses were only regarded as fully corroborated if statistical support was found for the direction of the proposed relationship between variables and the relationships were statistically meaningful. However, hypotheses were regarded as partially confirmed if the relationship between the main or interaction term and the specified independent variable (i.e. VID, AA or CA) were statistically significant and the direction of the relationship with regard to at least one group were congruent with *a priori* theorising. For example, Table 4.52.2 in section 4.15.1.2 of Chapter 4 contains the statistical results of the regression of VID on the Self-Transcendence values. When looking specifically at hypothesis 57, which reflects the relationship between the benevolence value and VID the significant p-value could be interpreted to mean that race moderates the aforementioned relationship. However, in order to gain an understanding of exactly how race moderates the relationship between the two variables one have to examine the simple regression slopes for the white and non-white groups. A positive relationship was predicted for the relationship between benevolence and VID with regard to both the white and non-white groups. Figure 4.12 in Appendix C reveal that a general positive regression slope was reported with regard to the white group, but the horizontal line reported with regard to the non-white group implicate that no substantial relationship exist between the two variables for the non-white group. Thus, hypothesis 57 confirms the a *priori* hypothesis that the relationship between benevolence and VID is conditional on race; however the direction of the relationship was only confirmed for the non-white group. As a result, the theorizing underlying hypothesis 57 is considered to be partially corroborated by the statistical results. Having said that, hypothesised relationships were not considered to be partially or fully corroborated if it did not report a significant p-value. If a substantive hypothesis survived the opportunity to be refuted, it was seen as indicative that the underlying theories that guided the formulation of the hypothesis boasted some degree of external validity (i.e. cross-situational validity).

Due to limitations of space and time, not all the individual regression hypotheses will be discussed, but broad themes that emerged from the analyses will be discussed. However, all regression results are presented in Tables 5.2 and 5.3 and the reader is encouraged to further examine regression results of interest by making use of these tables.

Value main effects are identified by a capital letter A and the race by values one-way interaction effects by a capital letter B.

Table 5.2: Statistical research hypotheses with accompanying empirical conclusions, with regard to the moderating role of race on the relationship between values and the attitude towards cultural diversity							
STATISTICAL HYPOTHESIS **[A] MAIN EFFECTS: VALUES** **[B] INTERACTION EFFECT: VALUES*RACE**					**EMPERICAL RESULTS**		
VALUES		**THE ATTITUDE TOWARDS CULTURAL DIVERSITY**			**Is the direction of relationship congruent with *a priori* theorizing?**	**Statistical Significance (p<0.05) of the Standardised Beta coefficient**	**Overall conclusion of hypothesis**
		VID (η_2)	**AA (η_1)**	**CA (η_3)**			
One-way interaction effect of Race on the relationship between Values and the valuing individual differences (VID) subscale							
Conservation: • Conformity (X_1):	[A]	$H_{040:}\beta_1[X_1] = 0 \vert \beta_2[X_1{*}R] \neq 0$ $H_{a40:}\beta_1[X_1] \neq 0 \vert \beta_2[X_1{*}R] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{039:}\beta_2[X_1{*}R] = 0 \vert \beta_1[X_1] \neq 0$ $H_{a39:}\beta_2[X_1{*}R] \neq 0 \vert \beta_1[X_1] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Tradition (X_2):	[A]	$H_{046:}\beta_1[X_2] = 0 \vert \beta_2[X_2{*}R] \neq 0$ $H_{a46:}\beta_1[X_2] \neq 0 \vert \beta_2[X_2{*}R] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED

	[B]	H_{045}:$\beta_2[X_2{*}R] = 0 \mid \beta_1[X_2] \neq 0$ H_{a45}:$\beta_2[X_2{*}R] \neq 0 \mid \beta_1[X_2] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Security (X_3):	[A]	H_{052}:$\beta_1[X_3] = 0 \mid \beta_2[X_3{*}R] \neq 0$ H_{a52}:$\beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R] \neq 0$			NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]	H_{051}:$\beta_2[X_3{*}R] = 0 \mid \beta_1[X_3] \neq 0$ H_{a51}:$\beta_2[X_3{*}R] \neq 0 \mid \beta_1[X_3] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
Self- Transcendence: • Benevolence (X_4):	[A]	H_{058}:$\beta_1[X_4] = 0 \mid \beta_2[X_4{*}R] \neq 0$ H_{a58}:$\beta_1[X_4] \neq 0 \mid \beta_2[X_4{*}R] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
	[B]	H_{057}:$\beta_2[X_4{*}R] = 0 \mid \beta_1[X_4] \neq 0$ H_{a57}:$\beta_2[X_4{*}R] \neq 0 \mid \beta_1[X_4] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
• E cological Welfare (X_5):	[A]	H_{064}:$\beta_1[X_5] = 0 \mid \beta_2[X_5{*}R] \neq 0$ H_{a64}:$\beta_1[X_5] \neq 0 \mid \beta_2[X_5{*}R] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]	H_{063}:$\beta_2[X_5{*}R] = 0 \mid \beta_1[X_5] \neq 0$ H_{a63}:$\beta_2[X_5{*}R] \neq 0 \mid \beta_1[X_5] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	NON SIGNIFICANT	NOT CONFIRMED
• F airness (X_6):	[A]	H_{070}:$\beta_1[X_6] = 0 \mid \beta_2[X_6{*}R] \neq 0$ H_{a70}:$\beta_1[X_6] \neq 0 \mid \beta_2[X_6{*}R] \neq 0$			CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]	H_{069}:$\beta_2[X_6{*}R] = 0 \mid \beta_1[X_6] \neq 0$ H_{a69}:$\beta_2[X_6{*}R] \neq 0 \mid \beta_1[X_6] \neq 0$			CONGRUENT	SIGNIFICANT	**CONFIRMED**
Openness to Change: • Self-direction (X_7)	[A]	H_{076}:$\beta_1[X_7] = 0 \mid \beta_2[X_7{*}R] \neq 0$ H_{a76}:$\beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED

	[B]	$H_{075}: \beta_2[X_7{*}R] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a75}: \beta_2[X_7{*}R] \neq 0 \mid \beta_1[X_7] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Stimulation (X_8)	[A]	$H_{082}: \beta_1[X_8] = 0 \mid \beta_2[X_8{*}R] \neq 0$ $H_{a82}: \beta_1[X_8] \neq 0 \mid \beta_2[X_8{*}R] \neq 0$			NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{081}: \beta_2[X_8{*}R] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a81}: \beta_2[X_8{*}R] \neq 0 \mid \beta_1[X_8] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
Hedonism (X_9):	[A]	$H_{088}: \beta_1[X_9] = 0 \mid \beta_2[X_9{*}R] \neq 0$ $H_{a88}: \beta_1[X_9] \neq 0 \mid \beta_2[X_9{*}R] \neq 0$			NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{087}: \beta_2[X_9{*}R] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a87}: \beta_2[X_9{*}R] \neq 0 \mid \beta_1[X_9] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
Self-Enhancement: • Achievement (X_{10}):	[A]	$H_{094}: \beta_1[X_{10}] = 0 \mid \beta_2[X_{10}{*}R] \neq 0$ $H_{a94}: \beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}{*}R] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{093}: \beta_2[X_{10}{*}R] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a93}: \beta_2[X_{10}{*}R] \neq 0 \mid \beta_1[X_{10}] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Power (X_{11}):	[A]	$H_{0100}: \beta_1[X_{11}] = 0 \mid \beta_2[X_{11}{*}R] \neq 0$ $H_{a100}: \beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}{*}R] \neq 0$			CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{099}: \beta_2[X_{11}{*}R] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a99}: \beta_2[X_{11}{*}R] \neq 0 \mid \beta_1[X_{11}] \neq 0$			CONGRUENT	SIGNIFICANT	**CONFIRMED**
One-way interaction effect of Race on the relationship between Values and the tolerance for affirmative action (AA) subscale							

Conservation: • Conformity (X_1):	[A]		$H_{042:}\beta_1[X_1] = 0 \mid \beta_2[X_1{*}R] \neq 0$ $H_{a42:}\beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE NON-WHITE GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]		$H_{041:}\beta_2[X_1{*}R] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a41:}\beta_2[X_1{*}R] \neq 0 \mid \beta_1[X_1] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE NON-WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
• Tradition (X_2):	[A]		$H_{048:}\beta_1[X_2] = 0 \mid \beta_2[X_2{*}R] \neq 0$ $H_{a48:}\beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE NON-WHITE GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]		$H_{047:}\beta_2[X_2{*}R] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a47:}\beta_2[X_2{*}R] \neq 0 \mid \beta_1[X_2] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE NON-WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
• Security (X_3):	[A]		$H_{054:}\beta_1[X_3] = 0 \mid \beta_2[X_3{*}R] \neq 0$ $H_{a54:}\beta_1[X_3] \neq 0 \mid \beta_2[X_3{*}R] \neq 0$		CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]		$H_{053:}\beta_2[X_3{*}R] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a53:}\beta_2[X_3{*}R] \neq 0 \mid \beta_1[X_3] \neq 0$		CONGRUENT	SIGNIFICANT	**CONFIRMED**
Self- Transcendence: • Benevolence (X_4):	[A]		$H_{060:}\beta_1[X_4] = 0 \mid \beta_2[X_4{*}R] \neq 0$ $H_{a60:}\beta_1[X_4] \neq 0 \mid \beta_2[X_4{*}R] \neq 0$		NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]		$H_{059:}\beta_2[X_4{*}R] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a59:}\beta_2[X_4{*}R] \neq 0 \mid \beta_1[X_4] \neq 0$		NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• E cological Welfare (X_5):	[A]		$H_{066:}\beta_1[X_5] = 0 \mid \beta_2[X_5{*}R] \neq 0$ $H_{a66:}\beta_1[X_5] \neq 0 \mid \beta_2[X_5{*}R] \neq 0$		NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED

	[B]		$H_{065}:\beta_2[X_5*R] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a65}:\beta_2[X_5*R] \neq 0 \mid \beta_1[X_5] \neq 0$		NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Fairness (X_6):	[A]		$H_{072}:\beta_1[X_6] = 0 \mid \beta_2[X_6*R] \neq 0$ $H_{a72}:\beta_1[X_6] \neq 0 \mid \beta_2[X_6*R] \neq 0$		CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]		$H_{071}:\beta_2[X_6*R] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a71}:\beta_2[X_6*R] \neq 0 \mid \beta_1[X_6] \neq 0$		CONGRUENT	SIGNIFICANT	**CONFIRMED**
Openness to Change: • Self-direction (X_7)	[A]		$H_{078}:\beta_1[X_7] = 0 \mid \beta_2[X_7*R] \neq 0$ $H_{a78}:\beta_1[X_7] \neq 0 \mid \beta_2[X_7*R] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]		$H_{077}:\beta_2[X_7*R] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a77}:\beta_2[X_7*R] \neq 0 \mid \beta_1[X_7] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
• Stimulation (X_8)	[A]		$H_{084}:\beta_1[X_8] = 0 \mid \beta_2[X_8*R] \neq 0$ $H_{a84}:\beta_1[X_8] \neq 0 \mid \beta_2[X_8*R] \neq 0$		NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]		$H_{083}:\beta_2[X_8*R] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a83}:\beta_2[X_8*R] \neq 0 \mid \beta_1[X_8] \neq 0$		NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
Hedonism (X_9):	[A]		$H_{090}:\beta_1[X_9] = 0 \mid \beta_2[X_9*R] \neq 0$ $H_{a90}:\beta_1[X_9] \neq 0 \mid \beta_2[X_9*R] \neq 0$		CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]		$H_{089}:\beta_2[X_9*R] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a89}:\beta_2[X_9*R] \neq 0 \mid \beta_1[X_9] \neq 0$		CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
Self-Enhancement: • Achievement (X_{10}):	[A]		$H_{096}:\beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R] \neq 0$ $H_{a96}:\beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R] \neq 0$		NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED

	[B]		$H_{095}:\beta_2[X_{10}*R] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a95}:\beta_2[X_{10}*R] \neq 0 \mid \beta_1[X_{10}] \neq 0$		NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Power (X_{11}):	[A]		$H_{0102}:\beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R] \neq 0$ $H_{a102}:\beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
	[B]		$H_{0101}:\beta_2[X_{11}*R] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a101}:\beta_2[X_{11}*R] \neq 0 \mid \beta_1[X_{11}] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
One-way interaction effect of Race on the relationship between Values and the cultural diversity as a source of competitive advantage (CA) subscale							
Conservation: • Conformity (X_1):	[A]			$H_{044}:\beta_1[X_1] = 0 \mid \beta_2[X_1*R] \neq 0$ $H_{a44}:\beta_1[X_1] \neq 0 \mid \beta_2[X_1*R] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]			$H_{043}:\beta_2[X_1*R] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a43}:\beta_2[X_1*R] \neq 0 \mid \beta_1[X_1] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Tradition (X_2):	[A]			$H_{050}:\beta_1[X_2] = 0 \mid \beta_2[X_2*R] \neq 0$ $H_{a50}:\beta_1[X_2] \neq 0 \mid \beta_2[X_2*R] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]			$H_{049}:\beta_2[X_2*R] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a49}:\beta_2[X_2*R] \neq 0 \mid \beta_1[X_2] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Security (X_3):	[A]			$H_{056}:\beta_1[X_3] = 0 \mid \beta_2[X_3*R] \neq 0$ $H_{a56}:\beta_1[X_3] \neq 0 \mid \beta_2[X_3*R] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]			$H_{055}:\beta_2[X_3*R] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a55}:\beta_2[X_3*R] \neq 0 \mid \beta_1[X_3] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED

Self- Transcendence: • Benevolence (X_4):	[A]			H_{062}:$\beta_1[X_4] = 0 \mid \beta_2[X_4{*}R] \neq 0$ H_{a62}:$\beta_1[X_4] \neq 0 \mid \beta_2[X_4{*}R] \neq 0$	CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
	[B]			H_{061}:$\beta_2[X_4{*}R] = 0 \mid \beta_1[X_4] \neq 0$ H_{a61}:$\beta_2[X_4{*}R] \neq 0 \mid \beta_1[X_4] \neq 0$	CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
• E cological Welfare (X_5):	[A]			H_{068}:$\beta_1[X_5] = 0 \mid \beta_2[X_5{*}R] \neq 0$ H_{a68}:$\beta_1[X_5] \neq 0 \mid \beta_2[X_5{*}R] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]			H_{067}:$\beta_2[X_5{*}R] = 0 \mid \beta_1[X_5] \neq 0$ H_{a67}:$\beta_2[X_5{*}R] \neq 0 \mid \beta_1[X_5] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• F airness (X_6):	[A]			H_{074}:$\beta_1[X_6] = 0 \mid \beta_2[X_6{*}R] \neq 0$ H_{a74}:$\beta_1[X_6] \neq 0 \mid \beta_2[X_6{*}R] \neq 0$	CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]			H_{073}:$\beta_2[X_6{*}R] = 0 \mid \beta_1[X_6] \neq 0$ H_{a73}:$\beta_2[X_6{*}R] \neq 0 \mid \beta_1[X_6] \neq 0$	CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
Openness to Change: • Self-direction (X_7)	[A]			H_{080}:$\beta_1[X_7] = 0 \mid \beta_2[X_7{*}R] \neq 0$ H_{a80}:$\beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]			H_{079}:$\beta_2[X_7{*}R] = 0 \mid \beta_1[X_7] \neq 0$ H_{a79}:$\beta_2[X_7{*}R] \neq 0 \mid \beta_1[X_7] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Stimulation (X_8)	[A]			H_{086}:$\beta_1[X_8] = 0 \mid \beta_2[X_8{*}R] \neq 0$ H_{a86}:$\beta_1[X_8] \neq 0 \mid \beta_2[X_8{*}R] \neq 0$	CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]			H_{085}:$\beta_2[X_8{*}R] = 0 \mid \beta_1[X_8] \neq 0$ H_{a85}:$\beta_2[X_8{*}R] \neq 0 \mid \beta_1[X_8] \neq 0$	CONGRUENT	SIGNIFICANT	**CONFIRMED**

Hedonism (X_9):	[A]			H_{092}:$\beta_1[X_9] = 0 \mid \beta_2[X_9{*}R] \neq 0$ H_{a92}:$\beta_1[X_9] \neq 0 \mid \beta_2[X_9{*}R] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]			H_{091}:$\beta_2[X_9{*}R] = 0 \mid \beta_1[X_9] \neq 0$ H_{a91}:$\beta_2[X_9{*}R] \neq 0 \mid \beta_1[X_9] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
Self-Enhancement: • Achievement (X_{10}):	[A]			H_{098}:$\beta_1[X_{10}] = 0 \mid \beta_2[X_{10}{*}R] \neq 0$ H_{a98}:$\beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}{*}R] \neq 0$	CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
	[B]			H_{097}:$\beta_2[X_{10}{*}R] = 0 \mid \beta_1[X_{10}] \neq 0$ H_{a97}:$\beta_2[X_{10}{*}R] \neq 0 \mid \beta_1[X_{10}] \neq 0$	CONGRUENT ONLY WITH REGARD TO THE WHITE GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
• Power (X_{11}):	[A]			H_{0104}:$\beta_1[X_{11}] = 0 \mid \beta_2[X_{11}{*}R] \neq 0$ H_{a104}:$\beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}{*}R] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]			H_{0103}:$\beta_2[X_{11}{*}R] = 0 \mid \beta_1[X_{11}] \neq 0$ H_{a103}:$\beta_2[X_{11}{*}R] \neq 0 \mid \beta_1[X_{11}] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED

5.4.1 One-way interaction effect of race in moderating the relationship between specific values and the attitude towards cultural diversity

As anticipated, the regression analysis revealed some intricacies in the data which were not revealed by the SEM. At first glance it seems that the regression analysis in general lends support to the initial research propositions. Table 5.2 portrays the influence of the value by race interaction effect on the attitude towards cultural diversity. From the 66 hypotheses that were initially advanced with regard to the relationship between the comprehensive 11-value structure and the attitude towards cultural diversity (VID, CA and AA), complete statistical support was found for 10 of these propositions in terms of both the direction of causality as well as the meaningfulness of the relationship. Partial support (i.e. hypothesised value-attitude linkages were statistically significant and the direction of the relationship is confirmed for at least one of the two groups included in the specific analysis) was found for 11 hypothesis. Thus, in sum statistical support was found for 21 of the 66 hypothesised relationships (32%).

One of the most important findings that emerged from the data was the unanimous support for the supposition that race moderates the relationship between values and the attitude towards cultural diversity in South Africa. Only three of the value by race interaction effects was not statistically significant. Logically it could be argued that considerable differences still exist in how cultural groups construct attitudes towards cultural diversity and the role that values play in the formation of out-group attitudes in the modern-day South African society. This empirical finding has far-reaching implications for understanding, diagnosing and adjusting intergroup attitudes.

It has formerly been argued that deeply ingrained social beliefs and attitudes advanced and maintained during the apartheid years shaped the discourses of both white and non-white cultures (Du Plessis, 2002; Gibson & McDonald, 2001; Commission for Employment Equity, 2007). It seems plausible that the institutionalised discourse is one of the greatest barriers hindering the diversification of the South African workforce along more equitable lines. inability of the legislative framework in general, and affirmative action in particular, to break down the barriers of discrimination and effectively integrate minority group members into the formal economy plays witness to the fact that the South African legislative framework has been too direct in its application of the affirmative action agenda and as a result has merely addressed symptoms attributable to three previous generations of cultural and racial segregation. In the process it has failed to address the underlying causal realities (values, attitudes and beliefs) that shaped and still uphold the cultural separation.

5.4.1.1 One-way interaction effect of race in moderating the relationship between specific values and the valuing individual differences (VID) subscale.

One of the most interesting findings that emerged from the data analysis was the positive relationship that was reported between the *Conservation* values and VID with regard to the white group. It was hypothesised that a strong negative relationship exists between the *Conservation* values and VID, especially with regard to the white dominant group in South Africa. Schwartz (2005, p.24) states that individuals who assign high importance to *Conservation* values actively "… seek to avoid conflict (conformity) and to maintain the current order (tradition, security) or actively to control the threat (power)". Contrary to initial theorising, Figures 4.9, 4.10 and 4.11 paint quite a different picture when examining the value-attitude towards cultural diversity linkage with regard to the non-white group. The flat horizontal line displayed for the non-white group with regard to the *security* and *tradition* values could be interpreted to mean that race does not have a specifically strong moderating effect on the relationship between these values and VID.

Social Identity theory (Tajfel & Turner, 1979) declares that in-group members will strive to achieve positive group distinctiveness. From a developmental psychological perspective, the identity formation process that shapes adolescent perceptions and attitudes toward their own and other cultures progress through a number of sequential steps. Erikson (1968) postulated that the initial stages in the development of the group identity may be characterised by ambivalence and confusion. However, this initially chaotic and often stressful period of searching for one's personal identity within the larger cultural sphere eventually gives way to periods of stability when group members develop a committed and secure sense of personal identity as members of the larger cultural group (Atkinson, Morten & Sue, 1993).

Research related to social identity theory found conclusive evidence that most individuals foster relatively more positive attitudes towards their own groups compared to other groups that are perceived to be different from their own (Tajfel & Turner, 1979). Phinney, Ferguson and Tate (1997) found that in-group bias is a natural outflow of this identity formation process in adolescents, but that it does not necessarily lead to out-group bias. However, group members that perceive their in-group to lack status may show a preference for higher status out-groups (Tajfel, 1978).

In their study of intergroup attitudes among ethnic minority adolescents, Phinney et al. (1997) found that informal contact outside the school context is vitally important for deflating out-group stereotypes. Furthermore, adolescents that grow up in more diverse neighbourhoods typically went to schools where the student population was more multicultural and fostered more positive attitudes towards out-group members as a result of this greater out-group contact.

Given the history of segregation in South Africa, it seems highly unlikely that adolescents had much opportunity to interact with individuals from diverse cultural backgrounds. Gibson and McDonald (2001) found that only 12% of respondents who participated in their study, which investigated the success of the reconciliation process in South Africa, reported having had inter-racial interaction outside the workplace. In addition, it was reported that few South Africans – almost no blacks – have friends from another racial group. This situation is bound to change dramatically over the next couple of years as large-scale societal integration is high on the priority list of the current South African government. However, up until recently, the large-scale societal integration of minority group members has been fragmented and woefully slow (Commission for Employment Equity, 2007).

Given the foregoing evidence, it seems highly unlikely that South Africans have had enough formal and informal contact to break down racial stereotypes and in the process realign perceptions of out-group members along more realistic and socially valued standards. In general, no empirical support was found for the proposed negative relationship between the *Conservation* values and VID for the white and non-white groups. The literature study has guided the proposed negative hypotheses with regard to the relationship between the *Conservation* value and VID. No alternative theoretically defendable explanation could be found for the positive relationship reported for the non-white group.

5.4.1.2 One-way interaction effect of race in moderating the relationship between specific values and the tolerance for affirmative action (AA) subscale

The tolerance for affirmative action subscale formed an important facet of the overall attitude towards cultural diversity and was highly relevant in the current study due to the widespread impact that affirmative action has on the South African labour market. Schwartz (1992) advocates that people pursue values because the motivational goal that the attainment of values promotes is vital for human existence. Value priorities may direct attention to opportunities for the attainment of particular goals in a given situation by priming people to express attitudes and behaviours that maximise the chances of attaining valued motivational outcomes (Sagiv & Schwartz, 1995).

In order to determine the relationship between specific values and AA, it is important to consider whether the consequences of tolerance for affirmative action (AA) are relevant for the attainment of the motivational goal of a specific value type. It was hypothesised that the perceived motivational goals of pursuing AA with regard to the white group, will be distinctly different compared to the non-white group.

Overall negative relationships between the *Conservation* values and AA were hypothesised with regard to both the white and non-white groups, whereas overall negative relationships were proposed for the relationships between the *Self-Transcendence* values and AA. The direction of the hypotheses regarding the *Conservation* values and AA were largely confirmed, but some unexpected results were reported for the relationship between *Self-Transcendence* values and AA.

The relatively flat regression lines portraying the regression of AA on the *benevolence* value (see Figure 4.23) with regard to the white and non-white groups could be interpreted to mean that no significant relationship exists between the *benevolence* value and AA. A strong positive relationship was expected between the *benevolence* value and AA with regard to both the white and non-white groups.

In examining the regression of AA on the *ecological welfare* value (See Figure 4.23), it is clear that strong negative relationships are displayed for both the white and non-white groups.

This result came as a complete surprise and was not anticipated during the stage of formulating hypotheses. The only theoretically defendable argument that can be furnished is that the perceived seriousness of environmental problems has not reached a sufficiently threatening level to activate pro-social behaviours in South Africa yet (Please refer to the earlier discussion regarding the relationship between *ecological welfare* values and the attitude towards cultural diversity on p. 484).

In addition, the proposed relationship between the *hedonism* value and AA is also worth taking note of. It was hypothesised that a negative relationship between the *hedonism* value and AA should be expected with regard to the white group, but a positive relationship should be expected for the non-white group. Statistical support was found for this hypothesis in terms of both the direction of the causality and the significance of the relationship. The affirmative action legislative framework awards some privileges to members who belong to the previously disadvantaged sections of the South African population that can prove to be instrumental with regard to the gratification of *Hedonism* values. Affirmative action has the ability to advance non-white individuals into institutional positions of power which will serve motivational rewards associated with the *Hedonism* value. By implication, a negative relationship is expected between the *Hedonism* value and AA with regard to the dominant group, since affirmative action forces individuals from this dominant group to relinquish positional power and resources, something that few people are content to accept, let alone the small section of the South African society that is struggling on a daily basis for self-preservation.

5.4.1.3 The one-way interaction effect of race in moderating the relationship between specific values and cultural diversity as a source of competitive advantage (CA) subscale.

The relationships between values and CA were very similar to the results reported for the relationship between values and VID, which suggests that these two dimensions do indeed share considerable conceptual similarity. As in the case of the positive relationships reported for the relationship between the *Conservation* values and VID, Figures 4.30, 4.31 and 4.32 portray positive regression vectors for the relationship between the *Conservation* values and CA.

Positive relationships, furthermore, were predicted between the *stimulation* values and CA, whereas negative relationships were predicted between the *self-direction* value and CA with regard to both the white and non-white groups.

It was hypothesised that *openness to change* values will present divergent motivational implications for members of the dominant group, compared to members of minority groups. For example, conceptually, the *self-direction* value is motivational for those individuals who rate independence of thoughts and actions highly. On the other hand, tolerance for cultural diversity implies relinquishing or suppressing some of one's customs, beliefs and behaviours in order to accept individuals that differ from oneself in a number of ways (e.g. race, gender, age, education).

Out-group contact is relevant to the goals of novelty inherent in *stimulation* and *hedonism* values (Sagiv & Schwartz, 1995). Hence, positive correlations are expected between attitudes towards cultural diversity and *stimulation* values. Stronger correlations, however, are expected for minority groups, since out-group contact presents greater challenges and complications from a minority point of view (i.e. more stimulation).

Moderate positive relationships were reported between the *openness to change* values and CA with regard to both the white and non-white groups (See Figures 4.36 and 4.37). Statistical support for the research proposition that there is a negative relationship between the *self-direction* value and CA was not found. During the formulation of the substantive hypotheses it was argued that organisational leaders would perceive the investment in promoting a culturally diverse workforce as surpassing the return on investment. For this reason, organisational leaders who assign high importance to the *self-direction* value were expected to oppose the idea of cultural diversity as a source of competitive advantage.

On the other hand it could be argued that the positive relationship reported between the *self-direction* value and CA is theoretically defendable since the diversification of the workplace is relevant for novelty and excitement, which are central themes in the higher order type of *openness to change*. Contact with out-group members provides an opportunity for people who strongly emphasise self-direction values to interact with individuals with uniquely different personality and value structures than their own. This interaction is likely to be relevant for attaining valued motivational goals related to *openness to change* values.

5.4.2 Two-way interaction effect of race and gender in moderating the relationship between specific values and the attitude towards cultural diversity

During the theorising stages of the current study it became apparent that a two-way interaction effect may moderate the relationship between specific values and the attitude towards cultural diversity. This notion that a two-way interaction effect, with race and gender as moderating variables, might moderate the relationship between various values and the attitude towards cultural diversity fundamentally developed from researching the one-way interaction effect of race on the aforementioned relationship. What made the proposed two-way interaction effect even more appealing was the fact that the affirmative action legislation framework in its application of numerical targets distinguishes between individuals belonging to designated[e] and non-designated groups by primarily using race and gender as selection criteria. It was hoped that strong and statistically meaningful ($p < 0.05$) values by race and gender interaction effects would accrue from the moderated regression analysis, since these empirical results would possibly shed some light on the direct and indirect psychological implications of affirmative action in South Africa.

Table 5.3 depicts the influence of the value by race and gender interaction effect on the attitude towards cultural diversity. Unfortunately, the results with regard to the two-way interaction effect were less supportive of the substantive research hypotheses when compared to the one-way interaction effects. From the 66 hypotheses that were initially advanced with regard to the relationship between the comprehensive 11-value structure and the attitude towards cultural diversity (VID, CA and AA), complete statistical support was found for 12 of these propositions in terms of both the direction of causality and the statistical

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[e] According to the preamble of the Employment Equity Act No. 55 (Republic of South Africa, 1998, p.15) and the EE regulations published in August 2006, designated groups are defined as

"Black people (i.e. Africans, Coloureds and Indians), women and people with disabilities who are natural persons and:

- are citizens of the Republic of South Africa by birth or descent; or

- are citizens of the Republic of South Africa by naturalization before the commencement date of the Constitution of the Republic of South Africa Act of 1993; or

- became citizens of the Republic of South Africa after the commencement date of the Constitution of the Republic of South Africa Act of 1993, but who, if not for Apartheid policy that had been in place prior to that date, would have been entitled to acquire citizenship by naturalization prior to that date."

meaningfulness of the relationship. Partial support (i.e. hypothesised value-attitude linkages were statistically significant and the direction of the relationship is confirmed for at least one of the two groups included in the specific analysis) was found for four hypothesis. Thus, in sum statistical support was found for 16 of the 66 hypothesised relationships (24%).

In contrast to the statistical results reported with regard to the one-way moderating effect of race on the relationship between values and the attitude towards cultural diversity, whereby only three of the value by race interaction effects reported results that were not statistically significant, half of the two-way interaction effects of race and gender did not report statistically significant regression results (see Figure 5.3). From 66 hypotheses formulated, as many as 33 did not survive the opportunity to be refuted. However, valuable information can be inferred from Table 5.3 regarding the moderating role of race and gender on the formation of attitudes towards cultural diversity. These empirical findings have far-reaching implications for understanding, diagnosing and adjusting intergroup attitudes in the contemporary South African workplace.

Table 5.3: Statistical research hypotheses with accompanying empirical conclusions, with regard to the moderating role of race and gender on the relationship between values and the attitude towards cultural diversity

STATISTICAL HYPOTHESIS [A] MAIN EFFECTS: VALUES [B] INTERACTION EFFECT: VALUES*RACE*GENDER					EMPERICAL RESULTS		
VALUES		THE ATTITUDE TOWARDS CULTURAL DIVERSITY			Is the direction of the relationship congruent with *a priori* theorizing?	Statistical Significance (p<0.05) of the Standardised Beta coefficient	Overall conclusion of hypothesis
		VID (η_2)	AA (η_1)	CA (η_3)			
Two-way interaction effect of Race and Gender on the relationship between Values and the valuing individual differences (VID) subscale							
Conservation: • Conformity (X_1):	[A]	H_{0106}:$\beta_1[X_1] = 0 \mid \beta_2[X_1{*}R{*}G] \neq 0$ H_{a106}:$\beta_1[X_1] \neq 0 \mid \beta_2[X_1{*}R{*}G] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]	H_{0105}:$\beta_2[X_1{*}R{*}G] = 0 \mid \beta_1[X_1] \neq 0$ H_{a105}:$\beta_2[X_1{*}R{*}G] \neq 0 \mid \beta_1[X_1] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Tradition (X_2):	[A]	H_{0112}:$\beta_1[X_2] = 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$ H_{a112}:$\beta_1[X_2] \neq 0 \mid \beta_2[X_2{*}R{*}G] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED

	[B]	$H_{0111}: \beta_2[X_2*R*G] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a111}: \beta_2[X_2*R*G] \neq 0 \mid \beta_1[X_2] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Security (X_3):	[A]	$H_{0118}: \beta_1[X_3] = 0 \mid \beta_2[X_3*R*G] \neq 0$ $H_{a118}: \beta_1[X_3] \neq 0 \mid \beta_2[X_3*R*G] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{0117}: \beta_2[X_3*R*G] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a117}: \beta_2[X_3*R*G] \neq 0 \mid \beta_1[X_3] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
Self- Transcendence: • Benevolence (X_4):	[A]	$H_{0124}: \beta_1[X_4] = 0 \mid \beta_2[X_4*R*G] \neq 0$ $H_{a124}: \beta_1[X_4] \neq 0 \mid \beta_2[X_4*R*G] \neq 0$			CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]	$H_{0123}: \beta_2[X_4*R*G] = 0 \mid \beta_1[X_4] \neq 0$ $H_{a123}: \beta_2[X_4*R*G] \neq 0 \mid \beta_1[X_4] \neq 0$			CONGRUENT	SIGNIFICANT	**CONFIRMED**
• E cological Welfare (X_5):	[A]	$H_{0130}: \beta_1[X_5] = 0 \mid \beta_2[X_5*R*G] \neq 0$ $H_{a130}: \beta_1[X_5] \neq 0 \mid \beta_2[X_5*R*G] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{0129}: \beta_2[X_5*R*G] = 0 \mid \beta_1[X_5] \neq 0$ $H_{a129}: \beta_2[X_5*R*G] \neq 0 \mid \beta_1[X_5] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
• F airness (X_6):	[A]	$H_{0136}: \beta_1[X_6] = 0 \mid \beta_2[X_6*R*G] \neq 0$ $H_{a136}: \beta_1[X_6] \neq 0 \mid \beta_2[X_6*R*G] \neq 0$			CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]	$H_{0135}: \beta_2[X_6*R*G] = 0 \mid \beta_1[X_6] \neq 0$ $H_{a135}: \beta_2[X_6*R*G] \neq 0 \mid \beta_1[X_6] \neq 0$			CONGRUENT	SIGNIFICANT	**CONFIRMED**

Openness to Change: • Self-direction (X_7)	[A]	$H_{0142}{:}\beta_1[X_7] = 0 \mid \beta_2[X_7{*}R{*}G] \neq 0$ $H_{a142}{:}\beta_1[X_7] \neq 0 \mid \beta_2[X_7{*}R{*}G] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{0141}{:}\beta_2[X_7{*}R{*}G] = 0 \mid \beta_1[X_7] \neq 0$ $H_{a141}{:}\beta_2[X_7{*}R{*}G] \neq 0 \mid \beta_1[X_7] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Stimulation (X_8)	[A]	$H_{0148}{:}\beta_1[X_8] = 0 \mid \beta_2[X_8{*}R{*}G] \neq 0$ $H_{a148}{:}\beta_1[X_8] \neq 0 \mid \beta_2[X_8{*}R{*}G] \neq 0$			NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{0147}{:}\beta_2[X_8{*}R{*}G] = 0 \mid \beta_1[X_8] \neq 0$ $H_{a147}{:}\beta_2[X_8{*}R{*}G] \neq 0 \mid \beta_1[X_8] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
Hedonism (X_9):	[A]	$H_{0154}{:}\beta_1[X_9] = 0 \mid \beta_2[X_9{*}R{*}G] \neq 0$ $H_{a154}{:}\beta_1[X_9] \neq 0 \mid \beta_2[X_9{*}R{*}G] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{0153}{:}\beta_2[X_9{*}R{*}G] = 0 \mid \beta_1[X_9] \neq 0$ $H_{a153}{:}\beta_2[X_9{*}R{*}G] \neq 0 \mid \beta_1[X_9] \neq 0$			CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
Self-Enhancement: • Achievement (X_{10}):	[A]	$H_{0160}{:}\beta_1[X_{10}] = 0 \mid \beta_2[X_{10}{*}R{*}G] \neq 0$ $H_{a160}{:}\beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}{*}R{*}G] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]	$H_{0159}{:}\beta_2[X_{10}{*}R{*}G] = 0 \mid \beta_1[X_{10}] \neq 0$ $H_{a159}{:}\beta_2[X_{10}{*}R{*}G] \neq 0 \mid \beta_1[X_{10}] \neq 0$			NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
• Power (X_{11}):	[A]	$H_{0166}{:}\beta_1[X_{11}] = 0 \mid \beta_2[X_{11}{*}R{*}G] \neq 0$ $H_{a166}{:}\beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}{*}R{*}G] \neq 0$			CONGRUENT	SIGNIFICANT	**CONFIRMED**

	[B]	$H_{0165:}\beta_2[X_{11}*R*G] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a165:}\beta_2[X_{11}*R*G] \neq 0 \mid \beta_1[X_{11}] \neq 0$			CONGRUENT	SIGNIFICANT	**CONFIRMED**
Two-way interaction effect of Race and Gender on the relationship between Values and the tolerance for affirmative action (AA) subscale							
Conservation: • Conformity (X_1):	[A]		$H_{0108:}\beta_1[X_1] = 0 \mid \beta_2[X_1*R*G] \neq 0$ $H_{a108:}\beta_1[X_1] \neq 0 \mid \beta_2[X_1*R*G] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE MINORITY GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]		$H_{0107:}\beta_2[X_1*R*G] = 0 \mid \beta_1[X_1] \neq 0$ $H_{a107:}\beta_2[X_1*R*G] \neq 0 \mid \beta_1[X_1] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE MINORITY GROUP	NON SIGNIFICANT	NOT CONFIRMED
• Tradition (X_2):	[A]		$H_{0114:}\beta_1[X_2] = 0 \mid \beta_2[X_2*R*G] \neq 0$ $H_{a114:}\beta_1[X_2] \neq 0 \mid \beta_2[X_2*R*G] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE MINORITY GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]		$H_{0113:}\beta_2[X_2*R*G] = 0 \mid \beta_1[X_2] \neq 0$ $H_{a113:}\beta_2[X_2*R*G] \neq 0 \mid \beta_1[X_2] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE MINORITY GROUP	NON SIGNIFICANT	NOT CONFIRMED
• Security (X_3):	[A]		$H_{0120:}\beta_1[X_3] = 0 \mid \beta_2[X_3*R*G] \neq 0$ $H_{a120:}\beta_1[X_3] \neq 0 \mid \beta_2[X_3*R*G] \neq 0$		CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]		$H_{0119:}\beta_2[X_3*R*G] = 0 \mid \beta_1[X_3] \neq 0$ $H_{a119:}\beta_2[X_3*R*G] \neq 0 \mid \beta_1[X_3] \neq 0$		CONGRUENT	SIGNIFICANT	**CONFIRMED**
Self- Transcendence: • Benevolence (X_4):	[A]		$H_{0126:}\beta_1[X_4] = 0 \mid \beta_2[X_4*R*G] \neq 0$ $H_{a126:}\beta_1[X_4] \neq 0 \mid \beta_2[X_4*R*G] \neq 0$		NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED

	[B]		H_{0125}:$\beta_2[X_4*R*G] = 0 \mid \beta_1[X_4] \neq 0$ H_{a125}:$\beta_2[X_4*R*G] \neq 0 \mid \beta_1[X_4] \neq 0$		NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
• E cological Welfare (X_5):	[A]		H_{0132}:$\beta_1[X_5] = 0 \mid \beta_2[X_5*R*G] \neq 0$ H_{a132}:$\beta_1[X_5] \neq 0 \mid \beta_2[X_5*R*G] \neq 0$		NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]		H_{0131}:$\beta_2[X_5*R*G] = 0 \mid \beta_1[X_5] \neq 0$ H_{a131}:$\beta_2[X_5*R*G] \neq 0 \mid \beta_1[X_5] \neq 0$		NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
• F airness (X_6):	[A]		H_{0138}:$\beta_1[X_6] = 0 \mid \beta_2[X_6*R*G] \neq 0$ H_{a138}:$\beta_1[X_6] \neq 0 \mid \beta_2[X_6*R*G] \neq 0$		CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]		H_{0137}:$\beta_2[X_6*R*G] = 0 \mid \beta_1[X_6] \neq 0$ H_{a137}:$\beta_2[X_6*R*G] \neq 0 \mid \beta_1[X_6] \neq 0$		CONGRUENT	SIGNIFICANT	**CONFIRMED**
Openness to Change: • Self-direction (X_7)	[A]		H_{0144}:$\beta_1[X_7] = 0 \mid \beta_2[X_7*R*G] \neq 0$ H_{a144}:$\beta_1[X_7] \neq 0 \mid \beta_2[X_7*R*G] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]		H_{0143}:$\beta_2[X_7*R*G] = 0 \mid \beta_1[X_7] \neq 0$ H_{a143}:$\beta_2[X_7*R*G] \neq 0 \mid \beta_1[X_7] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
• Stimulation (X_8)	[A]		H_{0150}:$\beta_1[X_8] = 0 \mid \beta_2[X_8*R*G] \neq 0$ H_{a150}:$\beta_1[X_8] \neq 0 \mid \beta_2[X_8*R*G] \neq 0$		NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]		H_{0149}:$\beta_2[X_8*R*G] = 0 \mid \beta_1[X_8] \neq 0$ H_{a149}:$\beta_2[X_8*R*G] \neq 0 \mid \beta_1[X_8] \neq 0$		NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED

Hedonism (X_9):	[A]		$H_{0156:}\beta_1[X_9] = 0 \vert \beta_2[X_9*R*G] \neq 0$ $H_{a156:}\beta_1[X_9] \neq 0 \vert \beta_2[X_9*R*G] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
	[B]		$H_{0155:}\beta_2[X_9*R*G] = 0 \vert \beta_1[X_9] \neq 0$ $H_{a155:}\beta_2[X_9*R*G] \neq 0 \vert \beta_1[X_9] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
Self-Enhancement: • Achievement (X_{10}):	[A]		$H_{0162:}\beta_1[X_{10}] = 0 \vert \beta_2[X_{10}*R*G] \neq 0$ $H_{a162:}\beta_1[X_{10}] \neq 0 \vert \beta_2[X_{10}*R*G] \neq 0$		NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]		$H_{0161:}\beta_2[X_{10}*R*G] = 0 \vert \beta_1[X_{10}] \neq 0$ $H_{a161:}\beta_2[X_{10}*R*G] \neq 0 \vert \beta_1[X_{10}] \neq 0$		NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
• Power (X_{11}):	[A]		$H_{0168:}\beta_1[X_{11}] = 0 \vert \beta_2[X_{11}*R*G] \neq 0$ $H_{a168:}\beta_1[X_{11}] \neq 0 \vert \beta_2[X_{11}*R*G] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	SIGNIFICANT	**PARTIALLY CONFIRMED**
	[B]		$H_{0167:}\beta_2[X_{11}*R*G] = 0 \vert \beta_1[X_{11}] \neq 0$ $H_{a167:}\beta_2[X_{11}*R*G] \neq 0 \vert \beta_1[X_{11}] \neq 0$		CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	NON SIGNIFICANT	NOT CONFIRMED
Two-way interaction effect of Race and Gender on the relationship between Values and the cultural diversity as a source of competitive advantage (CA) subscale							
Conservation: • Conformity (X_1):	[A]			$H_{0110:}\beta_1[X_1] = 0 \vert \beta_2[X_1*R*G] \neq 0$ $H_{a110:}\beta_1[X_1] \neq 0 \vert \beta_2[X_1*R*G] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]			$H_{0109:}\beta_2[X_1*R*G] = 0 \vert \beta_1[X_1] \neq 0$ $H_{a109:}\beta_2[X_1*R*G] \neq 0 \vert \beta_1[X_1] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED

• Tradition (X_2):	[A]			H_{0116}: $\beta_1[X_2] = 0 \mid \beta_2[X_2*R*G] \neq 0$ H_{a116}: $\beta_1[X_2] \neq 0 \mid \beta_2[X_2*R*G] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]			H_{0115}: $\beta_2[X_2*R*G] = 0 \mid \beta_1[X_2] \neq 0$ H_{a115}: $\beta_2[X_2*R*G] \neq 0 \mid \beta_1[X_2] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
• Security (X_3):	[A]			H_{0122}: $\beta_1[X_3] = 0 \mid \beta_2[X_2*R*G] \neq 0$ H_{a122}: $\beta_1[X_3] \neq 0 \mid \beta_2[X_2*R*G] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]			H_{0121}: $\beta_2[X_3*R*G] = 0 \mid \beta_1[X_3] \neq 0$ H_{a121}: $\beta_2[X_3*R*G] \neq 0 \mid \beta_1[X_3] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
Self- Transcendence: • Benevolence (X_4):	[A]			H_{0128}: $\beta_1[X_4] = 0 \mid \beta_2[X_4*R*G] \neq 0$ H_{a128}: $\beta_1[X_4] \neq 0 \mid \beta_2[X_4*R*G] \neq 0$	CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]			H_{0127}: $\beta_2[X_4*R*G] = 0 \mid \beta_1[X_4] \neq 0$ H_{a127}: $\beta_2[X_4*R*G] \neq 0 \mid \beta_1[X_4] \neq 0$	CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
• E cological Welfare (X_5):	[A]			H_{0134}: $\beta_1[X_5] = 0 \mid \beta_2[X_5*R*G] \neq 0$ H_{a134}: $\beta_1[X_5] \neq 0 \mid \beta_2[X_5*R*G] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]			H_{0133}: $\beta_2[X_5*R*G] = 0 \mid \beta_1[X_5] \neq 0$ H_{a133}: $\beta_2[X_5*R*G] \neq 0 \mid \beta_1[X_5] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
• F airness (X_6):	[A]			H_{0140}: $\beta_1[X_6] = 0 \mid \beta_2[X_6*R*G] \neq 0$ H_{a140}: $\beta_1[X_6] \neq 0 \mid \beta_2[X_6*R*G] \neq 0$	CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]			H_{0139}: $\beta_2[X_6*R*G] = 0 \mid \beta_1[X_6] \neq 0$ H_{a139}: $\beta_2[X_6*R*G] \neq 0 \mid \beta_1[X_6] \neq 0$	CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED

Openness to Change: • Self-direction (X_7)	[A]			H_{0146}:$\beta_1[X_7] = 0 \mid \beta_2[X_7*R*G] \neq 0$ H_{a146}:$\beta_1[X_7] \neq 0 \mid \beta_2[X_7*R*G] \neq 0$	NOT CONGRUENT	SIGNIFICANT	NOT CONFIRMED
	[B]			H_{0145}:$\beta_2[X_7*R*G] = 0 \mid \beta_1[X_7] \neq 0$ H_{a145}:$\beta_2[X_7*R*G] \neq 0 \mid \beta_1[X_7] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
• Stimulation (X_8)	[A]			H_{0152}:$\beta_1[X_8] = 0 \mid \beta_2[X_8*R*G] \neq 0$ H_{a152}:$\beta_1[X_8] \neq 0 \mid \beta_2[X_8*R*G] \neq 0$	CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	NON SIGNIFICANT	NOT CONFIRMED
	[B]			H_{0151}:$\beta_2[X_8*R*G] = 0 \mid \beta_1[X_8] \neq 0$ H_{a151}:$\beta_2[X_8*R*G] \neq 0 \mid \beta_1[X_8] \neq 0$	CONGRUENT ONLY WITH REGARD TO THE DOMINANT GROUP	NON SIGNIFICANT	NOT CONFIRMED
Hedonism (X_9):	[A]			H_{0158}:$\beta_1[X_9] = 0 \mid \beta_2[X_9*R*G] \neq 0$ H_{a158}:$\beta_1[X_9] \neq 0 \mid \beta_2[X_9*R*G] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
	[B]			H_{0157}:$\beta_2[X_9*R*G] = 0 \mid \beta_1[X_9] \neq 0$ H_{a157}:$\beta_2[X_9*R*G] \neq 0 \mid \beta_1[X_9] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
Self-Enhancement: • Achievement (X_{10}):	[A]			H_{0164}:$\beta_1[X_{10}] = 0 \mid \beta_2[X_{10}*R*G] \neq 0$ H_{a164}:$\beta_1[X_{10}] \neq 0 \mid \beta_2[X_{10}*R*G] \neq 0$	CONGRUENT	SIGNIFICANT	**CONFIRMED**
	[B]			H_{0163}:$\beta_2[X_{10}*R*G] = 0 \mid \beta_1[X_{10}] \neq 0$ H_{a163}:$\beta_2[X_{10}*R*G] \neq 0 \mid \beta_1[X_{10}] \neq 0$	CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED
• Power (X_{11}):	[A]			H_{0170}:$\beta_1[X_{11}] = 0 \mid \beta_2[X_{11}*R*G] \neq 0$ H_{a170}:$\beta_1[X_{11}] \neq 0 \mid \beta_2[X_{11}*R*G] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED

	[B]			$H_{0169:}\beta_2[X_{11}*R*G] = 0 \mid \beta_1[X_{11}] \neq 0$ $H_{a169:}\beta_2[X_{11}*R*G] \neq 0 \mid \beta_1[X_{11}] \neq 0$	NOT CONGRUENT	NON SIGNIFICANT	NOT CONFIRMED

5.4.2.1 Two-way interaction effect of race and gender in moderating the relationship between specific values and the valuing individual differences (VID) subscale.

Statistical support was found for the hypothesised relationship between the *benevolence*, *fairness* and *power* values and VID, moderated by race and gender. The direction of the reported relationships, as well as the magnitude and meaningfulness of the relationships, was congruent with *a priori* theorising. The balance of evidence seemed to suggest that race and gender have a moderating effect on the relationship between the aforementioned values and VID.

However, limited statistical support was found for the other hypotheses. The reported relationships between the values comprising the *Conservation* values and VID conformed to the results found in 4.5.1.1. Moderate to strong negative relationships were predicted between *Conservation* values and VID with regard to both the dominant and minority groups. In contrast, moderately strong positive relationships were reported for relationships between the *Conservation* values and VID with regard to both groups. Possible explanations for these results were investigated through consultation of the existing available research publications, textbooks and personal communication with experts in the subject matter in related fields of study. However, no theoretically defendable argument could be furnished for the positive relationships that were found. What was even more surprising to note was that the three values comprising the *Conservation* second order factor did not report similar relationships with VID. When Figure 4.43 is examined, the existence of a negative relationship between the *security* value and VID can be deduced with regard to the dominant group. As a result, hypothesis 117 can be considered to be partially corroborated, albeit wholly arbitrarily, due to the positive relationship found for the minority group.

In general, the substantive hypothesis with regard to the relationship between the *Self-Transcendence* values and VID, moderated by race and gender, were statistically corroborated. Hypotheses 123, 124, 135 and 136, which explicate the substantive relationships between the *benevolence* and *fairness* values with regard to VID, were confirmed by the results of the statistical analysis. This could be interpreted to mean that the *benevolence* and *fairness* values by race and gender interaction effects explain unique variance in a regression model that already contains the value main effects.

Contrary to the relationships found between the *Self-Transcendence* values and VID, no conclusive statistical support was found for the hypothesised relationships between the *Openness to Change* values and VID. It had been hypothesised that negative relationships existed between the *self-direction* value and VID with regard to both the dominant and minority groups. Regression analysis revealed significant positive relationships for the aforementioned relationships.

The positive relationships found between the *self-direction* value and VID could be explained at the hand of an earlier argument furnished with regard to the positive relationship found between the *self-direction* value and CA. It was argued that the positive relationship found between the *self-direction* value and CA is theoretically defendable since the diversification of the workplace is relevant to the expression of novelty and excitement, which are central themes in the *openness to change* higher order type. Contact with out-group members provides an opportunity for people who strongly emphasise *self-direction* values to interact with individuals with uniquely different personality and value structures relative to their own. This interaction is likely to be relevant for attaining valued motivational goals related to *openness to change* values. The majority of the sample consisted of university students considered to be more liberal than the general population, it made institutive sense to argue that students in the participating in the current study would perceive out-group contact to be relevant for the attainment of motivational goals related to the *openness to change* values (O'Connor, Dalgleish & Khan, 2007). For this reason, students might actively pursue the opportunity to interact with culturally diverse individuals since these novel interactions might be instrumental for achieving *openness to change* values that students value relatively highly compared to other value dimensions (Schwartz, Struch, & Bilsky, 1990).

The reported values-VID linkages with regard to the *stimulation* value were not congruent with initial theorising. Positive relationships were found with regard to both the dominant and minority groups. Figure 4.48 portrays these reported relationships with regard to both groups as flat regression vectors, which could be interpreted to mean that no significant relationship exists between the hypothesised variables included in the regression model.

Lastly, positive, significant relationships were found (see Figure 4.50) for the relationship between the *achievement* value and VID with regard to both the dominant and minority groups. This result largely refutes the substantive theorising underlying hypotheses 159 and 160. No theoretically defendable argument could be found in available literature for the reported positive relationship. During the theorising stages the investigation of available research led to the formulation of the substantive propositions which were formerly tested through hypotheses 159 and 160. No new evidence could be found in the existing literature to account for the positive relationships that were reported between the *achievement* value and VID.

5.4.2.2 Two-way interaction effect of race and gender in moderating the relationship between specific values and the tolerance for affirmative action (AA) subscale.

Considering the substantial amount of attention that has been generated by the topic of affirmative action around the world and in South Africa, specifically, the value linkages with the tolerance for affirmative action formed an important segment of the current investigation. The lack of empirical evidence regarding tolerance for cultural diversity in general and tolerance for affirmative action, specifically, implies that there is a real need for a comprehensive and integrated theory about the forces that shape the attitude towards cultural diversity. In light of this, the current section of the study can make a considerable contribution towards elucidating the complex nomological network of forces which shape the tolerance for affirmative action within the South African context.

One of the most interesting aspects to emerge from this specific segment of the data analysis was the effect of the *tradition* by race and gender interaction effect on AA. Theorising culminated in the formulation of the substantive proposition that a negative relationship is likely to exist between *Conservation* values and AA. Flat regression vectors can be observed in Figure 4.52 with regard to the relationship between the *conformity* value and AA, for both the dominant and the minority group. In regression terms, this result could be interpreted to mean that there is no substantial relationship between the *conformity* value and AA. The non-significant statistical results reported in Table 4.53 seem to suggest that no substantial relationship exists between the *conformity* value and AA. The literature review guided the proposition that strong negative relationships do exist between the *conformity* value and AA with regard to both the dominant and the minority group, but in the final analysis, no theoretically defendable argument could be found for the reported relationship between the *conformity* value and AA. Thus it seems that the *conformity* value may not play a significant role in the tolerance for affirmative action.

The graphical depiction (see Figure 4.53) of the relationship between the *tradition* value and AA with regard to both the dominant and the minority group suggests that race and gender moderate the relationship uniquely for the dominant group, compared to the minority group. From Figure 4.53 it could be inferred that the *tradition* by race and gender interaction effect has a positive influence on AA for the dominant group, but a negative influence with regard to the minority group. Having said that, the non-significant nature of the reported relationships erodes the confidence with which one can make predictions with regard to the tolerance for affirmative action. However, the result remains intuitively interesting because a positive relationship was found between the *tradition* value and AA with regard to the dominant group. It seems implausible that members of the dominant group in South Africa will foster positive attitudes towards affirmative action since these attitudes are not relevant in the attainment of valued motivational goals linked to the *tradition* value. It makes institutive sense to argue that white males will show resistance towards affirmative action initiatives, because these programmes are bound to threaten the relatively privileged financial position that whites in South African enjoy as a result of the previous political dispensation. While some whites may agree in principle that individuals from minority groups should have equal opportunities to pursue economic prosperity, they are bound to lose enthusiasm when the achievement-reward relationship is mediated by demographic criteria such as race and gender.

The negative relationship predicted between the *security* value and AA with regard to both the minority and the dominant group has survived the opportunity to be refuted and can be regarded as statistically corroborated. Statistical support was found for the inverse relationship that has been proposed between the *security* value and AA. The significant *security* by race and gender interaction effect implies that the interaction effect explains significant unique variance in a regression model that already contains the *security* main effect. Stated differently, the moderating effect of race and gender that moderates the relationship between the *security* value and AA, manifests uniquely for the dominant group compared to the minority group.

The two-way interaction effect of race and gender in the relationship between the *ecological welfare* value and AA was manifested in a similar fashion as the one-way interaction effect of race in the aforementioned relationship. In both cases reported negative relationships were found for the regression of the *ecological welfare* value on AA with regard to both the dominant and the minority group. Possible explanations for the reported negative relationships are presented in section 5.4.1.2. The argument formulated with regard to the one-way moderating effect of race on the relationship between the *ecological welfare* value and AA is also applicable to the current discussion. Please refer to earlier sections for a comprehensive discussion on possible explanations for the inverse relationship found between the *ecological welfare* value and the attitude towards cultural diversity.

Statistical support was found for the proposed relationship between the *fairness* value and AA with regard to both the dominant and the minority group. The direction, meaningfulness and magnitude of the proposed relationship were confirmed by the statistical results. The significant *fairness* by race and gender interaction effect can be interpreted to mean that the interaction effect explains significant unique variance in a regression model that already contains the *fairness* value main effect. This results stand to reason; tolerance for affirmative action is relevant for the motivation goals of the *fairness* value. In other words, tolerance for affirmative action is instrumental in the attainment of the motivational goals related to the *fairness* value for both the dominant and the minority group.

Lastly, Figure 4.60 portrays the influence of the *hedonism* value by race and gender interaction effect on AA with regard to both the dominant and the minority groups. The negative relationships portrayed between the *Hedonism* value and AA with regard to both the minority and the dominant group were somewhat unexpected, since strong theoretical arguments were advanced which postulated a strong, positive relationship between aforementioned variables with regard to the minority group. Schwartz et al. (2001, p. 270) defines the Hedonism value as “Pleasure and sensuous gratification for oneself”. The affirmative action legislative framework awards some privileges to members of the previously disadvantaged sections of the South African population which can prove to be instrumental in the gratification of *Hedonism* values. Affirmative action has the ability to advance non-white individuals into institutional positions of power which will serve as motivational rewards associated with the *Hedonism* value. For these reasons, the negative relationship found between the *Hedonism* value and AA with regard to the minority group was rather unexpected.

On the other hand, a negative relationship was expected between the *Hedonism* value and AA for the dominant group since affirmative action forces individuals belonging to the dominant group to relinquish positional power and resources, something that few people will be content to accept, let alone the small section of the South African society that is struggling on a daily basis for self-preservation. The proposition that a negative relationship exists between the *Hedonism* value and AA is confirmed by considering Figure 4.60. The significant negative relationship reported between the *Hedonism* value and AA with regard to the dominant group partly corroborates the theorising underlying hypothesis 155.

5.4.2.3 Two-way interaction effect of race and gender in moderating the relationship between specific values and the cultural diversity as a source of competitive advantage (CA) subscale.

Overall, the statistical results with regard to the regression of CA on the value main effects were very disappointing. Only six of the twenty-two postulated values-CA linkages were statistically significant. Of greater concern was the fact that none of the postulated value by race and gender interaction effects reported a statistically significant influence on CA. All six significant results confirmed by the statistical analyses were with regard to value main effects on the CA subscale. Overall, statistical support was found only for hypothesis 128 in terms of both the directionality and the statistical meaningfulness of the hypothesised relationship between the *benevolence* value main effect and CA. These findings generally lend little empirical support to the substantive research propositions advanced with regard to the influence of the two-way values by race and gender interaction effect on CA.

Although only few (three to be exact) of the value-CA linkages, moderated by race and gender, have been statistically vindicated, closer examination of some of the reported results still seems like a fruitful exercise.

In looking specifically at the graphs depicting the influence of the *Conservation* values on the cultural diversity as a source of competitive advantage (CA) subscale (Figures 4.63 to 4.65), moderated by race and gender, a degree of congruity can be detected between the aforementioned linkages and the relationships found between the *Conservation* values VID, moderated by race and gender (Figures 4.41 to 4.43). In both cases, general positive relationships were reported between the *conformity* and *tradition* values and the criterion. However, a flat horizontal regression vector depicts the regression of VID on the *security* value with regard to both the dominant and the minority group, whilst a negative relationship was found for the regression of CA on the *security* value with regard to the dominant group. A modest positive regression vector can be observed from Figure 4.65 for the minority group with regard to the regression of CA on the *security* value.

Strong negative relationships were predicted between the *Conservation* values and CA, since the advancement of cultural diversity as a potential source of competitive advantage was not deemed to be relevant for the attainment of the motivation goals of the value type. On the contrary, it was predicted that a general positive attitude towards cultural diversity in general and CA, specifically, would extenuate the motivational goals relevant to *Conservation* values. Furthermore, a positive attitude towards cultural diversity in the workplace was seen as likely to result in out-group contact. Schwartz (1996) found conclusive evidence that individuals who attribute high importance to *Conservation* values will be negatively inclined towards out-group contact since contact with members of to the cultural out-group necessarily implies exposure to divergent customs and traditions which can be threatening for those for whom the maintenance of own traditions and customs is very important. Congruent with initial theorising, a negative relationship was found between the *security* value and CA with regard to the dominant group. However, the meagre positive relationship found with regard to the minority group remains dubious. No theoretically defendable alternative explanation could be found for the reported positive relationships between the *Conservation* values and CA.

In general, positive relationships were reported between the *Self-Transcendence* values and CA with regard to both the dominant and the minority group. Once again, CA associations with the *ecological welfare* value did not correspond with the relationships reported with regard to the *benevolence* and *fairness* values (see Figures 4.66 to 4.68). Positive relationships were found between the aforementioned values and CA with regard to both the dominant and the minority group. Alternative explanations have been advanced for the incongruent results found with regard to the *ecological welfare* value and the attitude towards cultural diversity in section 5.4.1.1. It was argued that that the perceivable seriousness of environmental decay has not yet reached cataclysmic proportions in South Africa and South Africans for this reason might not allocate high priority to ecological welfare concerns. It was further argued that a more positive attitude towards ecological preservation will be forthcoming if the direct effects of the environmental corrosion begin to affect the quality of life of South Africans more directly (for example through air pollution, higher prices for scarce resources that are becoming deplete, etc.).

Lastly, the positive relationships reported between the *achievement* value and CA (see Figure 4.72), as well as the negative relationship between the *power* value and CA (see Figure 4.73), with regard to both the dominant and the minority group were congruent with initial theorising. Adopting a positive attitude towards CA was hypothesised to be relevant in the attainment of the motivation goals of the *achievement* values. This argument makes intuitive sense since individuals that rate the *achievement* value highly will view the advancement of cultural diversity in the workplace as being instrumental towards achieving the motivational goals related to the value type, especially if cultural diversity leads to a competitive advantage. The value-motivational reward linkage is very prevalent and positive relationships were therefore expected with regard to both the minority and the dominant group.

5.5 RESEARCH IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

The study was predominantly aimed towards understanding the phenomenon of cultural diversity in the workplace. The diversification of the South African labour market poses one of the most challenging business issues of our time. In order to gain an understanding of cultural diversity in the workplace, a macro (societal-level) analysis technique emanating from *critical* research paradigms referred to as critical discourse analysis (CDA) was utilised to examine specifically how micro and macro sources of power become institutionalised and expressed through societal discourses (Zanoni & Janssens, 2004). CDA proposes that individuals make sense of the world around them through social discourses that influence the way that one is permitted to think, feel and act about the "objective world". Therefore discourses – ways of thinking and talking about the world as an individual perceives it from his/her cultural orientation – play an important role in the development of individual values, beliefs, attitudes and mannerisms. CDA warrants asking questions related to how power structures become institutionalised and to which forces are operating to uphold ingrained societal power sources which are manifested through discourses (Zanoni & Janssens, 2004).

It is argued, in Chapter 2, that the diversity discourse has progressed through a number of developmental stages and that the current South African diversity discourse is centred on affirmative action. Affirmative action has been designated as the key driver for the advancement of large-scale societal integration, predominantly through the legislative framework. The Employment Equity Act, No. 55 of 1998 (Republic of South Africa, 1998), was introduced by the then newly elected government to promote employment equity in the South African workforce through affirmative action. Even though considerable evidence exists to support the effectiveness of various affirmative action initiatives around the world, especially in the US (Konrad & Linnehan, 1999), little evidence could be found to confirm the success of affirmative action initiatives in the South African context.

In the latest CEE report (Commission for Employment Equity, 2009) the chairperson, Jimmy Manyi stated the following:

> *White males continue to dominate the top echelons in the private sector followed by White females and the Indian population. Africans and Coloureds continue to languish at the bottom with a few Africans sprinkling on top. Data also shows that even in the disability group White people are still being disproportionately preferred.*

Questions have been raised about the effectiveness of the affirmative action framework and, more importantly, about the ineffective application thereof (Du Plessis, 2002).

Given the lack of concrete evidence regarding the relative success of the affirmative action framework, it was argued that the South African legislative framework has been too direct in its application of the affirmative action agenda and, as a result, has merely addressed symptoms attributable to several previous generations of cultural and racial segregation. At the same time there is a possibility that the legislative framework has neglected to address the underlying causal realities (values, attitudes and beliefs) that shaped and still uphold the cultural separation that remains widespread in South African today.

The "strong-armed" fashion with which the current government is enforcing the affirmative action agenda becomes evident when examining some of the quotes from the latest CEE report (Commission for Employment Equity, 2009):

> *The continued exclusion of "people of colour" in the mainstream US economy, despite them being a minority, is testimony that markets on their own are incapable of transforming society. The legislative enforcement of the Employment Equity Act is still the ONLY viable option to rationally democratise the economic emancipation of our people.*

A plea has been made in the current study for a new diversity discourse which is centred on valuing cultural diversity. A communal spirit of reconciliation and altruism lies at the heart of such a discourse. The successful integration of dissimilar cultures in the workplace hinges on both the former oppressors and the formerly oppressed coming to terms with the past and, more importantly, engaging in a process of constitutional reconciliation and compromise to overcome unconstructive attitudes brought about through colonialism, racism and segregation. Such a discourse seems to present a more humane alternative compared to the affirmative action framework that views employment equity as a mere "numbers game", i.e. cultural integration at whatever cost, with total disregard for the prevailing effects of a legacy of apartheid at a grassroots level (i.e. on an attitudinal, values and beliefs level). However, it must also be said that individual level change without concomitant change in institutional and systemic practices to remove employment discrimination will not have an enduring effect either.

Following this line of argument, it was suggested that cultural diversity should be advanced by changing prevailing societal norms that have emanated from biased attitudes, values and beliefs and that ultimately hinder the advancement of cultural diversity in the workplace. From a socio-psychological point of view, the notion of valuing cultural diversity seems to be much deeper-seated than initially anticipated. Several distinguished authors hailing from diverse disciplines have advocated studying the diversity construct from a more abstract (deep-level) perspective, rather than the traditionally emphasised diversity approaches incorporating predominantly tangible demographic characteristics (e.g. gender, race, ethnicity, etc.) (Harrison & Sin, 2006; Jackson, May & Whitney, 1995; Milliken & Martins, 1996). In the literature, a greater distinction is made nowadays between what are referred to as 'surface' vs 'deep' diversity levels which may alternatively be understood as 'demographic' vs "psychological' variables (Jackson, May & Whitney, 1995). Finally, diversity studies are moving beyond mere reliance on demographic variables. From a conceptual point of view, it makes sense to describe and predict diversity as a complex social phenomenon through the building of theoretical models that appreciate this complexity by integrating psychological variables into existing diversity taxonomies (Neumann, Wagner & Christiansen, 1999).

In the current study, deep and surface level variables were incorporated into a single theoretical model with the eye on providing a basic nomological network of variables that explain and predict the attitude towards cultural diversity. The empirical results reported in this chapter suggest that incorporating both demographic and psychological variables in a single theoretical model provides a significantly superior account of the forces that shape the attitude towards cultural diversity than what would be the case if only the deep-level or the surface-level variables were included in the proposed theoretical model. The moderated regression analysis reveals that, on average, the values by race and/or gender interaction effects do a better job explaining variance in VID, AA and CA than the value main effect taken alone. This trend in the results can be interpreted to mean that psychological variables are primed (or activated) differently for individuals depending on one's group membership (e.g. male vs female; dominant group vs. minority group). This evidence suggests that scholars and practitioners alike should be more sensitive to individual differences in the workplace which is fundamentally related to group membership. Often, organisational diversity initiatives encompass a range of activities embedded in the team building doctrine which fundamentally aims to establish a common organisational culture that supersedes all endemic cultural differences acquired from being socialised in diverse cultural settings (Human & Bowmaker-Falconer, 1992). The values that underlie the promulgated organisational culture are regarded as non-negotiable and paramount to any other value system. The basic idea behind the training is to establish a corporate culture that instils a normative parameter in which permissible human resource interactions can take place, but under no circumstances are allowed to infringe.

Human and Bowmaker-Falconer, (1992, p. 27) state that numerous organisations adopt this doctrine with regard to managing diversity as a "way of avoiding the real issues in empowerment". Lakhani (1994) argues similarly that it is dangerous to consider diversity and multi-culturalism as largely a race issue, as it tends to address people as types. Horwitz, Bowmaker-Falconer and Searll (1996) state that cultural diversity initiatives such as educative workshops, conferences and awareness training programmes are necessary but not sufficient for addressing structural inequalities, technical and skills inequalities and reward differentiation. A holistic approach that addresses both the need to change organisational practices and individual attitudes and values is needed to effectively manage a culturally diverse workforce in the contemporary South African environment. However, South African organisations are too narrow in their focus and often overemphasise the development and recruitment of black managers only (Horwitz, Bowmaker-Falconer & Searll, 1996).

Effective cultural diversity management entails a range of activities aimed at making everybody in the organisation more aware and mindful of other cultures or subcultures, which may espouse different values due to their upbringing. Langer (1989) states that differences in socialisation necessarily affect the way people plan, organise, cooperate, compete and are motivated in the workplace. Ideally, effective management of cultural diversity should capitalise on the strengths of each individual or subgroup to ensure that the collective efforts of the whole are greater than the sum of the parts (Tung, 1995).

Horwitz, Bowmaker-Falconer and Searll (1996) agree with the notion that tolerance for cultural diversity does not equate to valuing cultural diversity. It was argued earlier that a distinction should be made between the two aforementioned constructs. Tolerance for affirmative action was defined as an attitudinal response that is not necessarily an expression of a deeper value orientation. Valuing cultural diversity, on the other hand, involves a more pervasive deep-seated personal value orientation that is less likely to be altered in the face of conflicting normative societal pressures. By implication, valuing cultural diversity can be regarded as an important psychological prerequisite for the effective management for cultural diversity. Horwitz, Bowmaker-Falconer and Searll (1996, p. 140) describe organisations that effectively harness the value of a culturally workforce as follows:

> *Valuing diversity extends beyond understanding and co-operation and should, as an end goal seek to improve organizational effectiveness. It should aim to build capacity. A failure to understand cultural and other differences can lead to misguided assumptions, poor working relations, underperformance and discrimination. Performance, level of contribution and personal growth are partly a function of how people fit into and are treated in the work environment.*

Ramphele (1993), in agreement, states that organisational cultures that espouse the assimilation of individual cultures into a grand institutional culture fail to appreciate the complexity of a multi-cultural society, which is what the employees of the organisation represent. Often institutional culture is confused with ethnicity. This could well be a result of the legacy of apartheid, through which one's natural inclination would be to divide, rather than unite, a multicultural workforce. This is hardly surprising if one considers the large-scale fragmentation of the South African society prior to 1994. Systems were designed to keep people apart and emphasis was placed on differences rather than similarities and common understanding (Horwitz, 2006).

A new diversity discourse needs to be formulated and advanced which incorporates the integration of multicultural societies in a dynamic and socially cohesive workplace structure. However, the effective integration of minority groups into the mainstream economically active workforce will not be forthcoming if the complexity of institutional and cultural realities is not appreciated. The "strong-armed" manner in which the government is promoting the diversification of the South African labour force along more equitable lines are likely to lead to tolerance for cultural diversity but hardly to valuing cultural diversity. In the process, valuable opportunities to harness the collective potential of culturally diverse employees are lost. However, corporate South Africa can play a key role in smoothing over racial tensions in the workplace by advocating an inclusive organisational culture that values individual differences.

To this end the current study has made a contribution towards understanding the forces that shape the attitude towards cultural diversity. Several measurement inadequacies threaten the validity of empirical findings reported in the study. Nonetheless, the results have the potential to stimulate further research on cultural diversity and possibly to build on the developed theoretical model by incorporating more constructs that have the potential to explain more variance in the attitude towards cultural diversity.

Having said that, research results should be evaluated by keeping in mind that the sample consisted predominantly of students. This raises questions about the generalisability of values results from the university setting to the workplace.

Contemporary values researchers (Rokeach, 1973; Schwartz et al., 2001) postulate that personal values are already established at an early adulthood (e.g. 14 years old) and remains relatively stable over the lifespan of individuals. Whether values are indeed as stable as postulated needs to be explored further. Furthermore, since the generalisability of the student sample of the current study is a concern, it is recommended that the possible differences between the personal values of students and personal values relevant in the work context should be explored in future.

Furhtermore, an earnest plea is warranted for the development of uniquely South African instruments that appreciate and acknowledge the complex historical societal changes that currently affect the communal psyche of all South Africans. A real need exist for empirical studies conducted in the South African context. Limited studies could be found that examined values and the attitude towards cultural diversity. No study could be found that explicitely examined the role of values on the attitude towards cultural diversity. More will become known about this elusive phenomenon called cultural diversity if South African scholars take up the challenge of developing uniquely South African psychological measures.

It must be acknowledged that theory building was greatly hampered by the lack of empirical South African literature on values and the attitude towards cultural diversity which necessitated the researcher to rely on related studies conducted on American and European samples.

A further limitation pertains to the research design and sampling procedure utilised in the current investigation. A non-probability sampling strategy was utilised as well as an *ex post facto* research design, which limits the external validity of the results obtained in the current investigation (Kerlinger & Lee, 2000).

The related issued of mono-method bias stems from the fact that independent and outcome information were gathered from the same source. It should be acknowledged that that relationship between variables could be inflated since all the variables were measured from the same source (the data of the dependent and independent measures were obtained from the same sample of respondents).

Another possible limitation stems from the use of cross-sectional (correlational) data. Since the data was gathered at one point in time, the internal validity of the study is threatened and causality should not be inferred from any of the proposed relationships between values and the dimensions comprising the attitude towards cultural diversity. Inferences about causality are often erroneously made about proposed relationships between latent variables confirmed in SEM. Kerlinger & Lee (2000) maintain that sound theory, an experimental research design and corroborating statistical results, permit one to make inferences of causality and directionality of influence.

Mention has been made earlier in the text that the SVS measurement instrument suffers from multicolinearity. The items designed to measure the value types in the SVS failed to elucidate purely and comprehensively the underlying nature of the construct. This has obvious implications for the interpretation of the substantive relationship confirmed in the generic structural model.

5.6 CONCLUSION

The primary aim of the current study was to investigate the attitude towards cultural diversity from a socio-psychological perspective. Various latent variables that potentially could influence the attitude towards cultural diversity were identified through the literature review. The theoretical model that developed contained various variables and their proposed relationships with regard to the attitude towards cultural diversity. A comprehensive structural model containing the complete 11-value structure, and a generic structural model containing only the values for which relationships with regard to the attitude towards cultural diversity was expected to be the most robust, were proposed and analysed. Furthermore, it was hypothesised that race and gender would moderate the relationship between values and the attitude towards cultural diversity. Conclusive evidence was found in support of the proposition that the value-attitude towards cultural diversity linkage is moderated by race. However, less empirical support was found for the notion that a two-way race by gender interaction effect moderates the relationship between the proposed values and the attitude towards cultural diversity. Having said that, the value by race and gender interaction effects generally explained more unique variance in the independent variable compared to value main effects.

Various research results were discussed on the basis of the original substantive research hypothesis. The research results shed some light on dynamic relationships between values and the attitude towards cultural diversity. These results suggest that the complex interactions between values, race, gender and the attitude towards cultural diversity are often underappreciated by both scholars and practitioners. Considerable evidence was found to affirm that race moderates the relationship between values and the attitude towards cultural diversity. The therapeutic value of cultural diversity initiatives is a direct function of, firstly, the scholar's knowledge of the nomological network of variables that shapes the attitude towards cultural diversity, and, secondly, his/her understanding of how these variables interact with one another to bring about diversity attitudes. The statistical results provide support for the theoretical model proposed in the current study. However, the measurement components of the generic structural model were plagued by measurement inconsistencies which somewhat corrode the confidence with which one can make credible deductions from the reported empirical results. For reasons stated previously, more work needs to be done towards the promotion of cultural diversity, since it remains one of the single most significant obstacles that impede on the fully fledged integration of the larger South African society.

The basic theoretical model proposed in the current study has the potential to be expanded through the inclusion of further variables that are likely to influence the attitude towards cultural diversity. Such a comprehensive theoretical model will have the potential to explain more variance in the attitude towards cultural diversity in South Africa. This in and by itself seems like a noble goal worth pursuing and the South African academic fraternity should take up its rightful position as key stakeholder in search of epistemological truth.

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APPENDIX A

STELLENBOSCH UNIVERSITY
CONSENT TO PARTICIPATE IN RESEARCH

You are asked to participate in a research study conducted by Jürgen Becker from the Department of Industrial Psychology at Stellenbosch University. The results of this research study will contribute to the completion of his Master's thesis, which forms part of his MComm (Psych) degree.
You were selected as a possible participant in this study because you qualify as an individual who's value orientations has been developed to a large extend (value orientations and constellations are already formed by the age of 13) and therefore are in a position to participate in this very influential international study that could contribute significantly to the body of knowledge pertaining to values and cultural diversity in South Africa.

1. PURPOSE OF THE STUDY

The primary objective of the research is to investigate the psychometric properties of the Schwartz's Value Survey (SVS) in the South African context. In addition this study aims to gain greater insight into values that could influence the attitude towards cultural diversity

2. PROCEDURES

If you volunteer to participate in this study, we would ask you to do the following things:

Procedures to be followed:

- Participants will be required to complete a demographic information form (at the back of the two questionnaires constituting the test battery
- Participants will be required to complete two psychological questionnaires namely, the **Cultural Diversity Belief Scale (CDBS)** developed by Rentsch, Turban, Hissong and Marrs (1995); and the **adapted Schwartz's Value Survey (Schwartz, 1992)**.
- Participants please take cognisance that there are no correct or incorrect answers to the questions but rather that honesty will improve the value of the study.
- Completion of the demographic information form and two questionnaires will take approximately 30 minutes and will be completed in paper and pencil format at a venue that will be communicated to interested participants.

3. POTENTIAL RISKS AND DISCOMFORTS

No reasonably foreseeable physical or psychological risks or discomforts are anticipated to be experienced during the completion of the questionnaires.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Participants will not directly benefit from the participation, although as students in Industrial Psychology, participants will make a valuable contribution towards the scientific development of the discipline. The study will make a significant contribution to the body of knowledge in the field of Organizational Psychology, especially in the South African setting.

5. PAYMENT FOR PARTICIPATION

No participant will receive any form of payment in exchange for participating in this study.

6. CONFIDENTIALITY

Any information and data obtained during this study will be treated with the utmost confidentiality and not be made available to any unauthorised person. All the results will be held by the researcher and his supervisor. To further guarantee the privacy of participants, a numerical code will be linked each individual partaking in the research. If the results of the research are published, confidentiality will be maintained due to the fact that results are anonymous and analysed and reported on in groups.

Confidentiality and **anonymity** is a priority and will be honoured.

7. PARTICIPATION AND WITHDRAWAL

Participation in the study is voluntary and you may withdraw at any time according to the discretion of the participator. No penalty can be sanction to a participant that withdraws at any stage for whatever reason.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns regarding the research, please feel free to contact Jürgen Becker (Investigator/ Researcher) at 9 Karee street, Stellenbosch, 7600. Cell No: 082 851 4624 or email: 14058227@sun.ac.za and Proff. Amos Engelbrecht (Supervisor) at the Department of Industrial Psychology, Stellenbosch University, Tel: 021 808 3003

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact the Division of Research Development at Stellenbosch University on (021) 808 4622.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to __________________ (name of the participant/subject) by ________________ in _________________ (language) and the participant is in command of this language or it was satisfactorily translated to him/ her satisfaction.

I hereby consent voluntarily to participate in this study. The participant confirms receiving a copy of this form.

____

Name of Subject/Participant

____

Name of Legal Representative (if applicable)

____ ______________

Signature of Subject/Participant or Legal Representative Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to __________________ [name of the subject/participant] and/or [his/her] representative ____________________ [name of the representative]. [He/she] was encouraged and given ample time to ask me any questions. This conversation was conducted in [Afrikaans/*English/*Xhosa/*Other] and [no translator was used/this conversation was translated into ___________ by _______________________].

____ ______________

Signature of Investigator Date

APPENDIX B:

EXPLORATORY FACTOR ANALYSIS RESULTS OF THE ORIGINAL CDBS SUBSCALES

A: Valuing Individual Differences (VID) subscale

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.855
Bartlett's Test of Sphericity	Approx. Chi-Square	918.450
	df	66.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.772	31.430	31.430	3.114	25.949	25.949	2.811
2	1.147	9.554	40.985	.508	4.237	30.186	2.286
3	.970	8.086	49.071				
4	.949	7.906	56.977				
5	.848	7.067	64.044				
6	.768	6.402	70.445				
7	.752	6.269	76.714				
8	.693	5.772	82.487				
9	.589	4.912	87.399				
10	.570	4.750	92.149				
11	.507	4.225	96.374				
12	.435	3.626	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Structure Matrix

	Factor	
	1	2

VID1	.364	-.734
VID2	.283	-.410
VID3	.553	-.575
VID4	.450	-.593
VID5	.472	-.298
VID6	.384	-.318
VID7	.637	-.451
VID8	.310	-.129
VID9	.600	-.323
VID10	.606	-.400
VID11	.575	-.338
VID12	.402	-.327

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

B: Tolerance for Affirmative Action (AA) subscale

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.676
Bartlett's Test of Sphericity	Approx. Chi-Square	222.078
	df	15.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	1.968	32.808	32.808	1.375	22.912	22.912	1.372
2	1.045	17.409	50.217	.219	3.644	26.556	.231
3	.983	16.384	66.601				
4	.786	13.098	79.698				
5	.696	11.597	91.295				
6	.522	8.705	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Structure Matrix

	Factor	
	1	2
AA1R	.173	-.032
AA2R	.719	-.199
AA3	-.003	.208
AA4R	.387	.081
AA5R	.623	.086
AA6R	.536	.365

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

C: Cultural Diversity as a Source of Completive Advantage (CA) subscale

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.691
Bartlett's Test of Sphericity	Approx. Chi-Square	182.851
	df	10.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	1.884	37.688	37.688	1.240	24.802	24.802	1.233
2	1.031	20.621	58.309	.220	4.393	29.195	.263
3	.797	15.937	74.246				
4	.685	13.705	87.951				
5	.602	12.049	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Structure Matrix

	Factor	
	1	2
CA1R	.086	.228
CA2	.448	-.277
CA3	.541	.094
CA4	.603	.170
CA5	.607	.311

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

EXPLORATORY FACTOR ANALYSIS RESULTS OF THE ORIGINAL SVS SUBSCALES

A: Conformity

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.754
Bartlett's Test of Sphericity	Approx. Chi-Square	459.966
	df	6.000
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.178	54.446	54.446	1.580	39.511	39.511
2	.675	16.870	71.316			
3	.610	15.241	86.557			
4	.538	13.443	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix[a]

	Factor
	1
var11	.630
var20	.601
var40	.705
var47	.571

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 8 iterations required.

B: Tradition

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.705
Bartlett's Test of Sphericity	Approx. Chi-Square	303.945
	df	10.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.972	39.444	39.444	1.225	24.505	24.505
2	.939	18.774	58.217			
3	.768	15.365	73.582			
4	.709	14.175	87.758			
5	.612	12.242	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix[a]

	Factor
	1
var18	.511
var32	.422
var36	.492
var44	.572
var51	.465

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 6 iterations required.

C: Benevolence

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.786
Bartlett's Test of Sphericity	Approx. Chi-Square	675.396
	df	10.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.527	50.541	50.541	1.918	38.353	38.353
2	.816	16.312	66.853			
3	.618	12.359	79.211			
4	.559	11.185	90.397			
5	.480	9.603	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix[a]

	Factor
	1
var33	.638
var45	.691
var49	.547
var52	.618
var54	.593

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 6 iterations required.

D: Universalism

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.810
Bartlett's Test of Sphericity	Approx. Chi-Square	938.826
	df	28.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	2.959	36.987	36.987	2.365	29.564	29.564	1.917
2	1.053	13.166	50.153	.427	5.343	34.907	1.973
3	.938	11.726	61.878				
4	.768	9.602	71.480				
5	.698	8.727	80.207				
6	.615	7.689	87.897				
7	.524	6.549	94.446				
8	.444	5.554	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Factor Matrix[a]

	Factor	
	1	2
var1	.351	.293
var17	.510	.177
var24	.599	-.391
var26	.446	.031
var29	.645	-.135
var30	.703	.297
var35	.343	.095
var38	.629	-.202

Extraction Method: Principal Axis Factoring.

a. 2 factors extracted. 19 iterations required.

Structure Matrix

	Factor	
	1	2
var1	.448	-.182
var17	.533	-.376
var24	.337	-.711
var26	.406	-.384
var29	.501	-.637
var30	.759	-.494
var35	.347	-.264
var38	.454	-.652

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

+

E: Self-Direction

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.725
Bartlett's Test of Sphericity	Approx. Chi-Square	311.641
	df	10.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.002	40.040	40.040	1.269	25.389	25.389
2	.885	17.709	57.749			
3	.806	16.127	73.877			
4	.663	13.266	87.143			
5	.643	12.857	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix[a]

	Factor
	1
var5	.378
var16	.535
var31	.570
var41	.538
var53	.476

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 6 iterations required.

F: Stimulation

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.675
Bartlett's Test of Sphericity	Approx. Chi-Square	333.976
	df	3.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.881	62.709	62.709	1.321	44.041	44.041
2	.562	18.732	81.441			
3	.557	18.559	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix[a]

	Factor
	1
var9	.661
var25	.667
var37	.662

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 6 iterations required.

G: Hedonism

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.652
Bartlett's Test of Sphericity	Approx. Chi-Square	271.320
	df	3.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.789	59.628	59.628	1.197	39.915	39.915
2	.663	22.096	81.723			
3	.548	18.277	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix[a]

	Factor
	1
var4	.684
var50	.658
var57	.544

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 9 iterations required.

H: Achievement

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.710
Bartlett's Test of Sphericity	Approx. Chi-Square	312.533
	df	6.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.941	48.521	48.521	1.292	32.307	32.307
2	.824	20.591	69.111			
3	.646	16.139	85.250			
4	.590	14.750	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix[a]

	Factor
	1
var34	.644
var39	.381
var43	.613
var55	.597

Extraction Method:
Principal Axis Factoring.

a. 1 factors extracted. 7 iterations required.

I: Power

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.715
Bartlett's Test of Sphericity	Approx. Chi-Square	348.292
	df	6.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.003	50.070	50.070	1.356	33.891	33.891
2	.788	19.695	69.765			
3	.638	15.945	85.710			
4	.572	14.290	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix[a]

	Factor
	1
var3	.581
var12	.603
var27	.660
var46	.468

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 8 iterations required.

J: Security

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.721
Bartlett's Test of Sphericity	Approx. Chi-Square	254.278
	df	10.000
	Sig.	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.905	38.100	38.100	1.155	23.098	23.098
2	.894	17.877	55.977			
3	.803	16.057	72.033			
4	.719	14.388	86.422			
5	.679	13.578	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix[a]

	Factor
	1
var8	.480
var13	.543
var15	.355
var22	.570
var56	.422

APPENDIX C

4.15.1 Graphical representation of the one-way interaction effect of race in moderating the relationship between specific values and the Valuing Individual Differences (VID) subscale

Figure 4.9: The Relationship between the Conformity value and VID, moderated by race.

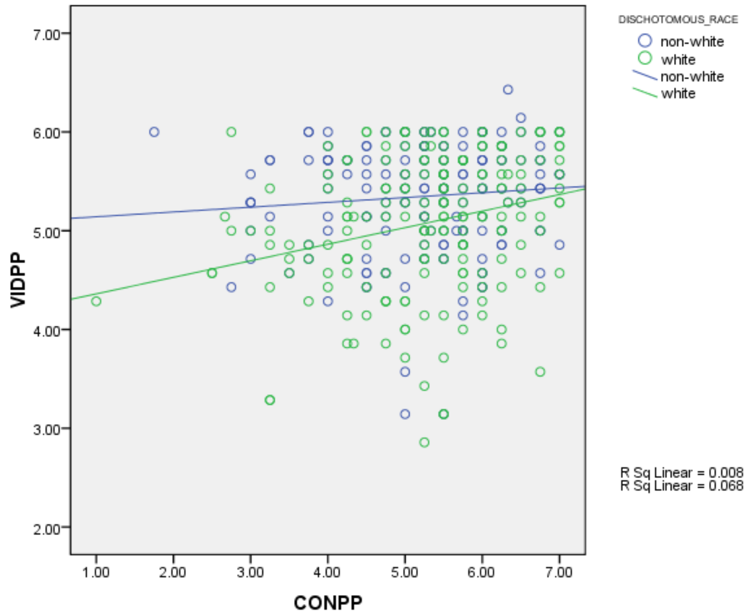


Figure 4.10: The Relationship between the Tradition value and VID, moderated by race.

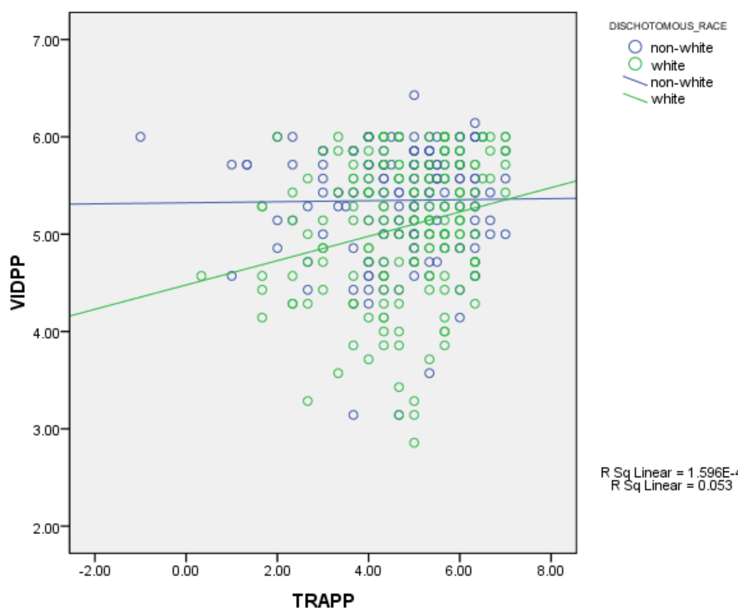


Figure 4.11: The Relationship between the Security value and VID, moderated by race.

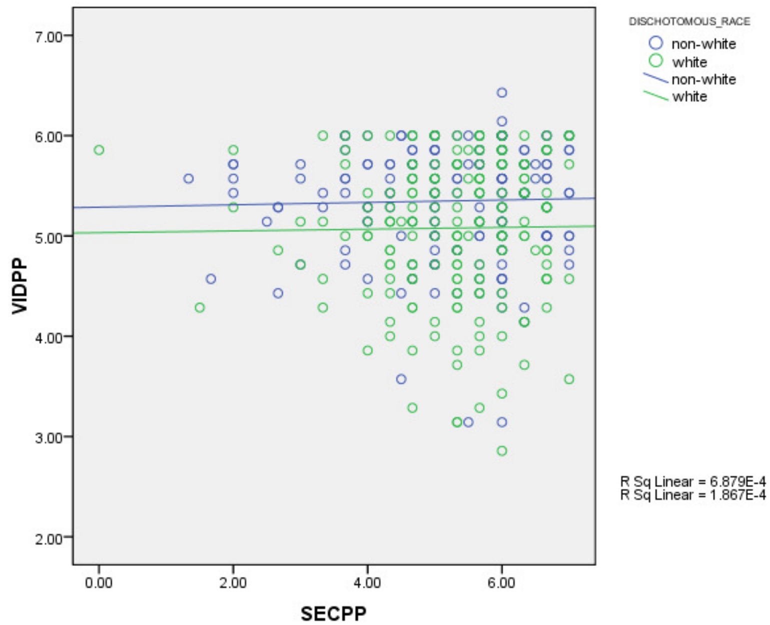


Figure 4.12: The Relationship between the Benevolence value and VID, moderated by race.

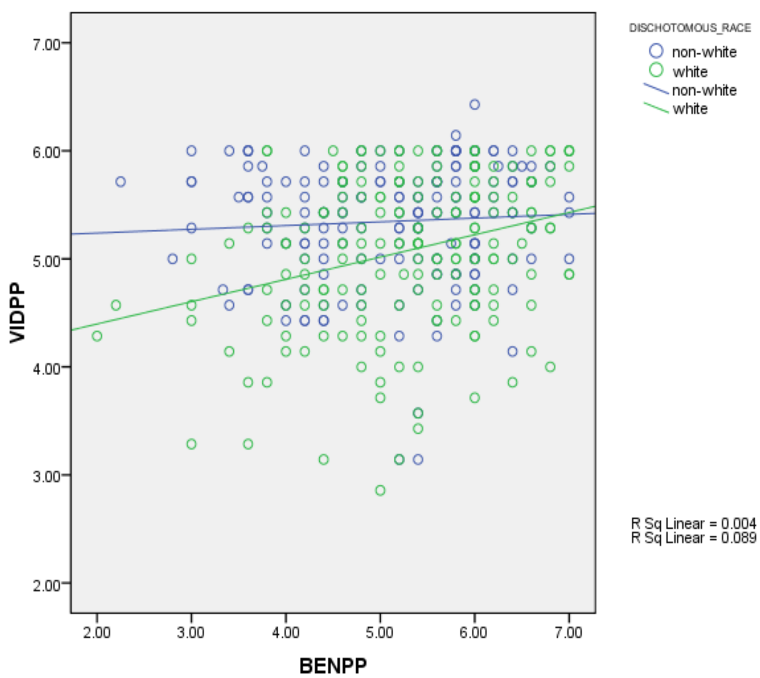


Figure 4.13: The Relationship between the Ecological Welfare value and VID, moderated by race.

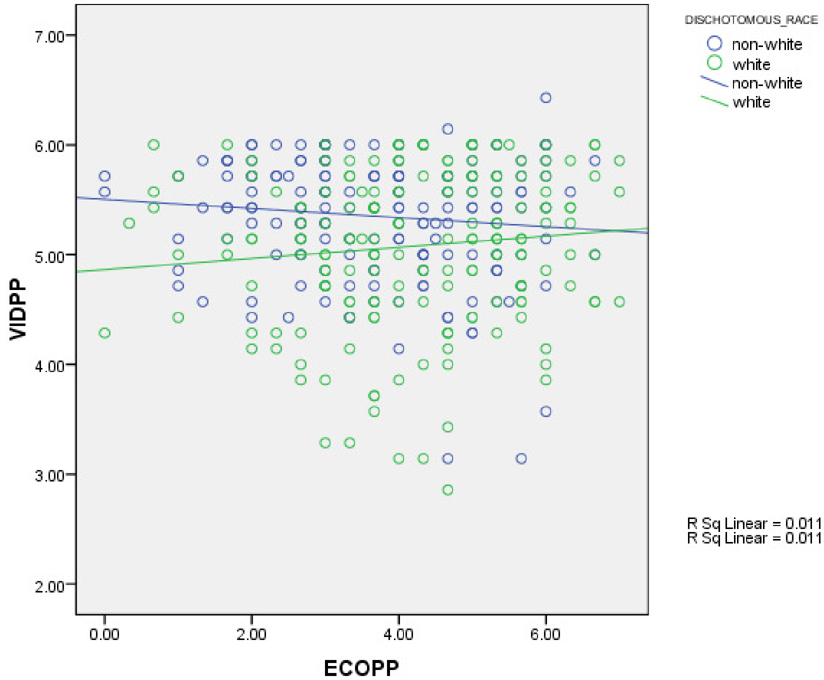


Figure 4.14: The Relationship between the Fairness value and VID, moderated by race.

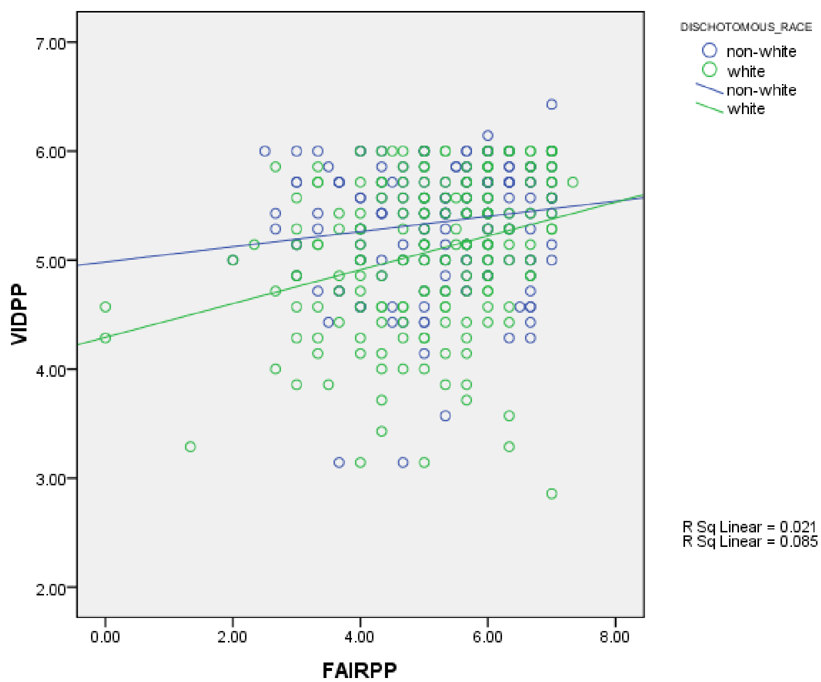


Figure 4.15: The Relationship between the Self-direction value and VID, moderated by race.

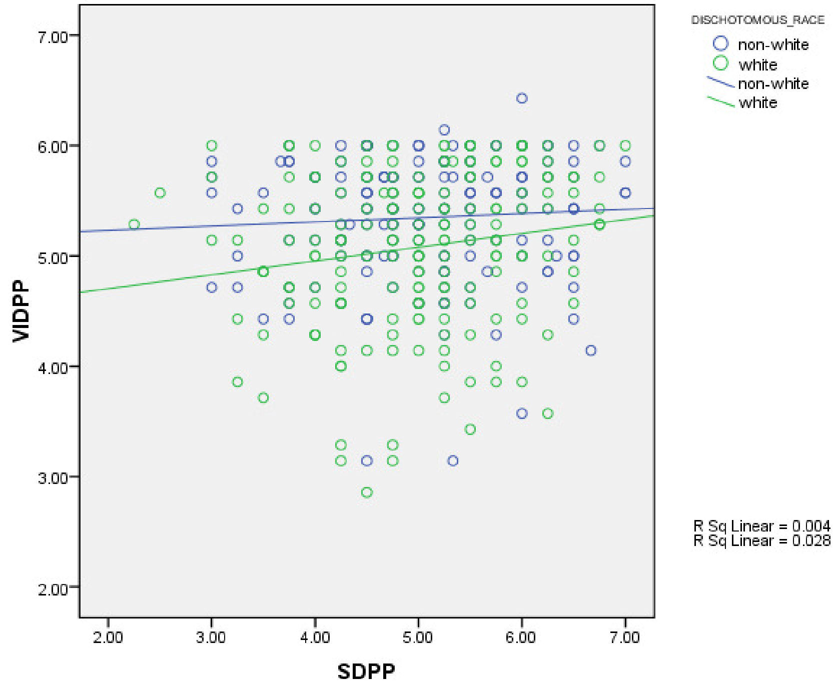


Figure 4.16: The Relationship between the Stimulation value and VID, moderated by race.

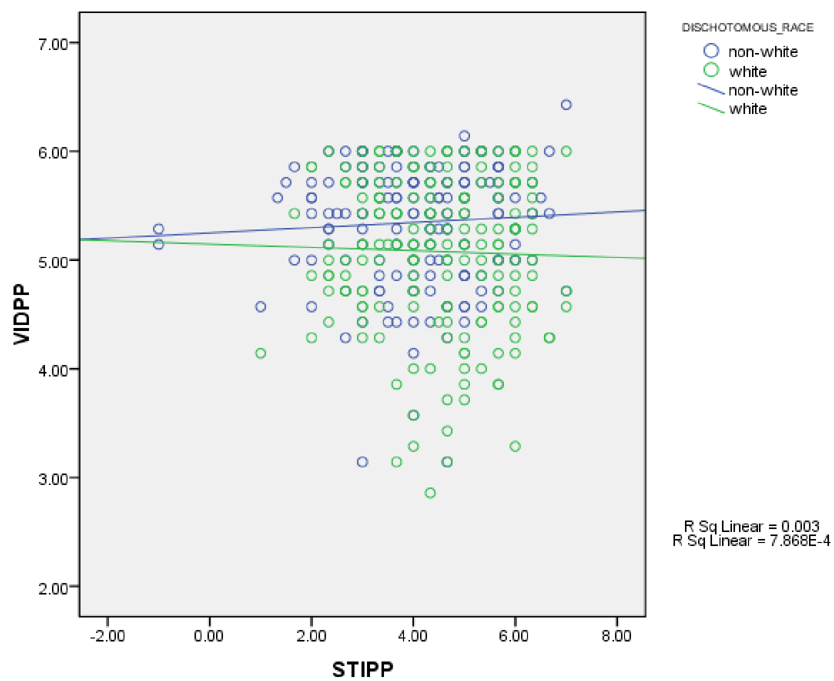


Figure 4.17: The Relationship between the Hedonism value and VID, moderated by race.

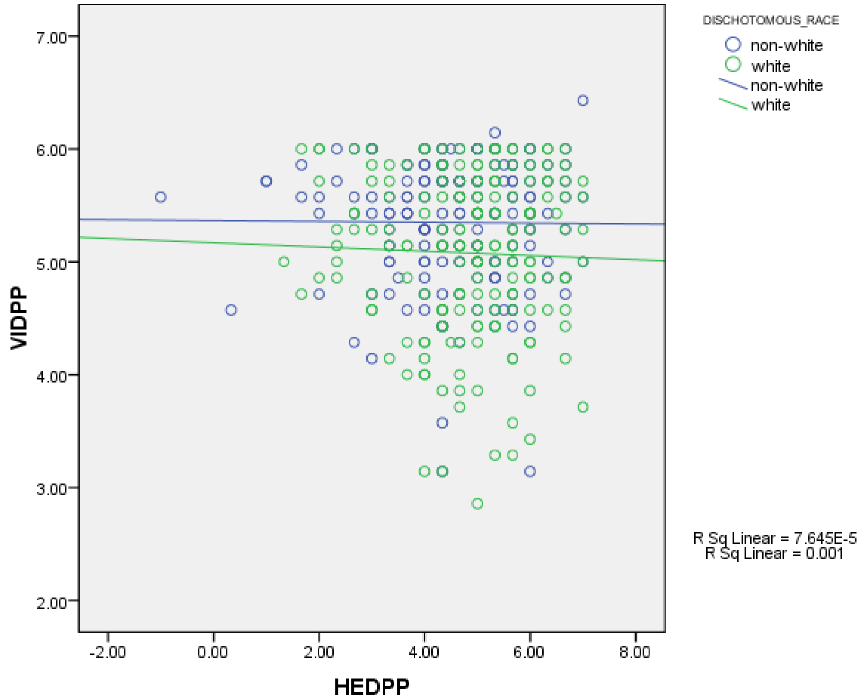


Figure 4.18: The Relationship between the Achievement value and VID, moderated by race.

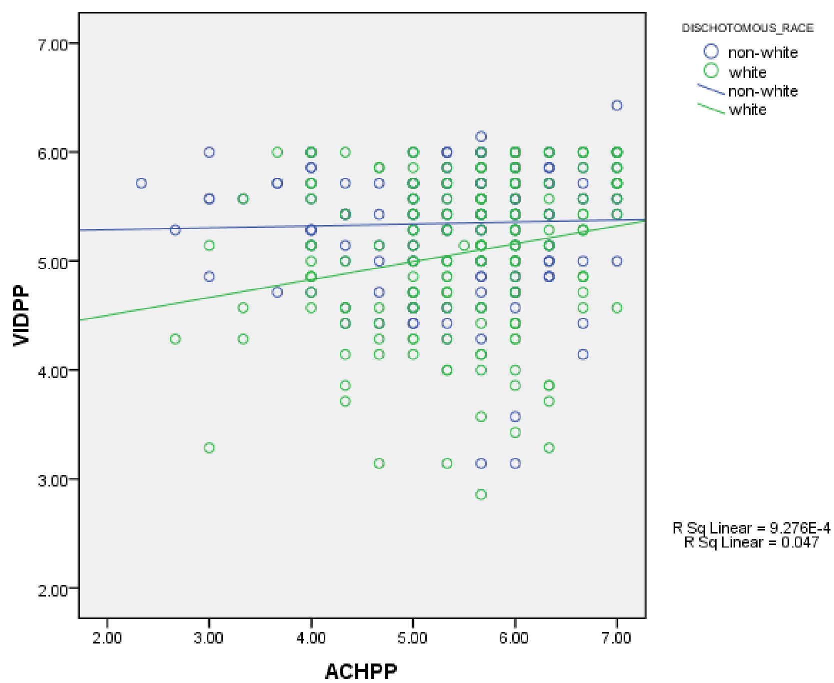
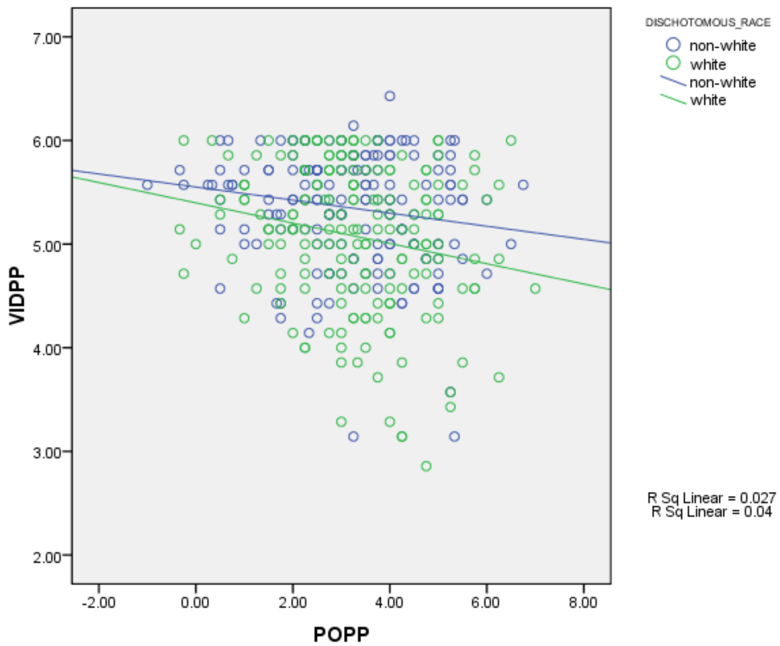


Figure 4.19: The Relationship between the Power value and VID, moderated by race.



4.15.2 Graphical representation of the one-way interaction effect of race in moderating the relationship between specific values and the tolerance for Affirmative Action (AA) subscale

Figure 4.20: The Relationship between the Conformity value and AA, moderated by race.

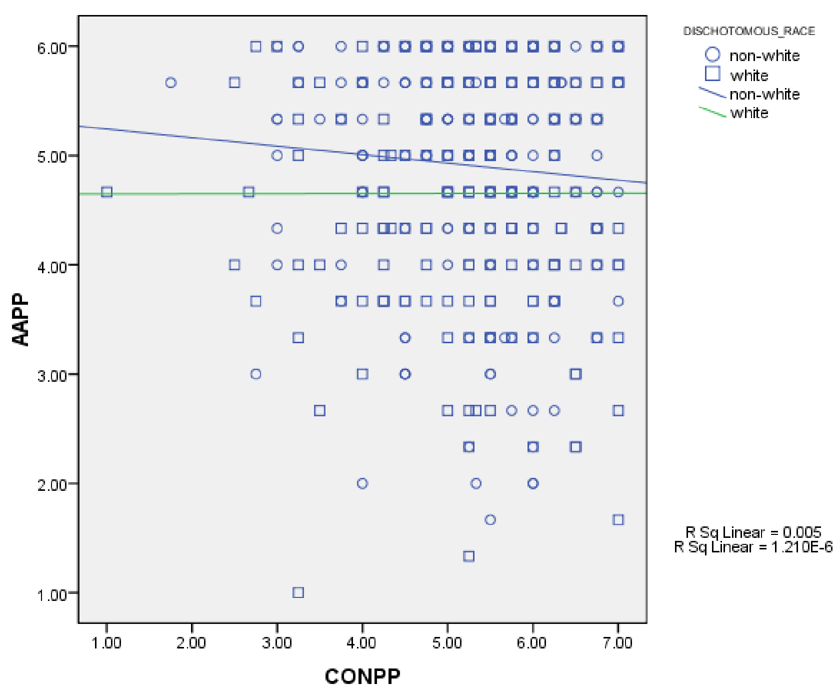


Figure 4.21: The Relationship between the Tradition value and AA, moderated by race.

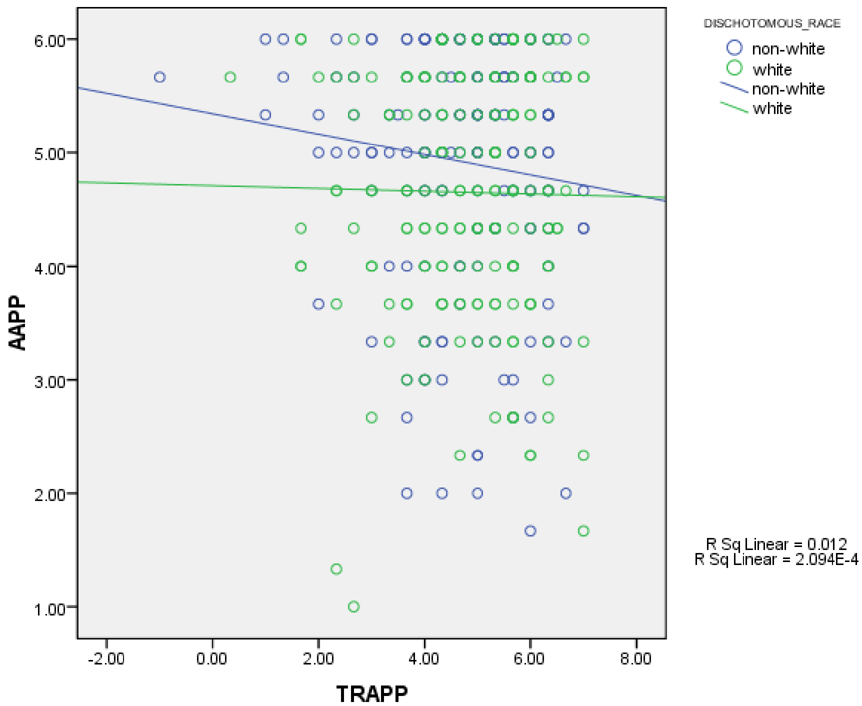


Figure 4.22: The Relationship between the Security value and AA, moderated by race.

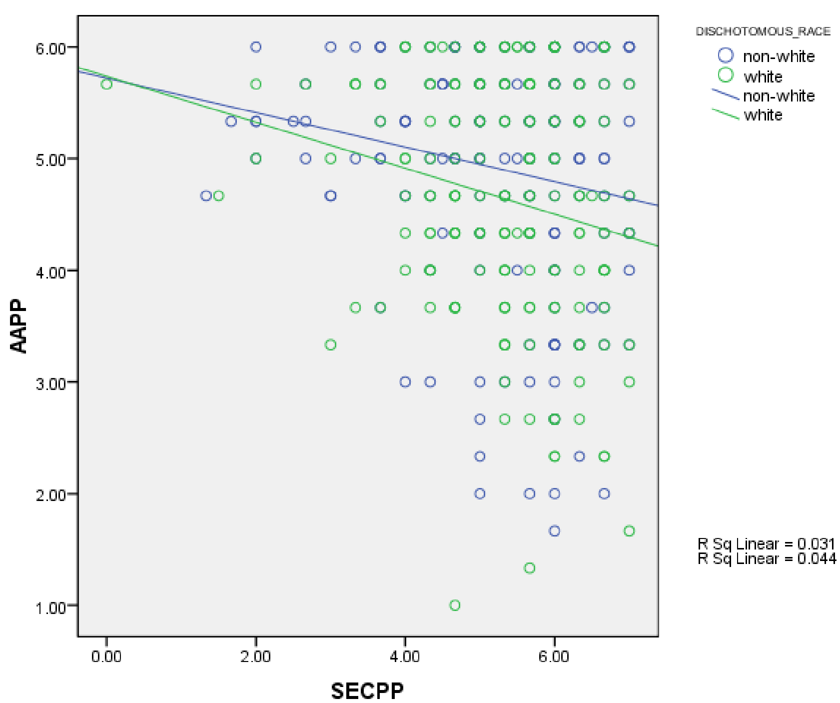


Figure 4.23: The Relationship between the Benevolence value and AA, moderated by race

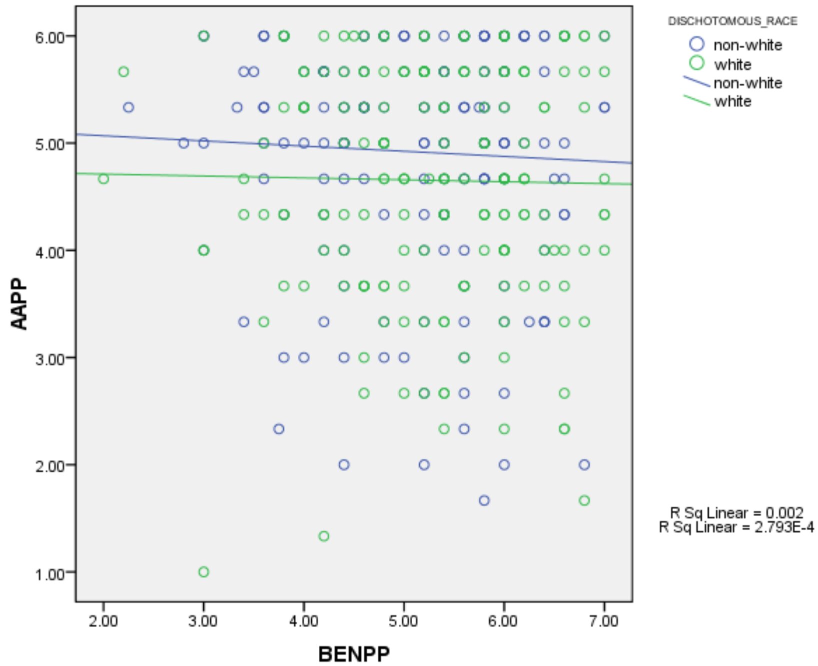


Figure 4.24: The Relationship between the Ecological Welfare value and AA, moderated by race

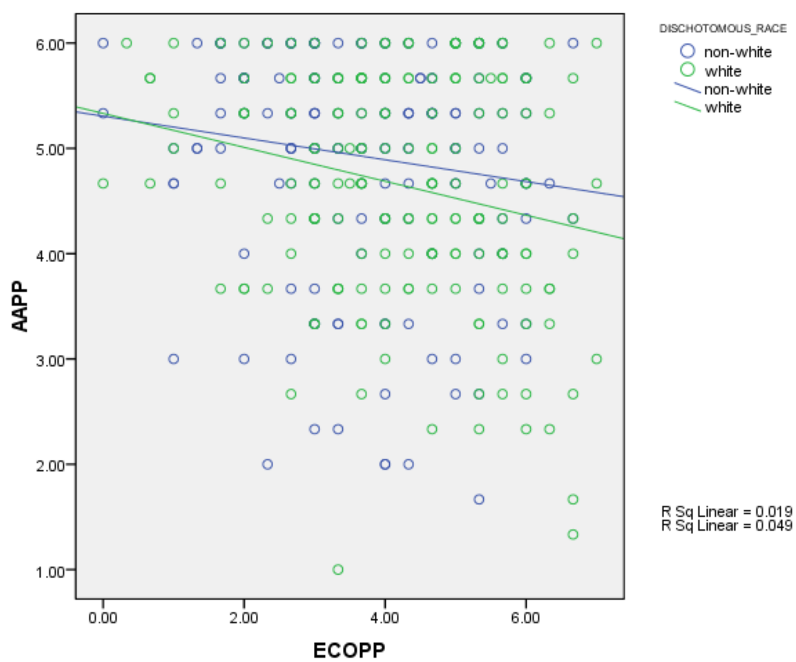


Figure 4.25: The Relationship between the Fairness value and AA, moderated by race

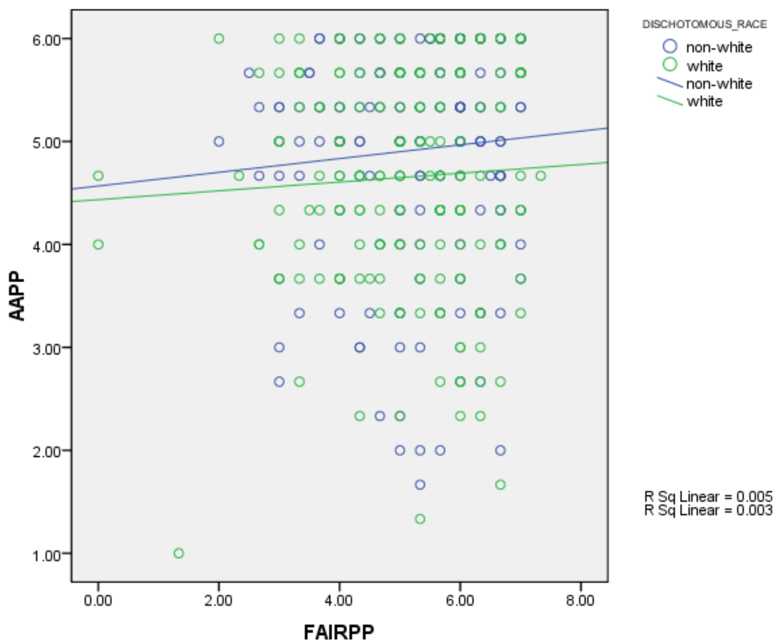


Figure 4.26: The Relationship between the Self-Direction value and AA, moderated by race

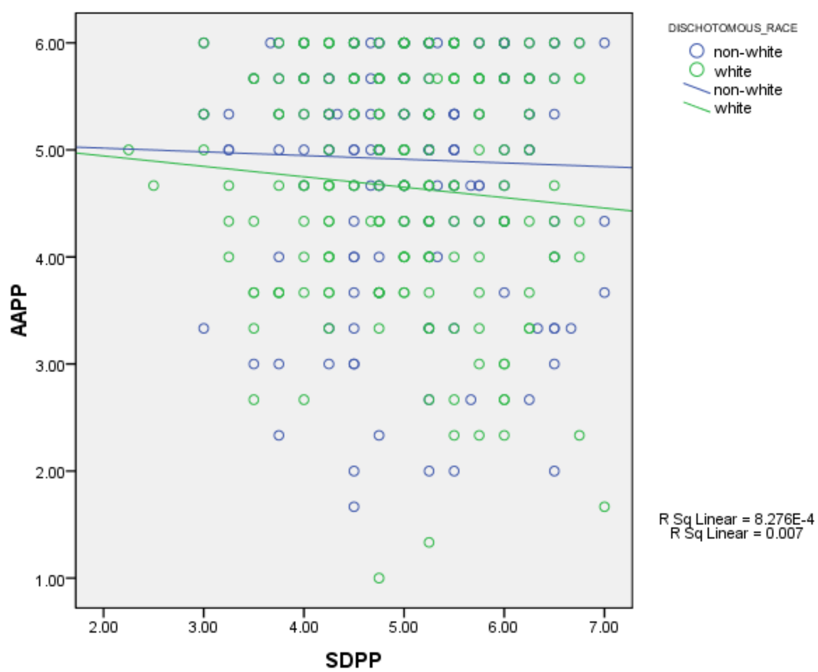


Figure 4.27: The Relationship between the Stimulation value and AA, moderated by race

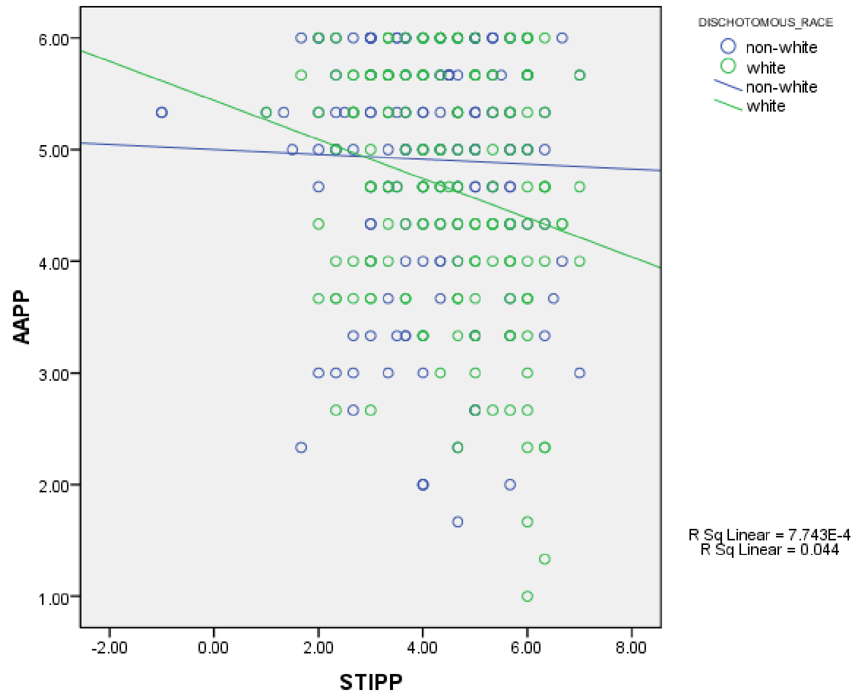


Figure 4.28: The Relationship between the Hedonism value and AA, moderated by race

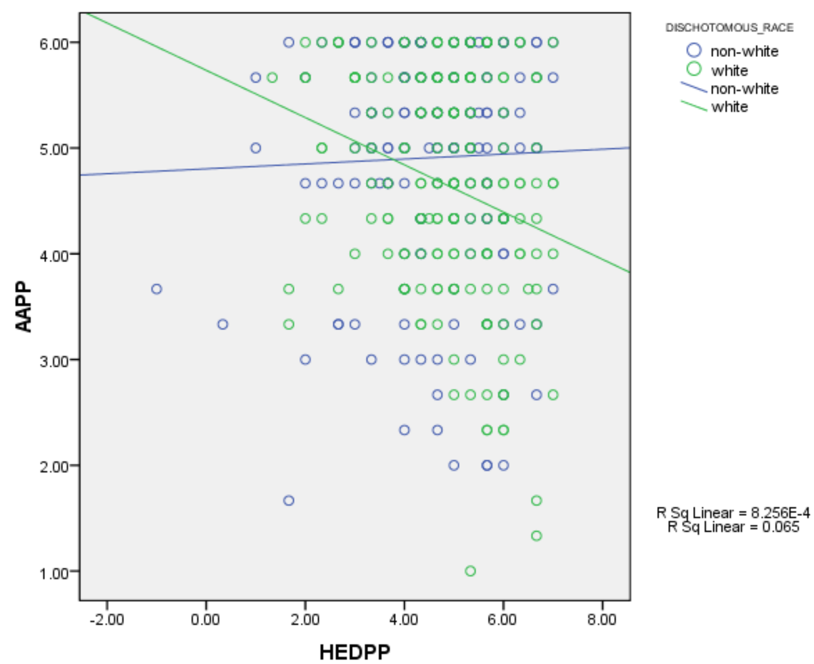


Figure 4.29: The Relationship between the Achievement value and AA, moderated by race

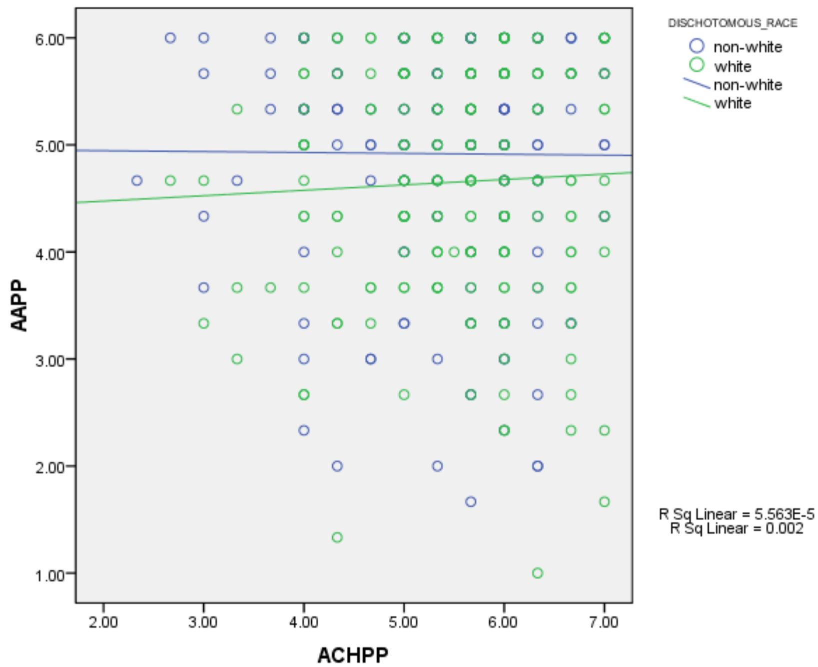
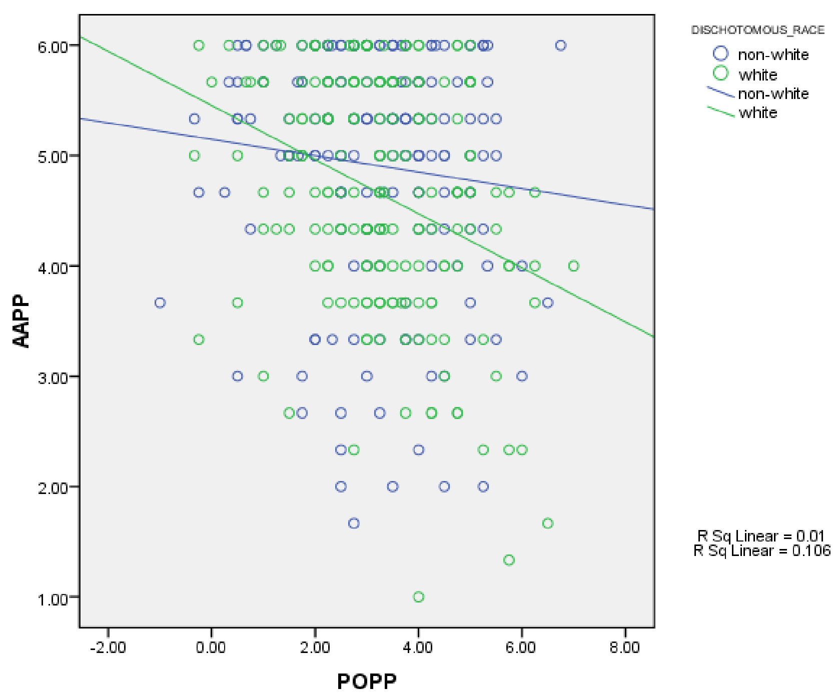


Figure 4.30: The Relationship between the Power value and AA, moderated by race



4.15.3 Graphical representation of the one-way interaction effect of race in moderating the relationship between specific values and the cultural diversity as a source of Competitive Advantage (CA) subscale

Figure 4.31: The Relationship between the Conformity value and CA, moderated by race

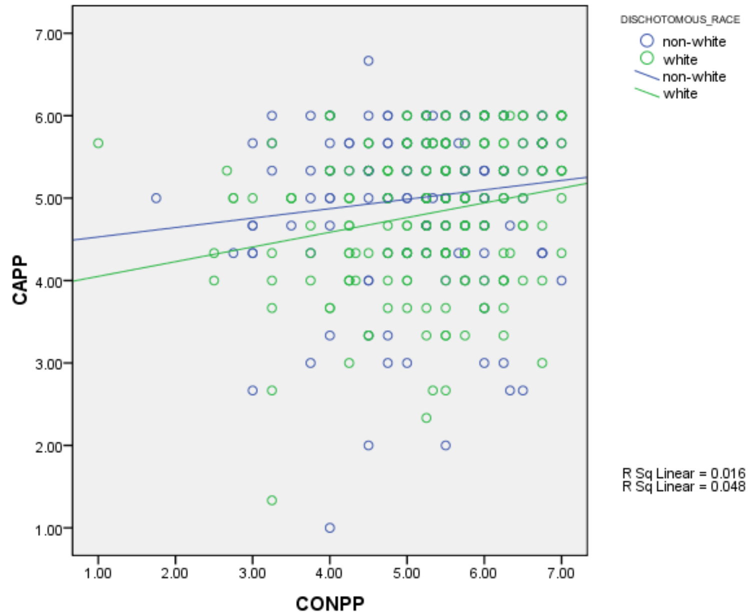


Figure 4.32: The Relationship between the Tradition value and CA, moderated by race

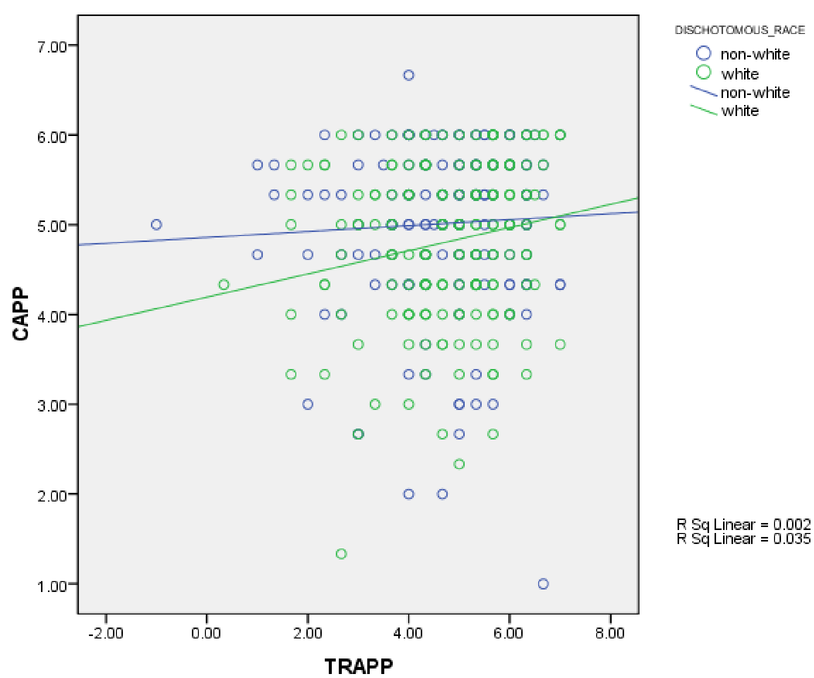


Figure 4.33: The Relationship between the Security value and CA, moderated by race

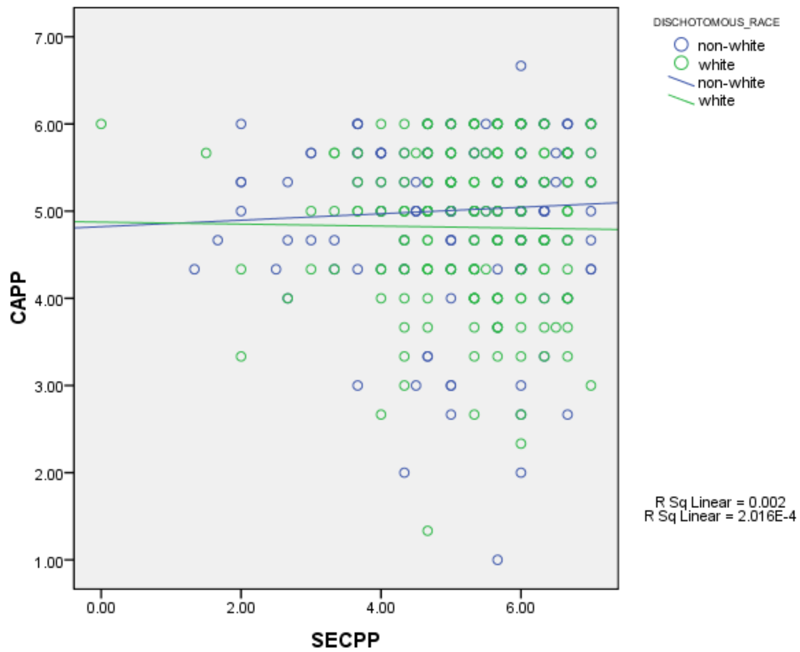


Figure 4.34: The Relationship between the Benevolence value and CA, moderated by race

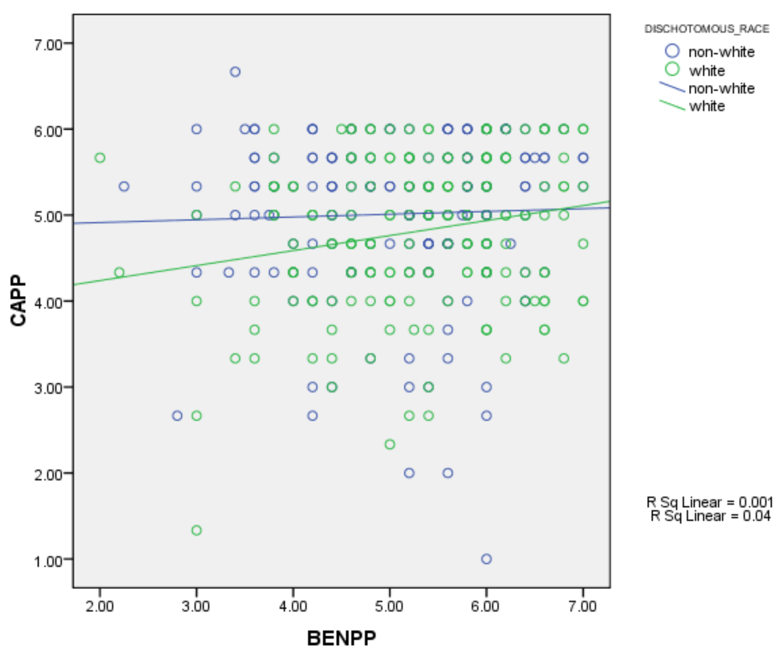


Figure 4.35: The Relationship between the Ecological Welfare value and CA, moderated by race

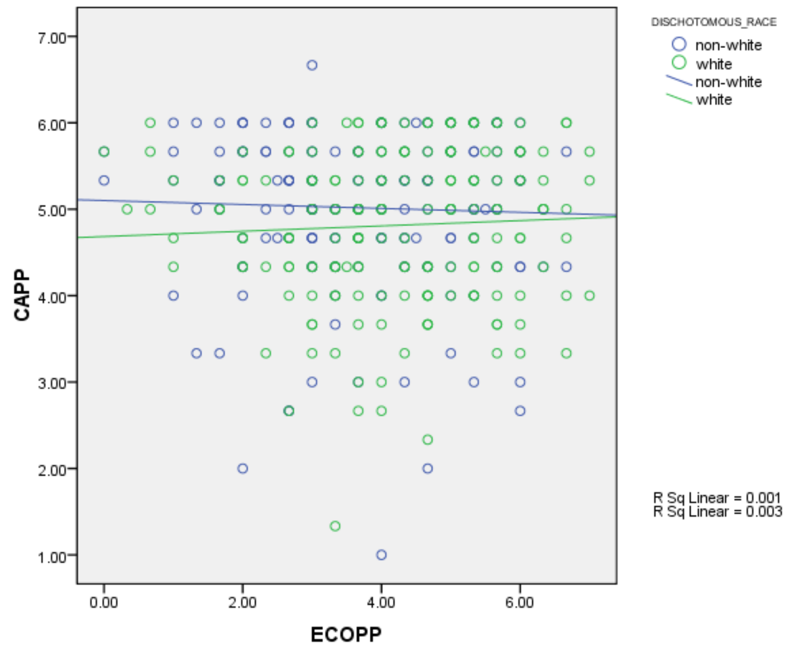


Figure 4.36: The Relationship between the Fairness value and CA, moderated by race

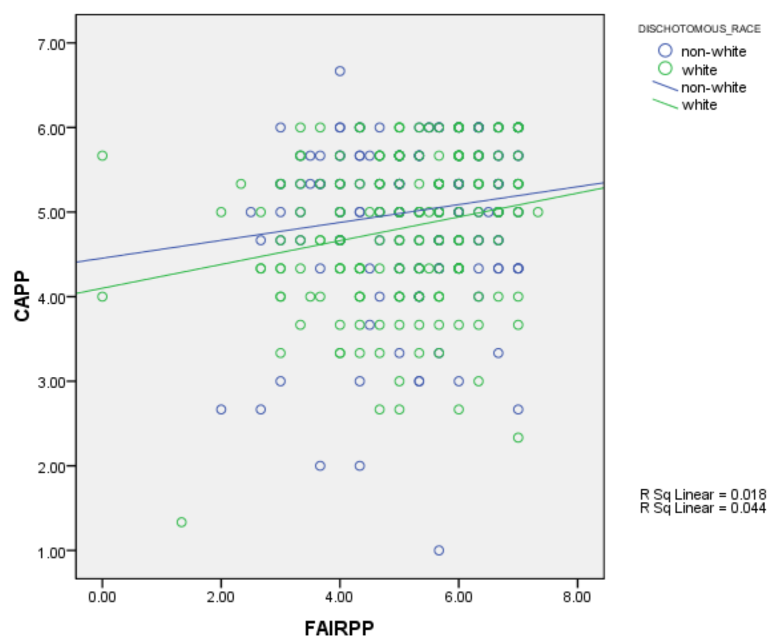


Figure 4.37: The Relationship between the Self-direction value and CA, moderated by race

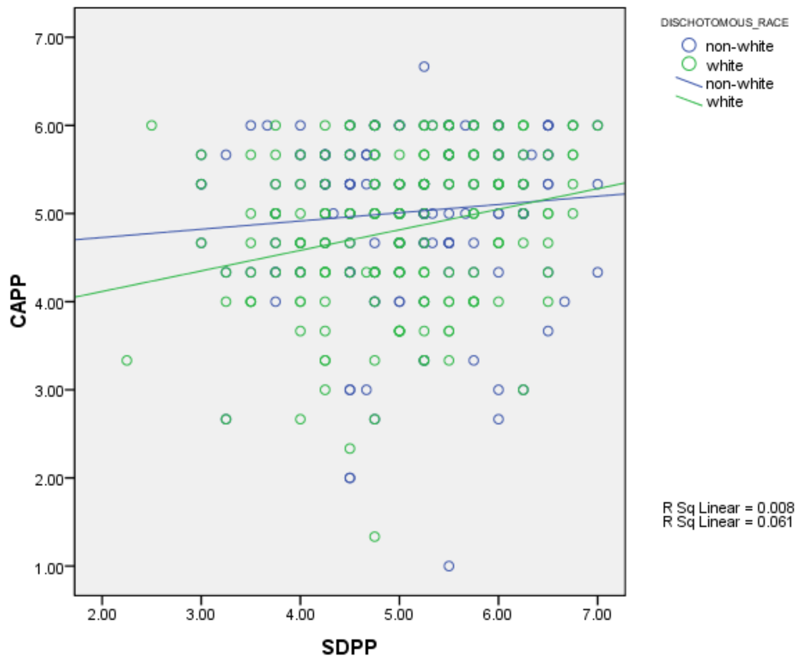


Figure 4.38: The Relationship between the Stimulation value and CA, moderated by race

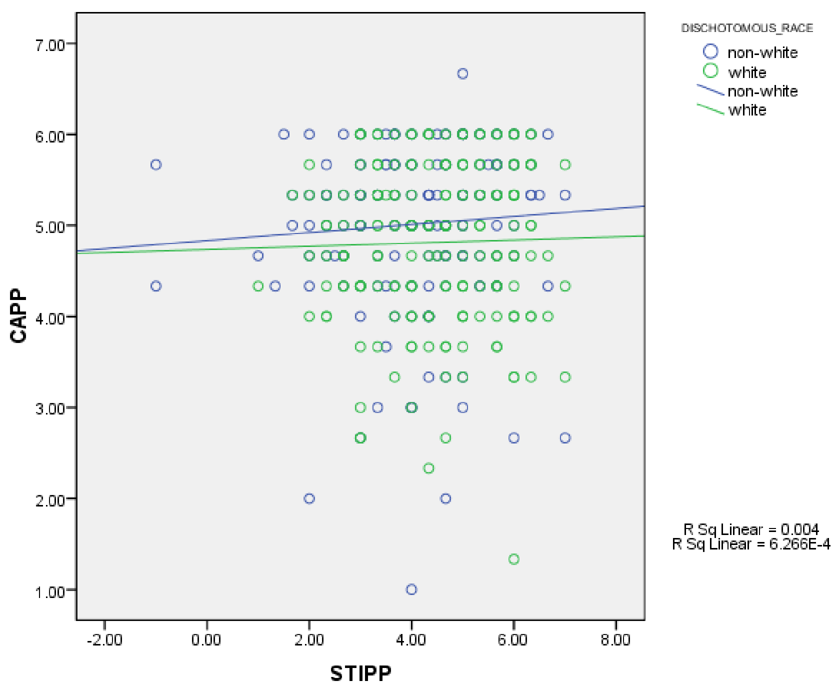


Figure 4.39: The Relationship between the Hedonism value and CA, moderated by race

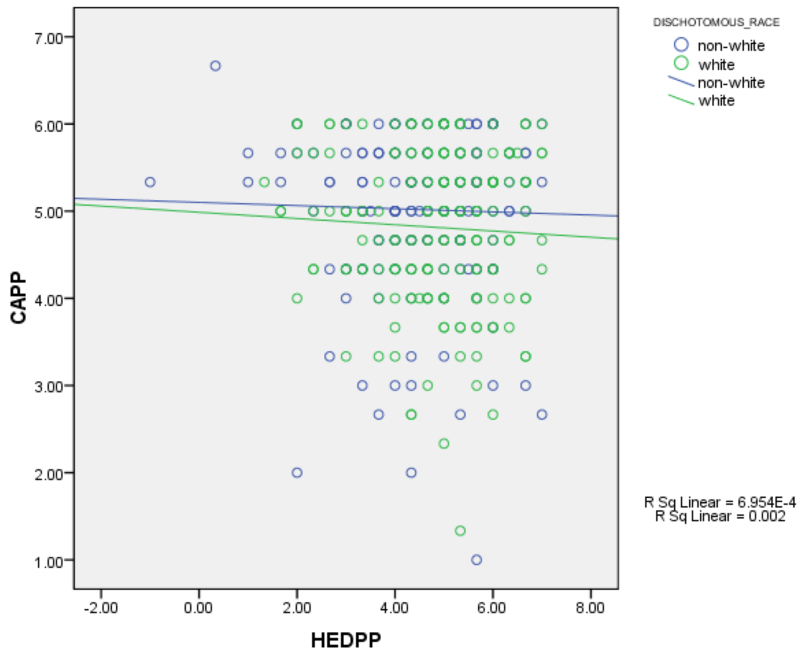


Figure 4.40: The Relationship between the Achievement value and CA, moderated by race

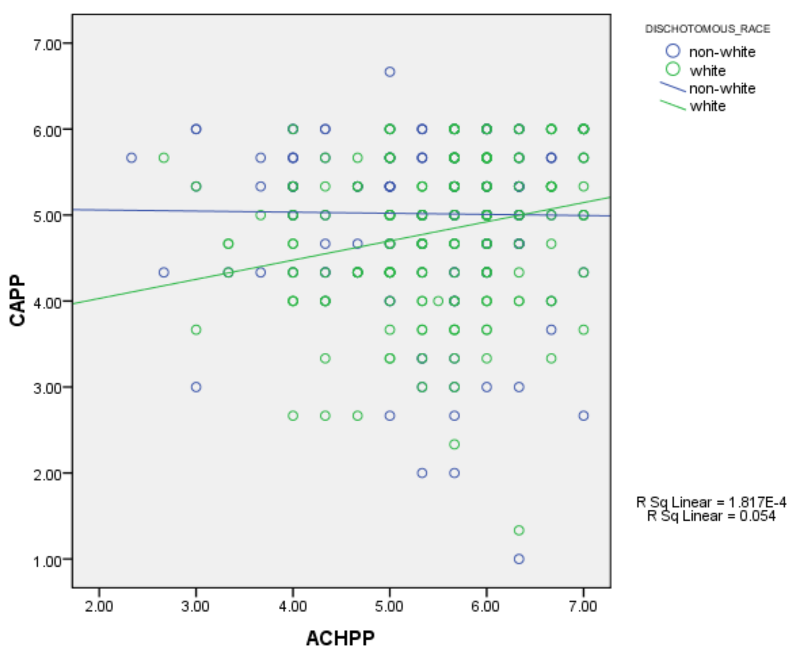
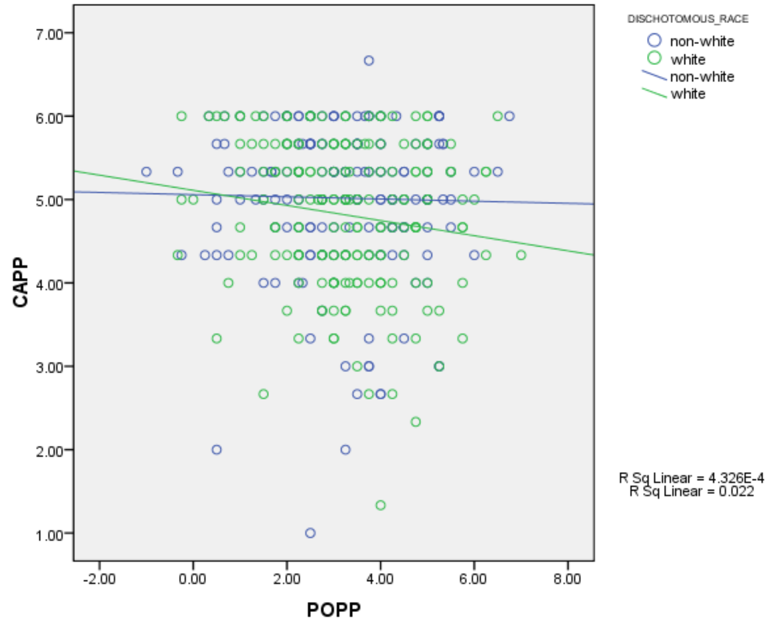


Figure 4.41: The Relationship between the Power value and CA, moderated by race



4.15.4 Graphical representation of the two-way interaction effect of race and gender in moderating the relationship between specific values and the Valuing Individual Differences (VID) subscale.

Figure 4.42: The Relationship between the Conformity value and VID, moderated by race and gender.

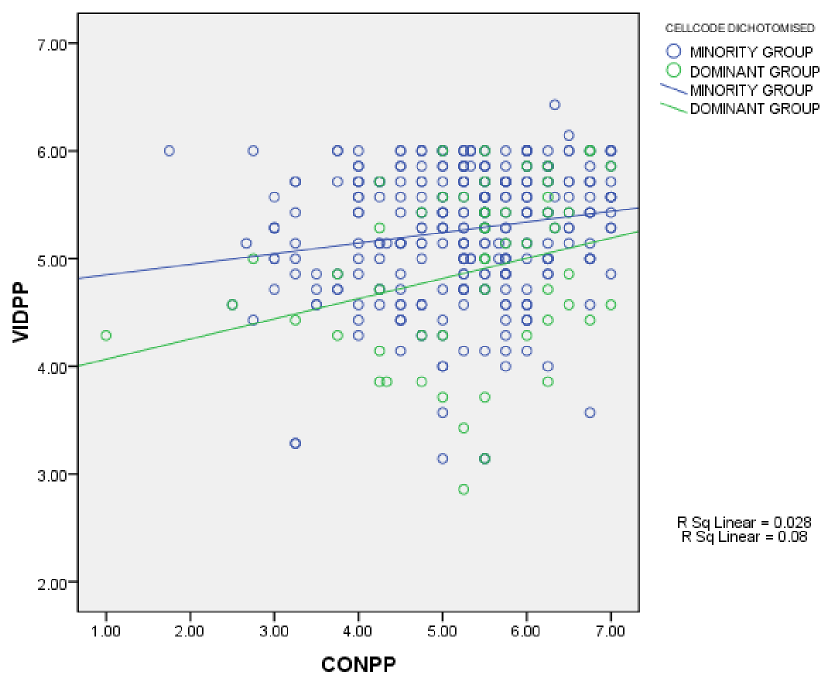


Figure 4.43: The Relationship between the Tradition value and VID, moderated by race and gender.

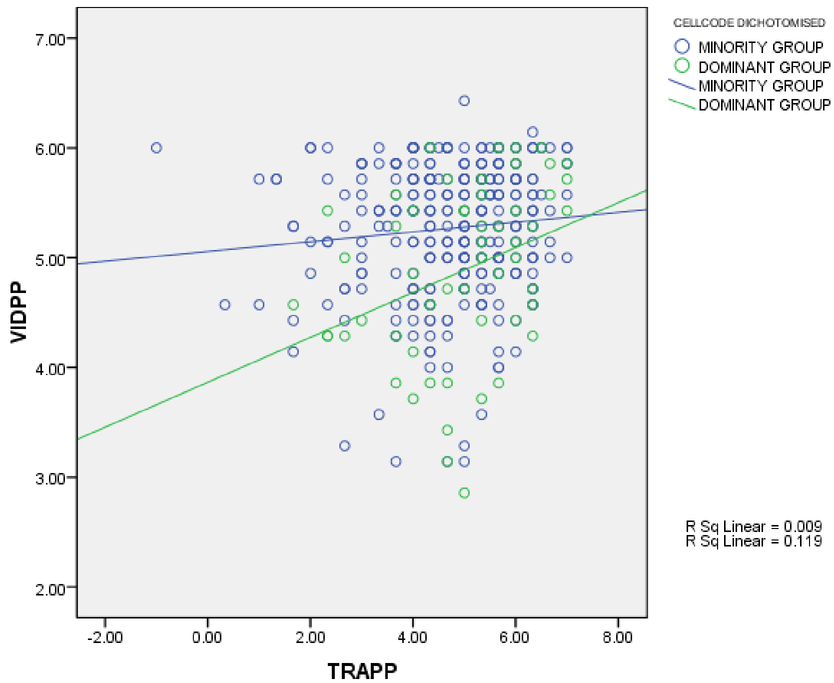


Figure 4.44: The Relationship between the Security value and VID, moderated by race and gender.

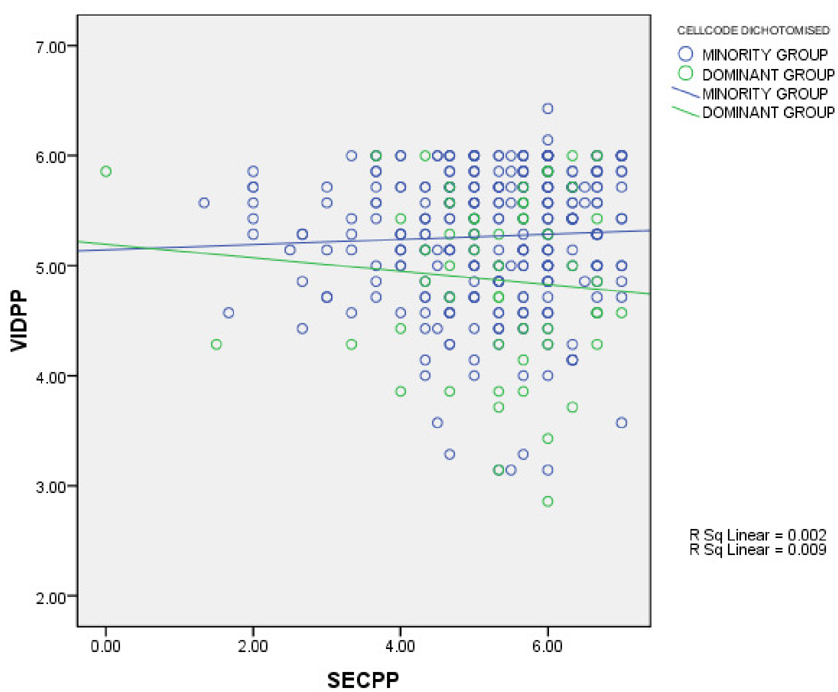


Figure 4.45: The Relationship between the Benevolence value and VID, moderated by race and gender.

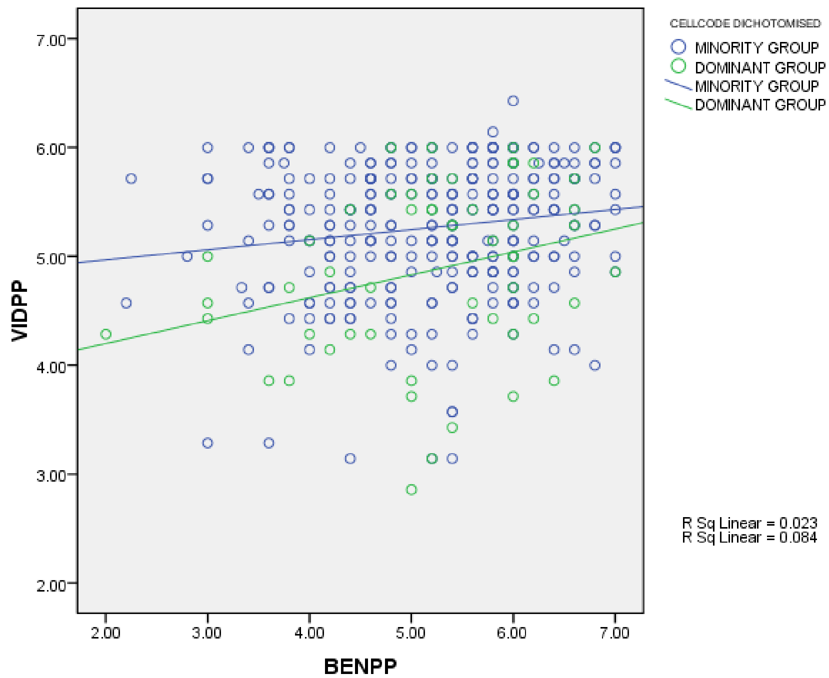


Figure 4.46: The Relationship between the Ecological Welfare value and VID, moderated by race and gender.

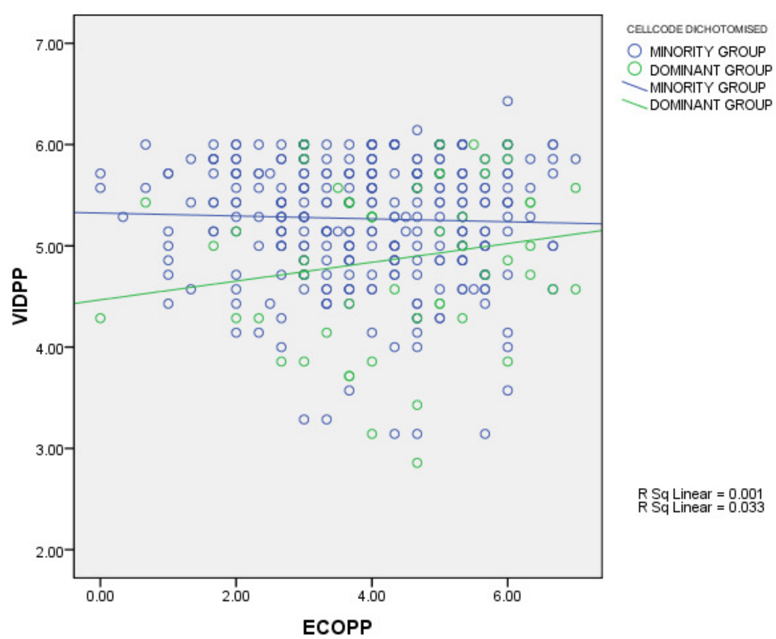


Figure 4.47: The Relationship between the Fairness value and VID, moderated by race and gender.

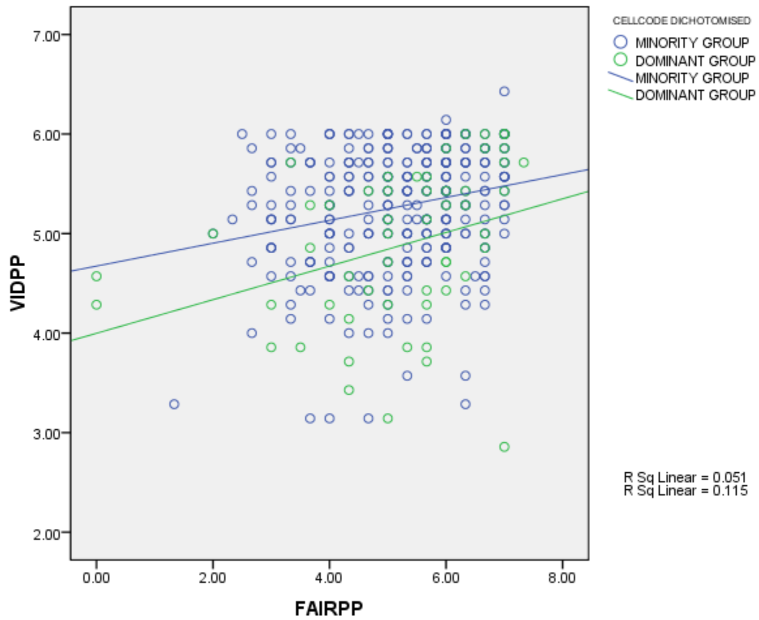


Figure 4.48: The Relationship between the Self-direction value and VID, moderated by race and gender.

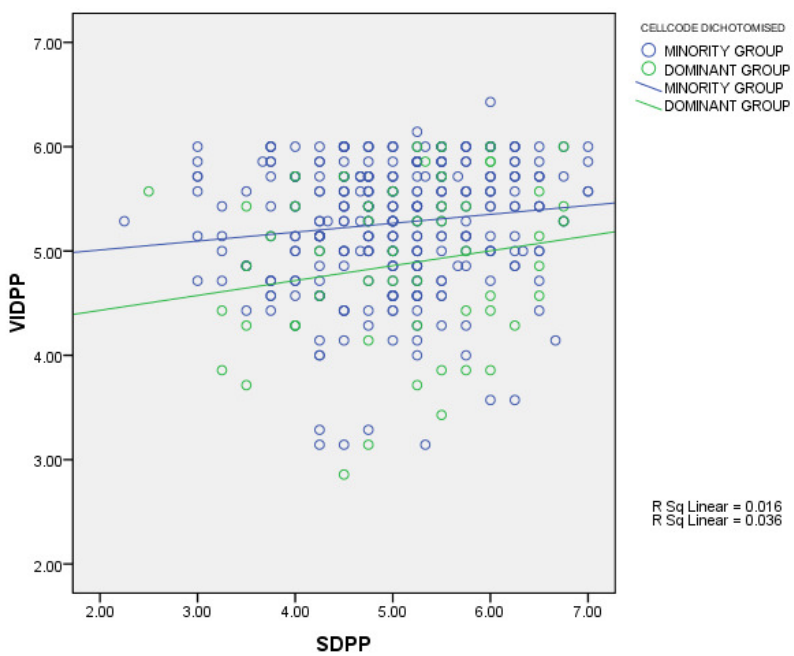


Figure 4.49: The Relationship between the Stimulation value and VID, moderated by race and gender.

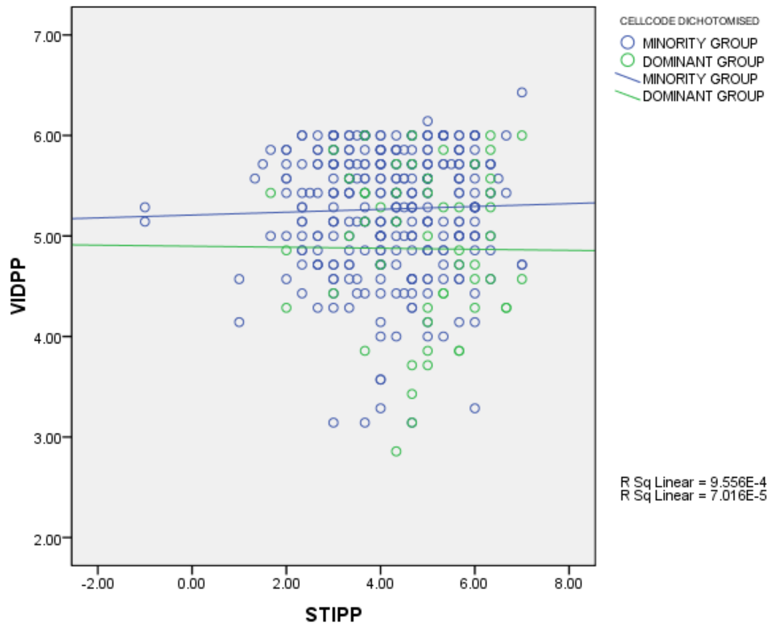


Figure 4.50: The Relationship between the Hedonism value and VID, moderated by race and gender.

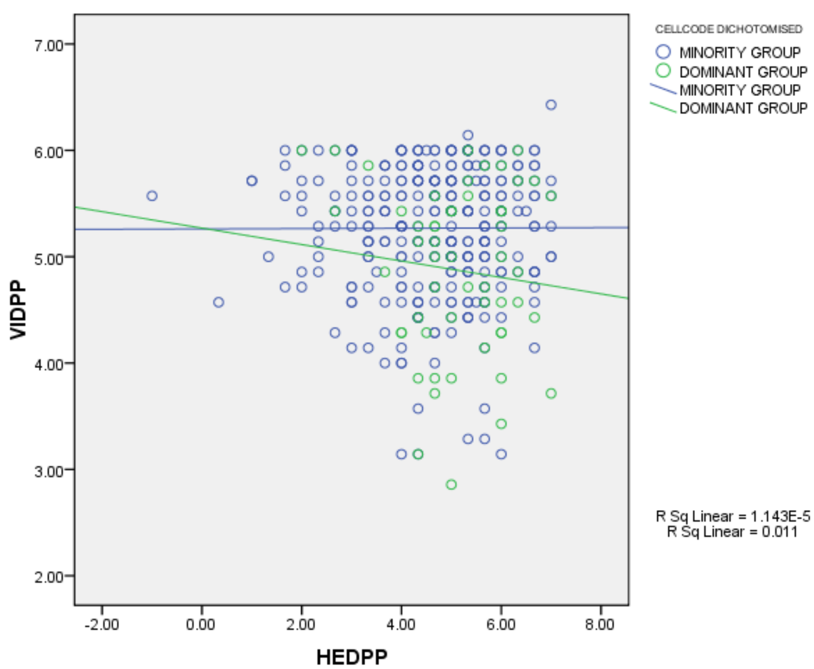


Figure 4.51: The Relationship between the Achievement value and VID, moderated by race and gender.

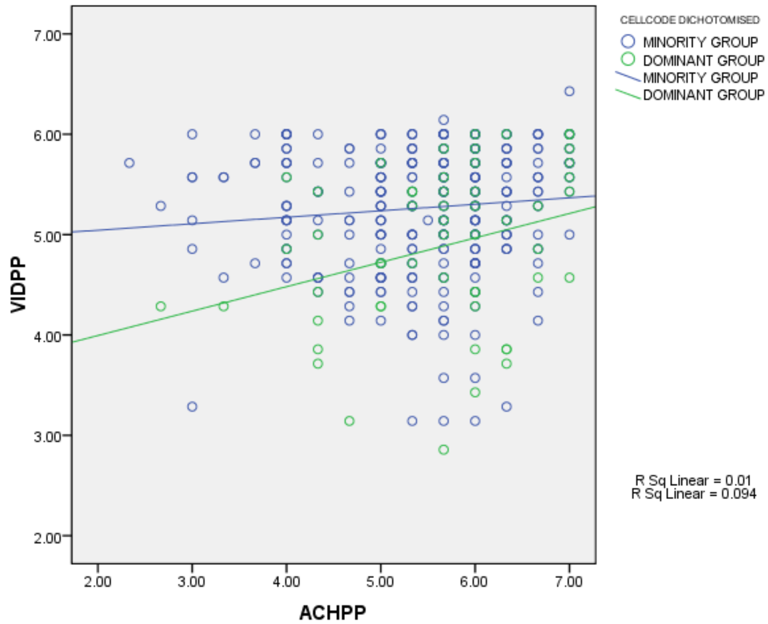
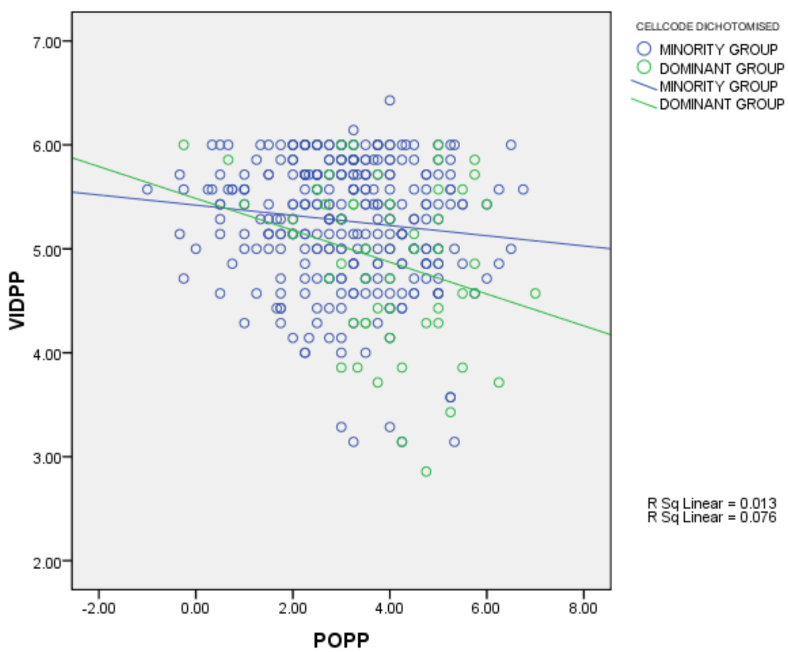


Figure 4.52: The Relationship between the Power value and VID, moderated by race and gender.



4.15.5 Graphical representation of the two-way interaction effect of race and gender in moderating the relationship between specific values and the tolerance for affirmative action (AA) subscale.

Figure 4.53: The Relationship between the Conformity value and AA, moderated by race and gender.

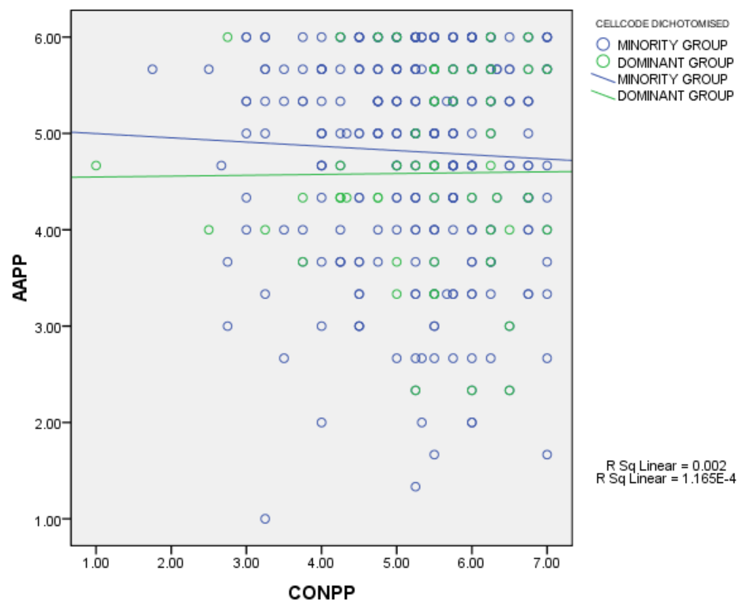


Figure 4.54: The Relationship between the Tradition value and AA, moderated by race and gender.

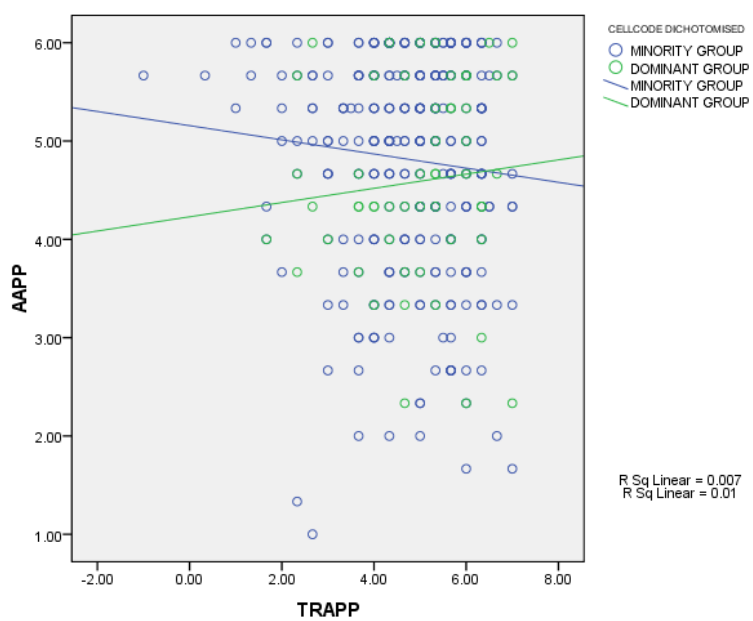


Figure 4.55: The Relationship between the Security value and AA, moderated by race and gender.

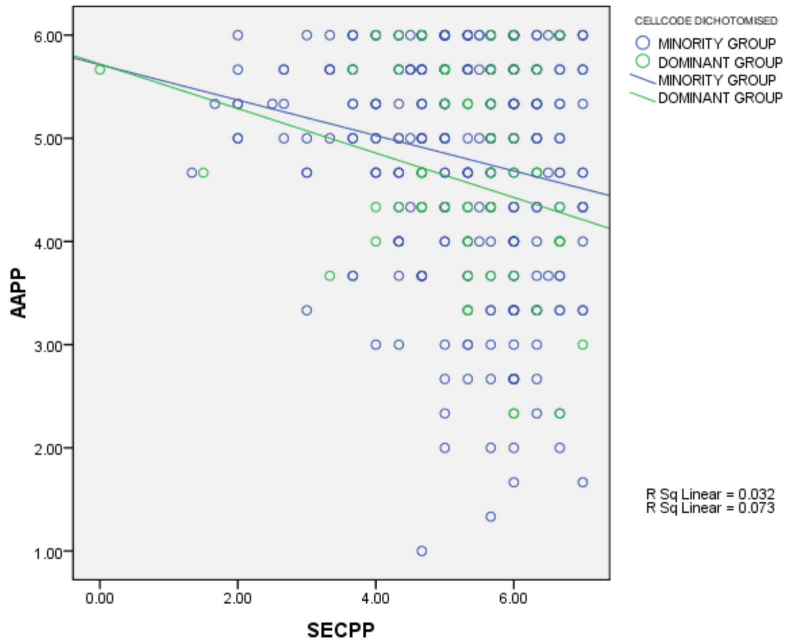


Figure 4.56: The Relationship between the Benevolence value and AA, moderated by race and gender.

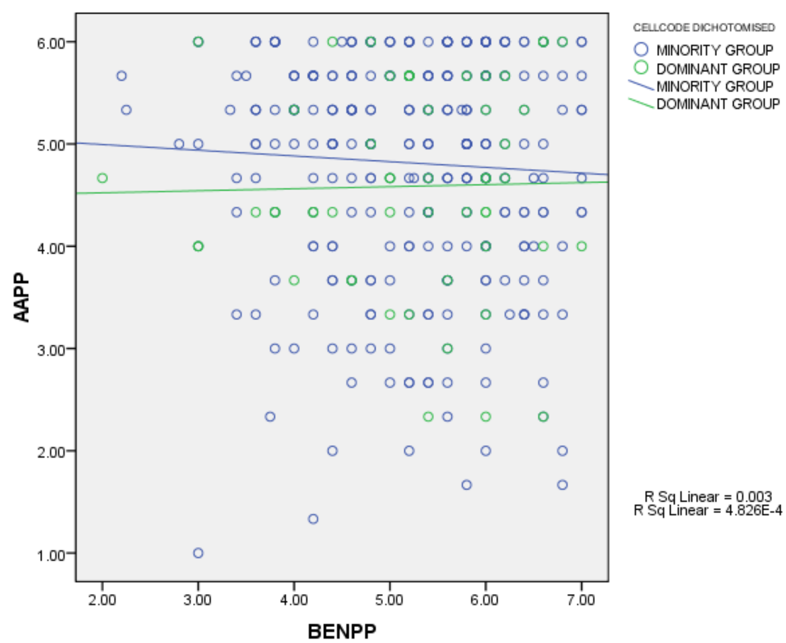


Figure 4.57: The Relationship between the Ecological Welfare value and AA, moderated by race and gender.

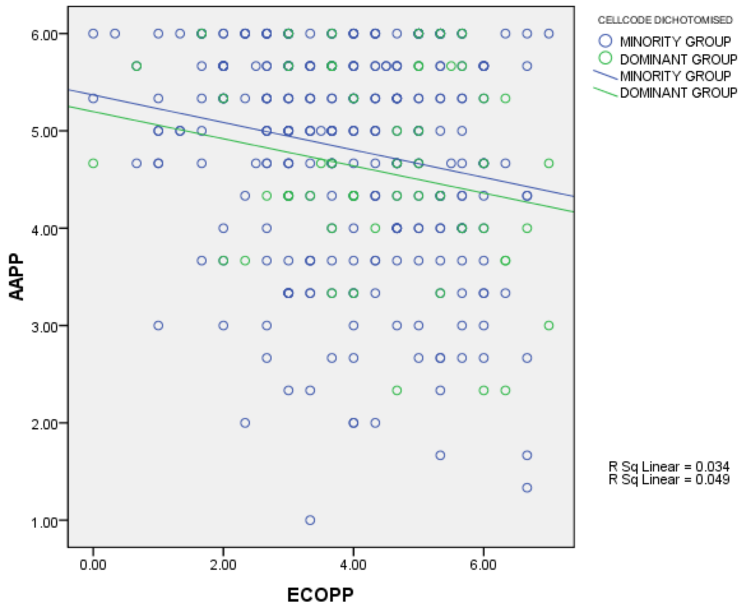


Figure 4.58: The Relationship between the Fairness value and AA, moderated by race and gender.

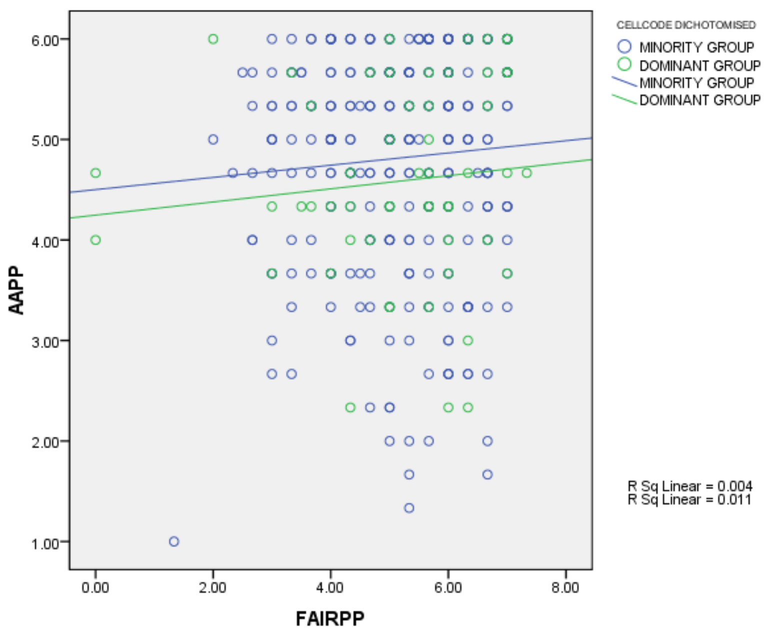


Figure 4.59: The Relationship between the Self-Direction value and AA, moderated by race and gender.

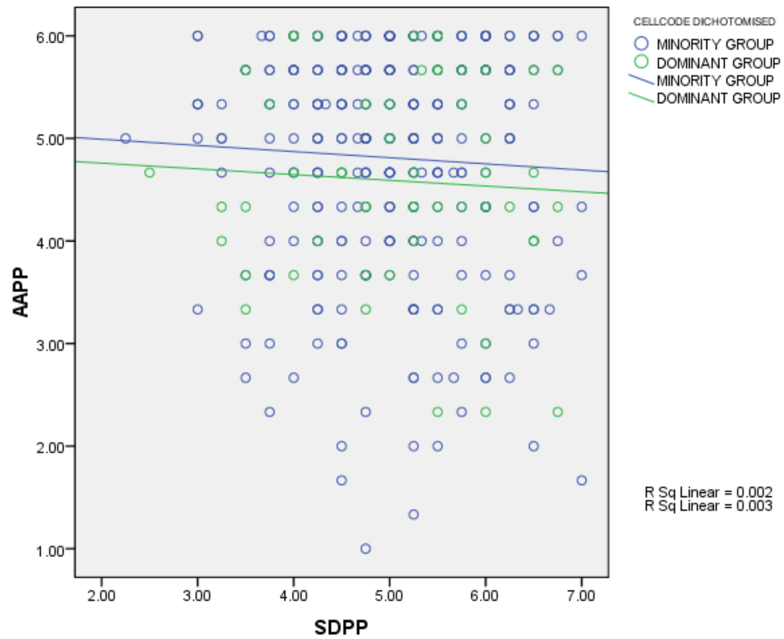


Figure 4.60: The Relationship between the Stimulation value and AA, moderated by race and gender.

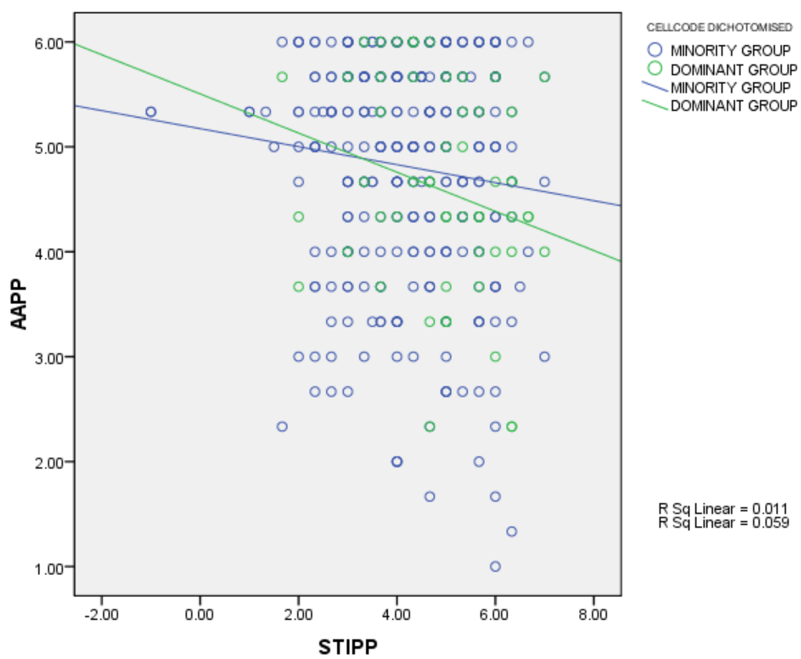


Figure 4.61: The Relationship between the Hedonism value and AA, moderated by race and gender.

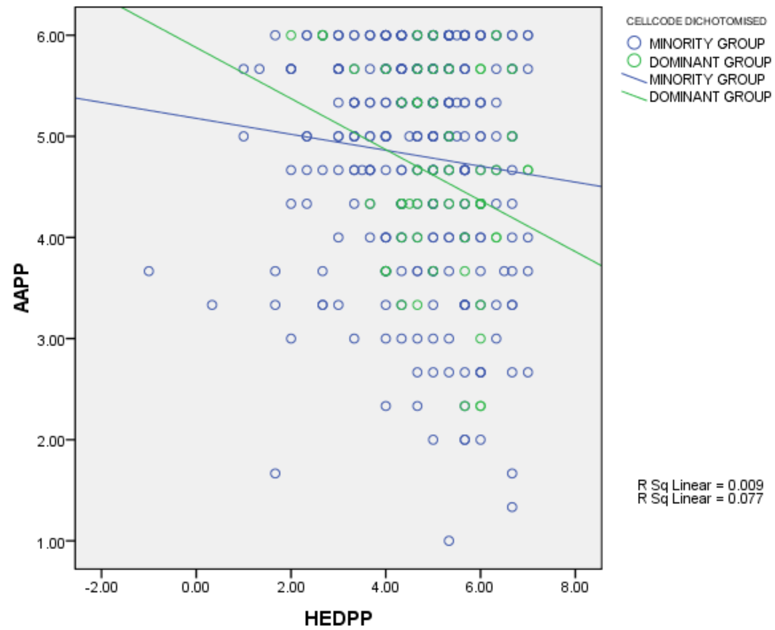


Figure 4.62: The Relationship between the Achievement value and AA, moderated by race and gender.

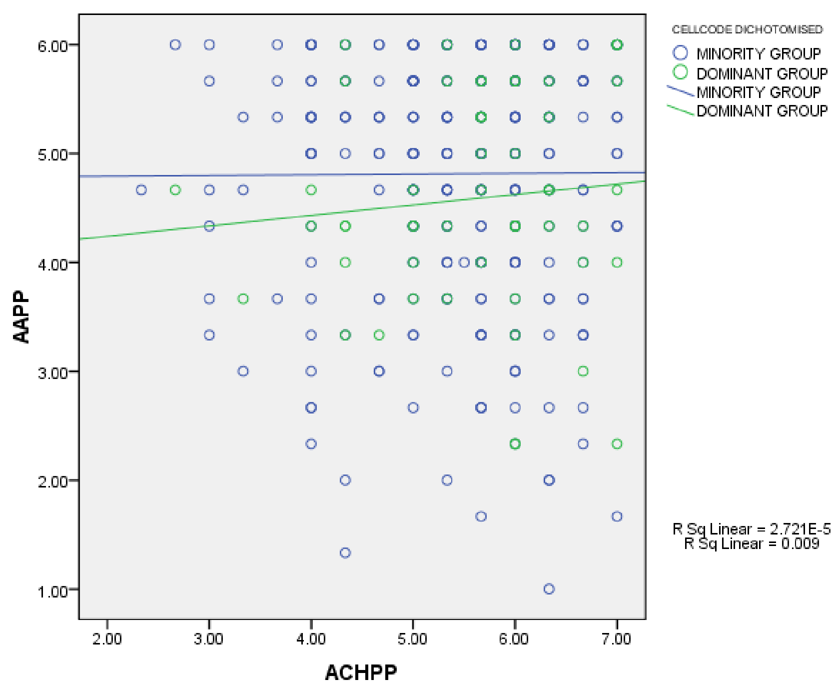
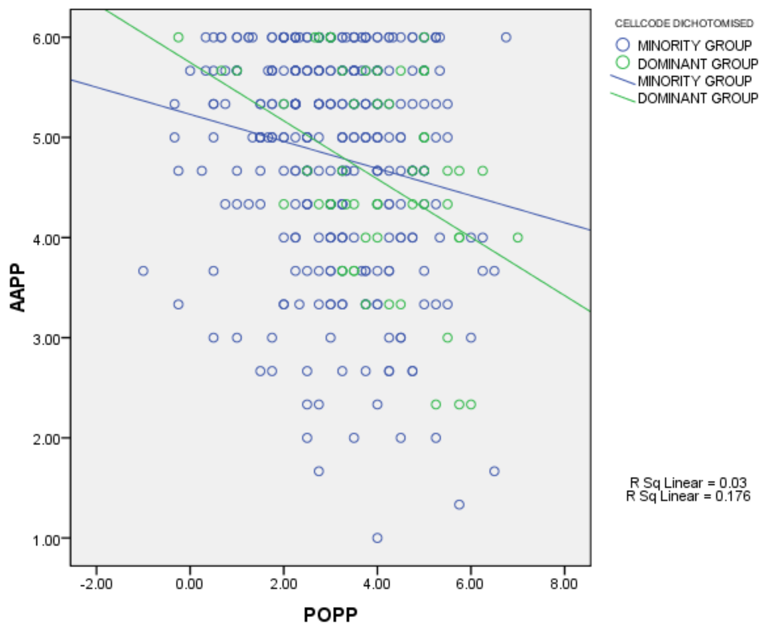


Figure 4.63: The Relationship between the Power value and AA, moderated by race and gender.



4.15.6 Graphical representation of the two-way interaction effect of race and gender in moderating the relationship between specific values and the cultural diversity as a source of Competitive Advantage (CA) subscale.

Figure 4.64: The Relationship between the Conformity value and CA, moderated by race and gender.

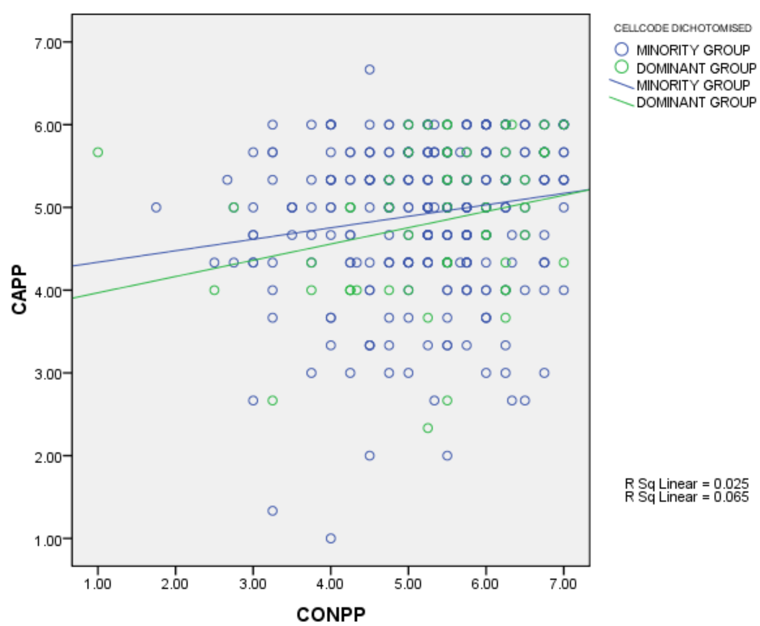


Figure 4.65: The Relationship between the Tradition value and CA, moderated by race and gender.

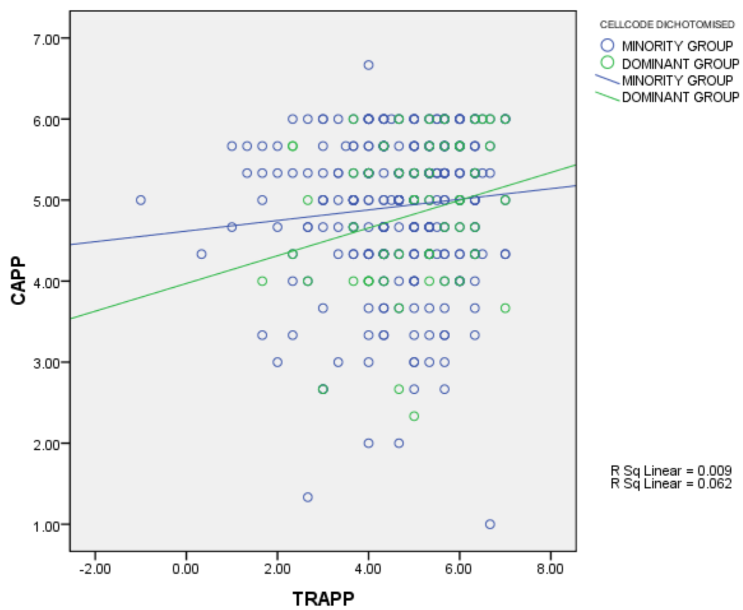


Figure 4.66: The Relationship between the Security value and CA, moderated by race and gender.

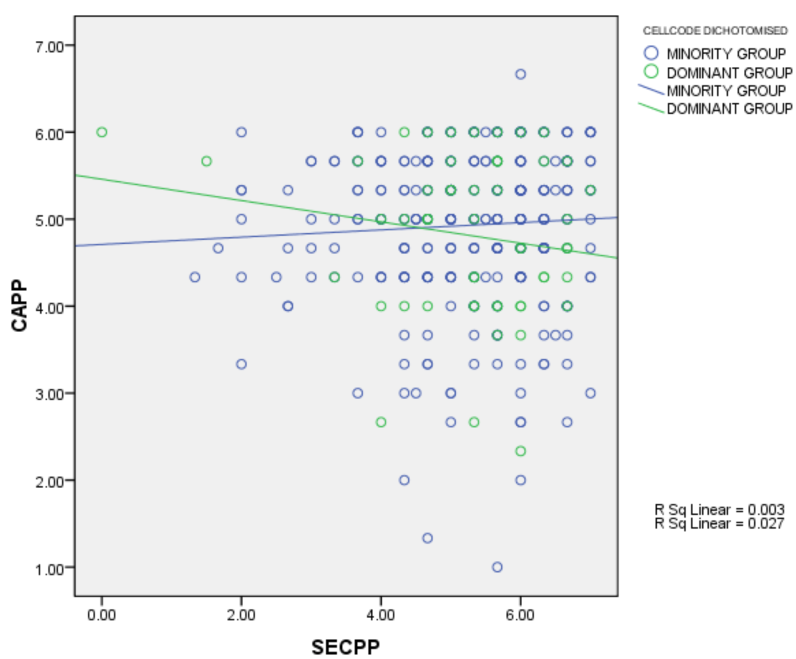


Figure 4.67: The Relationship between the Benevolence value and CA, moderated by race and gender.

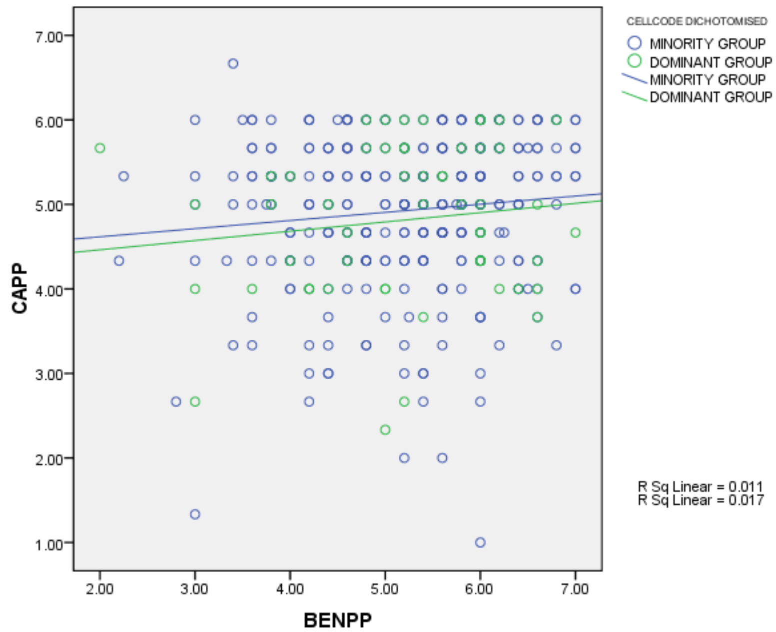


Figure 4.68: The Relationship between the Ecological Welfare value and CA, moderated by race and gender.

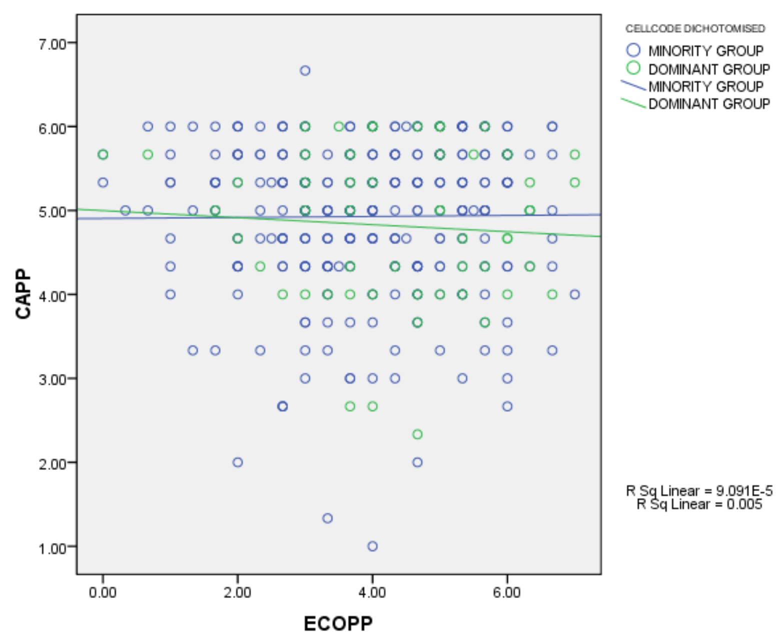


Figure 4.69: The Relationship between the Fairness value and CA, moderated by race and gender.

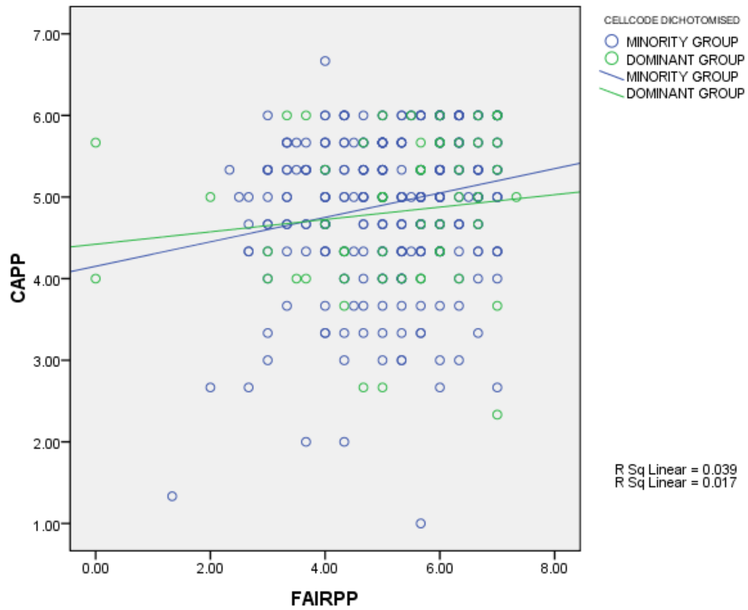


Figure 4.70: The Relationship between the Self-direction value and CA, moderated by race and gender.

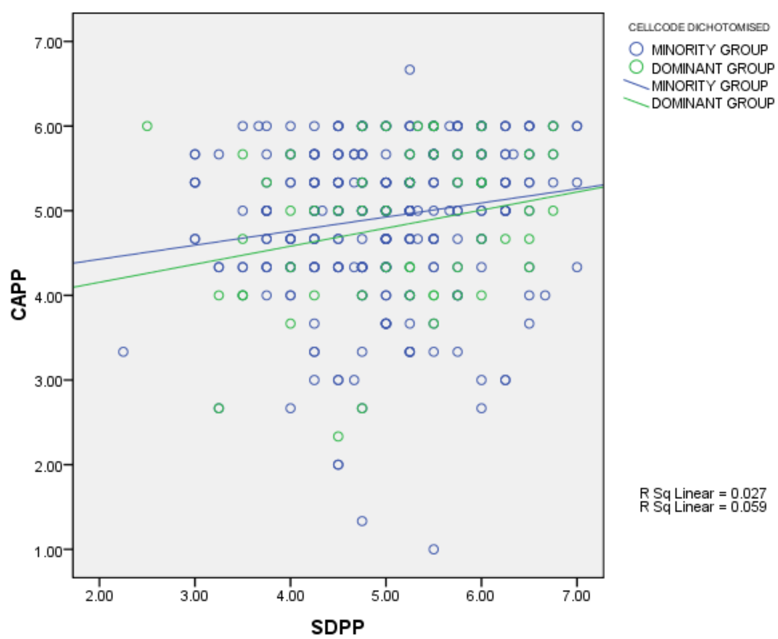


Figure 4.71: The Relationship between the Stimulation value and CA, moderated by race and gender.

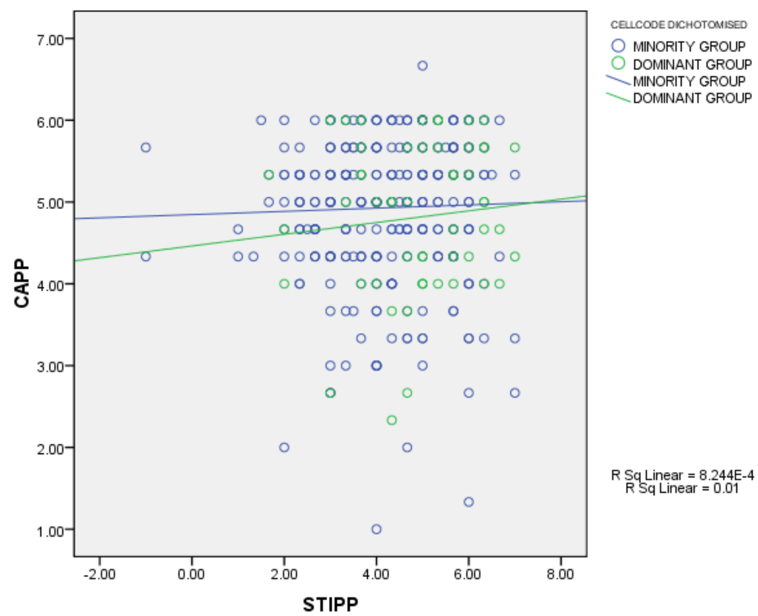
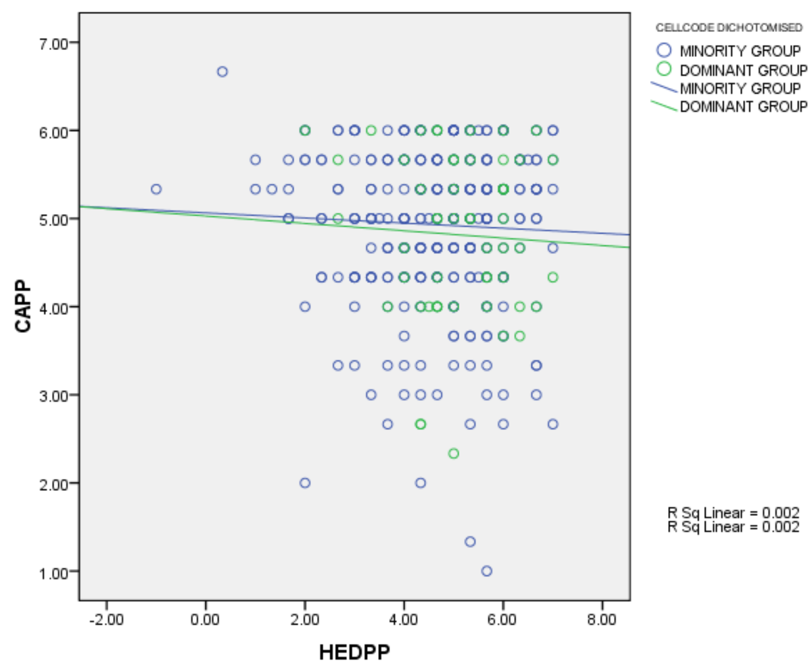


Figure 4.72: The Relationship between the Hedonism value and CA, moderated by race and gender.



bFigure 4.73: The Relationship between the Achievement value and CA, moderated by race and gender.

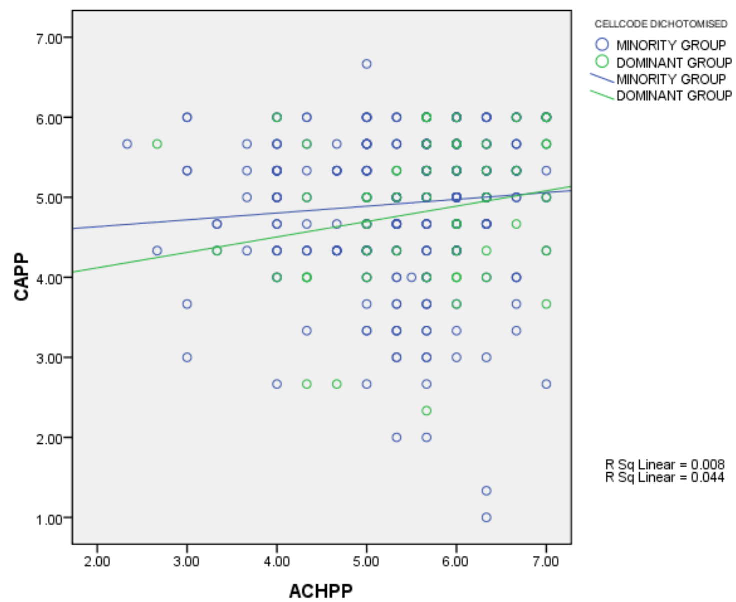
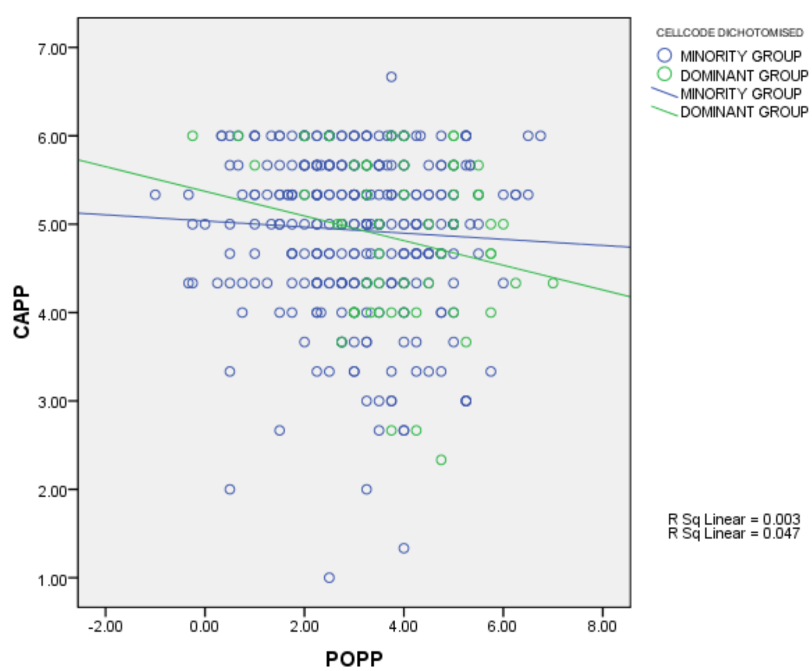


Figure 4.74: The Relationship between the Power value and CA, moderated by race and gender.



APPENDIX D

Item number	Item description (Original)	Item description (Adapted)
AA3	Organizations that value diversity are as committed to *white male* employees as they are to minority employees.	Organizations that value diversity are as committed to *black male* employees as they are to minority employees.
AA4R	Valuing diversity is just another name for *filling quotas.*	Valuing diversity is just another name for meeting employment *equity targets.*