THE PERCEPTION OF CAREER BARRIERS AMONG SOUTH AFRICAN UNIVERSITY STUDENTS

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DECLARATION

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ABSTRACT

It has become evident over the past several years that there are a substantial number and a variety of career-related barriers that individuals perceive and experience in the workplace and that consequently interfere with their career development. Up to date, a vast amount of studies have investigated and reported on this topic world wide, yet little research has been gathered regarding the career-related barriers that South African citizens, especially students from higher educational institutions, perceive or experience. The aim and purpose of this quantitative research study was therefore to explore the diverse barrier perceptions and experiences of South African university students by means of determining the degree to which a range of internal and external barriers would hinder or has hindered their career development and whether these barriers (a) vary by gender, (b) vary by race/ethnicity and (c) vary by course level or academic year of study. In order to meet the study objectives and answer the three primary research hypotheses (a, b and c), respondents were invited via electronic mail to participate in a once-off online survey which consisted of a demographic questionnaire and the Career Barriers Inventory-Revised (CBI-R) (Swanson, Daniels, & Tokar, 1996).

The results of the three primary research hypotheses indicated that the nature or type of career-related barriers perceived and experienced by the sample of South African university students (N = 1897) differed significantly among gender, racial-ethnic groups and course level or academic year of study. Significant gender differences were found on all 13 CBI-R scales, racial-ethnic differences on 9 of the 13 CBI-R scales (both assessed by means of a one-way independent ANOVA) and course level or academic year of study differences on 3 of the 13 CBI-R scales (measured by Spearman's correlation coefficient). The present research study therefore revealed descriptive and exploratory baseline data regarding the perceived career barriers among South African university students and clearly demonstrated the CBI-R's validity and applicability in the South African student context. Awareness of these students' barrier perceptions can be a useful tool in planning and developing future intervention strategies for coping with and overcoming obstacles to their career progress.

OPSOMMING

Oor die afgelope paar jaar het dit aan die lig gekom dat daar ‘n groot aantal en ‘n verskeidenheid loopbaanverwante hindernisse is wat individue waarneem en ondervind in die werksplek en wat gevolglik inmeng met hul loopbaanontwikkeling. Tot op hede is daar ‘n groot aantal studies wat hierdie onderwerp wêreldwyd ondersoek en daaroor berig het, tog is daar slegs ‘n klein hoeveelheid navorsing gedoen met betrekking tot die loopbaanverwante hindernisse wat Suid-Afrikaanse burgers, veral studente in hoëronderwys opvoedkundige instellings, waarneem en ondervind. Die doel en voorneme van hierdie kwantitatiewe navorsingstudie was gevolglik om die diverse hindernispersepsies en -ervarings van Suid-Afrikaanse universiteitstudente te bestudeer deur die graad te bepaal waartoe ‘n verskeidenheid interne en eksterne hindernisse hul loopbaanontwikkeling sal bemoeilik (of reeds het) en of hierdie hindernisse (a) verskil van geslag, (b) verskil van ras/etnisiteit en (c) verskil van kursusvlak of akademiese jaar van studie. Om aan die doel van hierdie studie te voldoen en die drie primêre navorsingshipoteses (a, b en c) te beantwoord, is respondente deur middel van elektroniese pos uitgenooi om aan ‘n eenmalige aanlyn-opname deel te neem wat die voltooing van ‘n demografiese vraelys en die Career Barriers Inventory-Revised (CBI-R) (Swanson, Daniels, & Tokar, 1996) behels het.

Die resultate van die drie primêre navorsingshipoteses het aangedui dat die aard of tipe loopbaanverwante hindernisse wat deur die steekproef Suid-Afrikaanse studente (*N* = 1897) waargeneem en ondervind word, beduidend verskil ten op sigte van geslag, ras/etniese groep en kursusvlak of akademiese jaar van studie. Beduidende geslagsverskille is gevind op al 13 CBI-R skale, ras/etniese verskille op 9 van die 13 CBI-R skale (albei geassesseer deur middel van ‘n eenrigting onafhanklike ANOVA) en kursusvlak of akademiese jaar van studie verskille op 3 van die 13 CBI-R skale (gemeet deur Spearman se korrelasie koëffisiënt). Die huidige navorsingstudie het dus beskrywende en ondersoekende grondslag-data aangaande die waargenome loopbaanhindernisse van Suid Afrikaanse studente onthul en het duidelik die CBI-R se geldigheid en toepaslikheid in die Suid-Afrikaanse studente-konteks gedemonstreer.

Bewustheid van hierdie studente se hindernispersepsies kan ‘n nuttige maatstaf wees in die beplanning en ontwikkeling van toekomstige intervensiestrategieë vir die hantering en oorwinning van struikelblokke tot hul loopbaanvordering.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE

INTRODUCTION

1.1 Background and Context

It is generally known that in contemporary society choosing a career is a very important and daunting decision young people are expected to make. Selecting a career is seen as a defining milestone in the life of the adolescent or young adult which they have to approach with great clarity (Lee, Yu, & Lee, 2008). Past research has indicated that a person's career choice is a complex process initially based on career-related interests. There are, however, other internal and external factors such as the likelihood of succeeding that also play a role in the selection process (Lent, Brown, & Hackett, 1994). Crucial in this process are the specific contextual circumstances surrounding the individual and his/her evaluation of the current and anticipated resources and obstacles at hand. The individual's assessment of the amount and type of facilitative and limiting factors influencing performance outcomes, especially negative factors constituting barriers to success, are therefore not to be taken lightly.

Over the past several years it has become evident that there are a substantial number and a variety of barriers that people perceive and experience in the work environment. The awareness of these so-called perceived career-related barriers can consequently hinder the career development of these individuals. Until present, a significant amount of international research has been conducted on this topic, especially among the US population (Russell, 2001), however little is known about the career-related barriers that South African citizens perceive and experience (Stead, Els, & Fouad, 2004).

Moreover, with South Africa's history of discrimination, a large proportion of the population was prevented from accessing the workforce prior to 1994. The socio-political and socio-economic developments in South Africa subsequent to 1994, however, clearly continue to have an important influence in shaping young people's perception of the

presence of career-related barriers, hence interfering with their career choice processes (Stead et al., 2004). According to Stead (1996), the current unstable socio-political and socio-economic climate in and outside of South Africa creates a continually changing work environment that further complicates and intensifies the decision-making difficulties for young people during this period of transition in our country.

As the unemployment crisis of college and university graduates world wide (especially in South Africa) have become more salient, it is important to examine the career-related barriers they perceive and experience in order to better understand their own personal role or contribution to their career development (Lee et al., 2008). It is also essential that college and university career counselling centres pay increasing attention to providing comprehensive counselling services to students coming from economically disadvantaged backgrounds and effectively address the vocational needs of ethnically diverse student populations. Taylor and Rust (cited in Henry, 2006) believe that success for students from different racial-ethnic backgrounds can be cultivated through "a supportive learning environment, teaching that is successful with all learning styles and valuing students' diverse identities" (p. 13).

The number and type of barriers that a person perceives can thus negatively interfere with and limit his/her career choice and career development process. In other words, perceptions of career-related barriers can be viewed as factors that erode individuals' self-confidence and complicate the career planning process (Luzzo, 1996). Career plans may be adjusted if a person anticipates the likelihood of experiencing certain barriers or if they feel incapable of overcoming those barriers if it should occur (Swanson, Daniels, & Tokar, 1996). Yet, the perception of career-related barriers does not necessarily have to be a negative experience; some individuals may even view barriers as a challenging rather than a defeating notion (Creed, Patton, & Bartrum, 2004).

Lent et al.'s (1994) Social Cognitive Career Theory (SCCT) provides a particularly useful theoretical framework for increasing understanding of the role that perceived barriers play in the career development process. SCCT, which is discussed more in depth

in the literature review (Chapter 2), offers a structural outline for explaining the interconnectedness or reciprocal interaction effect that personal, behavioural and environmental/contextual variables have on individuals' vocational interests, decision-making behaviour and performance outcomes (Lent et al., 1994). In addition to these dynamic variables, fixed factors such as demographic characteristics can also serve as important determinants in the perception or experience of career barriers. The present research study therefore focuses on exploring whether differences exist between the perceived influences of internal and external barriers on South African university students' career progress, specifically with regard to gender, race/ethnicity and course level or academic year of study.

1.2 Definition of Terms

Research has recently verified the claim that high school learners and students from higher educational institutions perceive a significant amount and a diverse range of career-related barriers (Stead et al., 2004). Much of the recent focus on the role of barriers in the career decision-making process has been on *perceived* barriers specifically (Albert & Luzzo, 1999). *Perceived* in this case refers to "career-related barriers that the individual believes currently exist or that may be encountered in the future, although these perceptions are not necessarily grounded in reality or based on factual information" (Albert & Luzzo, 1999, p. 431).

Critique had been raised in the past with regard to the conceptual definition and temporal dimension of perceived barriers. In other words, it was recommended that an emphasis needed to be placed on clarifying the sequential spectrum that perceived barriers cover. Most research conductors and the majority of techniques used to assess career barriers have only adopted a future temporal perspective with regard to measuring perceived barriers (Fabian, Beveridge, & Ethridge, 2009). This is in agreement with what Swanson and Tokar (1991a) maintained in their development of the Career Barriers Inventory and throughout its revisions, where individuals are asked to rate the extent to which certain

factors *would* hinder their career development if it did indeed occur (Fabian et al., 2009). The underlying principle of this standpoint is that even those barriers with no basis in reality can, and often do, have a direct impact or effect on the opportunity structure and career decision-making process of the individual. As Brown and Lent (1996) explained, perceived educational and occupational barriers may negatively affect career development by inhibiting the translation of interests into choice goals and goals into actions.

This future approach, however, is very narrow and limiting in the sense that it does not take prior or early influences to a person's career path or career development process into account. Lent, Brown and Hackett (2000) therefore postulated that *perceived* barriers should by definition mutually refer to the extent to which barriers *have* impeded on a person's career development, as well as the extent to which they *could* hinder career development. This is consequently also the approach followed in the present research study, i.e. measuring both past (experienced) and future (anticipated) career barriers to individuals' career progress.

Up to date, no agreement had been reached about the specific types of potential barriers people may perceive or experience, but most early researchers distinguish between two major types of career-related barriers, namely internal and external barriers. This internal-external dichotomy has directed much of the theorising about barriers, yet it has received little practical examination (Swanson & Tokar, 1991a). While some form of categorisation is essential for the analysis of such a complex phenomenon, Swanson and Tokar (1991a) believe that the possibility exists that such a clear division is too broad for the purpose of categorising the entire sphere of career-related barriers different people may perceive or experience. As a result, Swanson and Woitke (1997) roughly defined or conceptualised career barriers as "events or conditions, either within the person or in his/her environment, that make career progress difficult" (p. 434). This definition covers a broader field of potential obstacles that could interfere with a person's career development and, hence, does not limit ambiguous or vague contributing factors to a classification system.

1.3 Rationale, Purpose and Significance of the study

The rationale for conducting this study stems from the fact that, as mentioned before, although a vast amount of research on perceived career-related barriers had been conducted world wide, especially in the US (Russell, 2001), there is a paucity of career barriers research in South Africa (Stead et al., 2004). While previous studies have responded to an increasing call for research that utilises international samples in order to describe the career perceptions of a wide variety of individuals, especially college and university students (Russell, 2001), the present study specifically focuses on measuring the perceived and experienced career barriers of students from a higher educational institution in South Africa. This study is therefore descriptive and exploratory in that it provides baseline data regarding perceived and experienced career barriers among South African university students from different educational backgrounds and socio-economic contexts. Awareness of these students' perceived career barriers have put forward significant assistance in revealing both internal and external contributors, and can offer support in developing future intervention strategies based on the outcome of the results.

Most career barrier studies have focused primarily on investigating the relationship between career barriers and potentially related variables (Lee et al., 2008), and have recurrently established that career barriers are linked to optimism (Creed et al., 2004), career maturity (Lee, 2006), self-efficacy (Lent et al., 1994), career indecision, vocational identity (Swanson & Daniels, 1994) and locus of control (Weiner, 1985). But as it is known, demographic factors such as gender and racial-ethnic background also play a significant role in the career development of individuals (Lindley, 2005), especially in contemporary South Africa today with a history of discrimination. Since the socio-economic contexts and, hence, the career or educational experiences are unequal for people from different racial-ethnic backgrounds in South Africa (Stead et al., 2004), the perceived or experienced career barriers of these groups were examined separately in the present study. In addition, current timeframe in a person's career development is also an important determinant in the perception of career-related barriers. Previous studies have not yet considered the range of barriers that college or university students perceive and

experience across various stages of their career development process, i.e. different course levels or academic years of study (Swanson & Tokar, 1991b).

Based on the theoretical implications and the instrumental role that career barriers play in the career development process, the present research study aimed to investigate the diverse career perceptions and experiences of South African university students with regard to determining the degree to which potential career barriers, assessed by means of an online survey, would hinder or has hindered their career progress and whether these barriers (a) vary by gender, (b) vary by race/ethnicity and (c) vary by course level or academic year of study. Socio-economic status and faculty in which students are currently enrolled were two additional demographic variables used in the examination due to having proved to be potential perceived barriers to career choice and advancement in previous literature (e.g., Luzzo, 1993; Perrone et al., 2001). Socio-economic status was consequently paired with race/ethnicity and faculty was paired with gender to measure the interaction effect between the two demographic variables in each of these two groups on certain relevant CBI-R scales, thus determining whether these variables in conjunction with one another would potentially influence the nature or type of career barriers that South African university students perceive and experience.

In the following chapters, relevant theoretical perspectives and literature pertaining to career barriers together with the research hypotheses will be discussed (Chapter 2), where after the research methodology including a description of the research design, sampling and data collection procedure, measuring instruments and ethical considerations will be provided (Chapter 3). The results section (Chapter 4) will supply a detailed and comprehensive description of the psychometric properties and demographic data obtained from the sample, as well as the results found through testing the three primary and two secondary research hypotheses. The last section of this thesis document (Chapter 5) will present a critical discussion of the pertinent results reported in Chapter 4 and will conclude with implications, limitations and recommendations regarding the present research study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Perspectives on Barriers

Several authors have proposed classification systems to explaining the different types of career-related barriers people may perceive. Crites (1969) was among the earliest academics to study career barriers, and characterised them as 'thwarting conditions' that may obstruct or hamper the career development process. He differentiated between two main categories of career barriers, namely *internal* or *psychological* conflicts (for e.g., poor self-concept, lack of confidence, motivation to achieve) and *external* or *environmental* conflicts (for e.g., lack of access to education, career opportunities, discrimination in the workplace). Lately, however, researchers have begun to challenge the internal-external dichotomy of career barriers, as this two-category system often fails to adequately capture and incorporate individual experiences (Swanson et al., 1996).

A more widely used and suitable model for understanding perceived career-related barriers is Lent et al.'s (1994) application of Albert Bandura's (1982) Social Cognitive Theory of Career Development. Concisely, Lent et al.'s (1994) Social Cognitive Career Theory (SCCT) applies Bandura's construct of self-efficacy and outcome expectations to career choice and implementation. These two socio-cognitive variables provide the basis for the development of vocational interests, goals and actions (Lent et al., 1994). SCCT therefore focuses on the underlying cognitive belief systems that are at work in career behaviour and leads to successful career development, i.e. individuals' willingness to take control of their career 'destiny' (Sharf cited in Watson & Stead, 2006).

2.1.1 Social Cognitive Career Theory

Lent et al.'s (1994) Social Cognitive Career Theory (SCCT) emphasises the "importance of personal agency and responsibility in the career decision-making process and attempts to explain the manner in which both internal and external factors serve to enhance or restrain that agency" (Albert & Luzzo, 1999, p. 432). Consistent with Bandura's theory, SCCT also recognises the mutual interacting influences or interrelatedness between people, their behaviour and the environment, called 'triadic reciprocality'. That is, SCCT provides a framework for conceptualising the effect that *personal* (e.g., gender, race, ability, self-confidence), *contextual* (e.g., opportunities, support, discrimination) and *experiential* (e.g., social pressure, modelling, prior failure/success) variables have on career-related interests, choice behaviour and performance outcomes (Lent et al., 1994).

Lent et al. (1994) argued that these variables, which can either act as barriers in the negative form or facilitators in the positive form, can be important direct and indirect determinants or influences in the development of a person's self-efficacy beliefs ("judgements about their capabilities to overcome and cope with certain barriers") and outcome expectations, which are "personal beliefs about possible response outcomes" (Lent et al., 1994, p. 83). According to Gushue, Clarke, Pantzer and Scanlan (2006), "vocational inclinations can only become career interests to the extent that people believe they can perform the tasks required in a given occupation and do not perceive any overwhelming obstacles or barriers to their success" (p. 308). In other words, individuals are likely to consider both their capabilities and imagined consequences of performing certain behaviours when making important career decisions (Lindley, 2005).

Lent et al. (1994) further hypothesised that these two primary socio-cognitive variables, i.e., self-efficacy beliefs and outcome expectations, together with goal-setting behaviour, work collectively to enable individuals to exercise personal agency and become self-directed. These two variables therefore play a central role in the development of vocational interests, the career decision-making process and achieving performance behaviours (Chartrand, 1996). Thus, an individual's belief about the negative effect of

perceived barriers can potentially be alleviated if these two variables are present in a positive form and, hence, will most likely decrease the influence of these barriers on subsequent behaviour (Albert & Luzzo, 1999).

In addition, the presence of positive contextual support factors, which are those variables in an individual's background or environment that promote their career development outcomes (Lent et al., 1994), such as access to career counselling, a proper parental or social support structure and encouragement from significant others, have also proved to act as mitigating agents to career barriers that may reduce the negative effect of external barriers as it "promotes positive development and contributes to resilience" (Kenny, Blustein, Chaves, Grossman, & Gallagher, 2003, p. 143). However, contextual career supports are not always readily or easily available to everyone and must often be actively sought after. In other words, career-related help-seeking behaviour clearly precedes the receipt of support (Perrone, Sedlacek, & Alexander, 2001).

Thus, it is clear that the effects of the presence of barriers and supports on students' career development outcomes are almost always studied together, as if they are mirror reflections of each other (Lent et al., 2001). However, although these concepts were found to be inversely related, evidence suggests that the magnitude of the correlation between these two factors is too small for it to be treated merely as polar opposites (Lent et al., 2001). According to Restubog, Florentino and Garcia (2010), the implication thereof is that types of barriers and support can be examined separately from one another if there are sound theoretical reasons that warrant doing so. For the present study, it was decided that the influence of support structures, whatever it may be, on students' vocational interests, career decidedness and performance outcomes goes beyond the scope of the research topic. The aim of this research study was purely to focus on South African university students' perceptions and experiences regarding a variety of internal and external barriers that could negatively interfere with reaching their future career goals and whether these differ across gender, race/ethnicity and course level or academic year of study.

2.1.2 Swanson and Tokar's Perspective

Closely related to SCCT's 'triadic reciprocality' that explains the interaction between people, their behaviour and the environment (Lent et al., 1994), Swanson and Tokar (1991a) identified their own barrier classification system among a sample of college students, namely *attitudinal*, *social/interpersonal* and *interactional* barriers. The two socio-cognitive variables mentioned earlier, i.e. self-efficacy beliefs and outcome expectations, seem to overlap considerably with what Swanson and Tokar (1991a) call attitudinal barriers. *Attitudinal* barriers are those "barriers that are primarily internal in nature, such as self-concept, interests and attitudes toward work" (p. 8). Swanson and Tokar (1991a) further identified *social/interpersonal* barriers, which are barriers regarding one's family, future marriage and children (e.g., multiple roles), as well as *interactional* barriers, which are difficulties relating to demographic characteristics, preparation for one's career and the work environment. The former and the latter terms are then directly related to SCCT's (Lent et al., 1994) description of *contextual* and *personal* barriers, respectively.

Although Swanson and Tokar's (1991a) attempt to invent a broader three-way applied classification system of career-related barriers represented a significant improvement to previous two-way efforts, it still lacked some subjectivity in the methodology department. The need to invent a psychometrically sound instrument for assessing career-related barriers became essential, which lead to the development of the Career Barriers Inventory (CBI) (Swanson & Tokar, 1991a) and later the Career Barriers Inventory-Revised (CBI-R) (Swanson et al., 1996). The CBI and its subsequent versions is a multidimensional self-report instrument designed to measure clients' perceptions regarding a wide range of possible career barriers they might encounter, which may hinder or interfere with their career choice and development (Swanson & Tokar, 1991a). More information on this instrument is provided in the research methodology section (Chapter 3).

2.1.3 Locus of Control

According to Lent et al. (2000), there are substantial differences in how barriers are perceived, based on a person's cognitive style. Albert and Luzzo (1999) pointed out the usefulness of Weiner's (1985) *attribution theory* in explaining the role that people's appraisal of themselves and their environment have in understanding the influence of barriers on their career development (Stead et al., 2004). It is postulated that people who have a positive core self-evaluation or internal locus of control believe that career-related barriers are caused by internal, controllable and unfixed factors (Robbins & Judge, 2010). These individuals feel that they are in charge of their career decisional tasks and are more likely to believe that they can overcome occupational barriers. As a result, they often tend to implement active tactics aimed at coping with and conquering these perceived or experienced barriers, hereby increasing their opportunities to career success (Albert & Luzzo, 1999).

On the other hand, Weiner (1985) proposed that individuals who have a negative core self-evaluation or external locus of control attribute career-related barriers to extrinsic, uncontrollable and stable factors. These people are likely to ascribe any problem or difficulty to sources such as fate or misfortune and consider perceived or experienced barriers as permanent obstructions to their career success (Robbins & Judge, 2010). Consequently, they are unlikely to spend time and energy addressing impediments by engaging in activities aimed at overcoming these barriers. Their perception of barriers is therefore more likely to be disruptive to their career development.

Thus, it can be argued that adopting a pessimistic cognitive style with regard to perceived barriers in career decision-making may serve as an obstacle to effective career development (Luzzo & Jenkins-Smith, 1998), whereas having a more optimistic outlook concerning one's educational/vocational future (i.e. taking personal responsibility) will more likely result in a favourable outcome (Taylor, 1982). As a result, it is clear that cognitive style or locus of control has a tremendous influence in determining how an individual will perceive or experience barriers to their career development.

2.2 Perceived Career Barriers

Early discussions of barriers to career development was driven by the awareness and concern that women, in specific, were experiencing a gap between the underestimation of their abilities and their performance/achievements (Lent et al., 2000), which led researchers to hypothesise that there were certain explanatory factors, or barriers for that matter, that prevent their career advancement and cause underachievement in women (Betz & Fitzgerald, 1987). The great fascination and concern in knowing the specificities of career development in women, as well as in underrepresented racial-ethnic minorities, was derived from the increasing significance of these populations in the job market (Cardoso & Marques, 2008). Research studies investigating gender and racial-ethnic differences in the perception of career-related barriers have added to the awareness and understanding of such specificities, as well as to intervention strategies endorsing equal opportunities for these populations (Cardoso & Marques, 2008).

Although research on career barriers initially focused on the career-related concerns of women and racial-ethnic minorities, more recent studies have begun to consider and investigate the applicability of career barriers to other populations, especially that of students (Swanson et al., 1996). Choosing the right career is a critical decision that one is expected to make early on in one's youth (often during adolescents already) and which a person has to live with for the rest of their lives. However, this is a period in time often filled with uncertainty and apprehension, making it an even more complex task (Stead et al., 2004).

Selecting a career that one finds intrinsically interesting, but that is ultimately unachievable, will therefore have detrimental future implications. Because perceived or experienced career barriers play a vital role in students' career progress (Lee et al., 2008), it is important to identify the specific factors, whether intrinsic or extrinsic, that affect or influence individuals' career development early on already. This should be done so that career researchers and counsellors can implement effective vocational intervention strategies that guide and assist students in overcoming these obstacles (Lee et al., 2008).

Research should also focus on differences in perceptions to career barriers between male and female college students (e.g., Lucas & Epperson, 1990), students from different racial/ethnic backgrounds (e.g., Slaney & Brown, 1983) and students who are at different stages in their career development process, i.e. course level or academic year of study at higher educational institutions.

2.3 Career Barriers and Gender

Little doubt exists that gender is an important moderating variable in individuals' career development, as sexual discrimination has been a very common occurrence over the past few decades (Perrewé & Nelson, 2004). As mentioned before, the career barriers phenomenon have been studied almost solely in the context of the career development of women (Swanson & Tokar, 1991b), as it was originally conceived that the actual experience of career-related barriers are more prevailing for women than for men (McWhirter, 1997). McWhirter, Torres and Rasheed (1998) confirmed this assertion after having discovered in a research study done on American adolescents that male high school students reported perceiving and experiencing fewer barriers to career development than did their female counterparts. Some studies (e.g., Luzzo, 1995) have also provided evidence on the various types of barriers men and women perceive or experience and how they differ.

Probably the most frequently cited barrier to women's career progress is that of sexual discrimination. The women who participated in a study conducted by Luzzo, McWhirter and Hawley (2001) were much more likely than the men to anticipate experiencing negative verbal comments (e.g., insults or offensive remarks) about their sex, experiencing discrimination because of their sex, and having a harder time getting hired for a job or being promoted (i.e., 'glass ceiling' effect) than people of the opposite sex. Similar results were obtained from a South African sample of 250 Grade 11 and 12 learners (Stead, Els, & Fouad, 1999), where female learners were significantly more concerned about gender discrimination as a possible barrier to their career advancement

than male learners. According to Cardoso and Marques (2008, p. 24), there is a possibility that women "develop this kind of belief by observing the incidents happening in the lives of significant others, through media portrayals of reality, and/or the experience of subtle forms of sexual discrimination" and underestimation during their adolescent years.

Results from Swanson and Tokar's (1991b) original study involving 24 female and 24 male college students, indicated that respondents perceived the existence of barriers in a range of career-related themes. These researchers found that *interactional* barriers were perceived more often than *attitudinal* barriers, which sequentially were more common than *social/interpersonal* barriers. Astoundingly, the types of barriers cited by the sample of students did not differ significantly by gender, indicating similar results for both male and female college students. With regard to special concerns for women, however, the analyses revealed that female participants indicated that pressure from multiple role obligations, sexual harassment, equity in income, lack of advancement opportunities and child-care concerns were perceived as the greatest obstacles to be encountered in the future.

These barriers are typical to what Farmer (1976) theorised in the presentation of her career and achievement model. Farmer (1976) postulated that women are much more likely than men to experience the effects of increased environmental stressors and vulnerability to competing work-family role priorities in the career development process. Betz and Fitzgerald (1987) also agreed that role confusion or conflict experienced between the position of a being mother and a full-time employee is the most salient issue in the career development of women. According to Sax and Bryant (2006), this interest and need of women to raise a family while being employed often decreases the likelihood of them considering pursuing non-traditional careers for their gender to avoid any possible risk or challenges involved.

Results from a study done by Luzzo (cited in Swanson et al., 1996) also revealed greater perceptions of barriers by female students than by male students. The women in his study

were significantly more likely than the men to identify family-related matters such as juggling work and family responsibilities or making sacrifices to have children, as possible barriers to their career plans (over 60% of women vs. 6% of men). Similar results were found by Slaney and Brown (1983), who discovered that 14% of undergraduate college women listed marriage and family demands as their major barrier, compared to only 1% of college men. Luzzo and Hutcheson (1996) confirmed this fact after statistically discovering that significantly more women perceived family-related barriers compared to the men from the same sample.

These findings support the idea or trend that today's late-adolescent women are much more likely to consider the integration of occupational and family roles in adulthood than are men of the same age. The men, on the other hand, more often indicated financial concerns as the major stumbling block to their career development (Luzzo, 1995). This occurrence could perhaps be related to the pressure men experience as breadwinners and the obligation they feel they have as head of the household to provide for their family. Thus, although the men in Luzzo's (1995) sample did not cite family responsibilities in terms of child rearing or emotional caring as a perceived barrier, they do seem to realise that they have a commitment to look after their families in the form of a financial contribution.

Interestingly enough, opposite results were found in a study conducted by Perrone et al. (2001), who examined barriers to attaining career goals among college students. Male participants cited time management as being the primary obstacle to reaching their future career goals, whereas the women in the sample were the ones reporting personal finances as being a major perceived barrier. Perrone et al. (2001) suggested that this finding may be associated with women generally receiving lower salaries compared to men and that female students are therefore probably more concerned about paying off outstanding student fees or debt after graduating.

Most people are generally aware of the extent to which certain sex-typed professions are considered "appropriate" for men or women, i.e. gender-specific careers (Sax & Bryant,

2006). According to Sax and Bryant (2006), sex-typical occupations for women are defined as those careers in which the percentage of women aspiring to a specific profession is at least twice as that of men, and vice versa. Thus, a prominent career barrier that is generally perceived and experienced more often by men than by women is the pursuing of non-traditional careers dominated by the opposite sex (Tien, Wang, & Liu, 2009).

Male college students often feel discouraged to pursue female-dominated occupations such as becoming a nurse, chef, counsellor or preschool/kindergarten teacher (Morgan, Isaac, & Sansone, 2001). Proposed reasons for often avoiding these female-typical careers involve misconceptions about what the job actually entails, as well as the negative societal perceptions and stereotypical images people hold about these domains which may cause feelings of embarrassment (Papastergiou, 2008). Hayes (1989) suggested that high expectations and discouragement from parents or significant others may also play an important role in young people's career choice behaviour. A lack of suitable role models with whom children can identify themselves with and the gender bias which children may be exposed to in their homes, as well as little opportunities for early familiarisation with female-typical career fields, may limit boys' selection of non-traditional careers (Dryburgh, 2000).

Female students, on the other hand, as was found in a sample of Greek high school students (Kotarinou, 2004), feel less discouraged in pursuing sex-atypical career paths such as mathematics, science, engineering and computer/information technology (Morgan et al., 2001) that are regarded as masculine fields. These occupations are usually accompanied by perceptions of intellect, knowledge and logical reasoning, which are qualities that women value. According to Pascarella and Terenzini (1991), other external factors such as attending a single-sex college has proven to strengthen or reinforce women's orientation towards following non-traditional careers for their gender.

However, although the number of women pursuing higher education at higher educational institutions is constantly increasing, females are still currently

underrepresented in the various technological and scientific disciplines in the labour market (Papastergiou, 2008). According to Sax and Bryant (2006), it is possible that women who are apprehensive about their financial stability tend to be more traditional in their career views and choices, as male-dominated fields may be perceived as presenting too many challenges or too little opportunities for women. These authors also suggested that future research studies should examine more closely how dependency on financial support affects women's career goals.

2.4 Career Barriers and Racial-Ethnic Groups

The influence of race/ethnicity on the perception and experience of career-related barriers has been examined in several studies with different samples of racial-ethnic minority college students since the significant influence of race/ethnicity in the career development process have become apparent over the years (Tidwell, 1992). During an investigation of racial-ethnic differences in career choice, Lopez and Ann-Yi (2006) found that racial-ethnic minority students perceived and experienced significantly greater career barriers than comparative samples of majority students. Luzzo et al. (2001), in addition, mentioned that not only do racial-ethnic minorities perceive and experience more career-related barriers, but they also report a lower perceived coping efficacy for dealing with these barriers than do non-minorities. However, data gathered about racial-ethnic differences in perceived barriers are more focused on the *nature* or *type* of barriers listed between students from different groups than the *number* of barriers they perceive or experience (Swanson & Woitke, 1997).

In a study conducted by Luzzo (1993), considerable differences were found between the types of barriers that Black and White students from a large California state university perceive or experience with regard to career decision-making. It was established that lack of study skills, racial-ethnic identity and finances were among the most problematic career barriers perceived and experienced by Black American university students. These specific concerns were not detected in the White American students' responses,

indicating significant group differences. This is consistent with research done by Perrone et al. (2001), who discovered that financial considerations were the most salient barrier for racial-ethnic minorities to attaining their future career goals, whereas majority students cited time management as being their primary obstacle.

McWhirter et al. (1998) placed a great emphasis on the role that racial identity or ethnic group membership plays with regard to college students' perceptions of barriers related to education and career attainment. Racial bias, lack of appropriate role models, financial issues, lack of study skills and having to work while attending university, were the primary factors mentioned to hinder minority students' career advancement. Similarly, Henry (2006) interviewed a group of underrepresented racial-ethnic minority students enrolled in a medical education programme and discovered that their major career barriers were: pressure to succeed academically, money problems, overcoming negative stereotypes or prejudice and racial/ethnic discrimination in prospective jobs. Bowman (1988) also examined a sample of Black male and female college students who indicated their highest ranking career barriers to be discrimination due to race/ethnicity, financial problems, unpredictable chance occurrences and low grades.

Thus, the most common themes to emerge as possible career barriers for students of colour seem to be financial difficulties and racial discrimination. What needs to be taken into account here is the socio-economic and socio-political circumstances of disadvantaged racial-ethnic minorities, especially in developing countries like South Africa. Also, perceiving and experiencing economic limitations to career development in the light of the current world economy, accompanied by high unemployment rates, is a realistic perception in the lives of many of today's college and university students. As data on the higher education workforce currently demonstrate, racial-ethnic diversity at higher educational institutions has yet to be fully achieved (ASHE Higher Education Report, 2009). Affirmative action needs to be employed effectively to provide equal opportunities for underrepresented groups, so that perceived barriers will no longer be related to race/ethnicity.

The ability to choose a preferred career based on intrinsic interest is a luxury only a small number of people across the globe have (Prelow & Guarnaccia, 1997); one that is not readily available to individuals who come from economically disadvantaged backgrounds. Research have indicated that Black Americans hold lower job expectations (Hughes & Demo, 1989) and have a wider gap between their occupational expectations and aspirations than do White Americans (Pelham & Fretz, 1982). In many cases, these lower expectations of career options seem to be related to the perceived lack of opportunities for underprivileged people in the employment industry, which in turn is tied to a cycle of poverty and other social problems (Chartrand & Rose, 1996).

Studies have proved in the past that the career development of minority groups, especially women and people of colour, is greatly affected by their perception of career opportunities in the world of work, as well as their perception of barriers such as social powers, racism, sexism and class differences (Henry, 2006). Chung and Harmon (1999) confirmed this finding after having investigated the perceptions of Black and White college students in the US. These researchers found that Black students perceive more discrimination than did White students and they more often perceived a decline in employment opportunities. Several authors such as Arbona (1990), Henry (2006) and McWhirter (1997) argue that perceived barriers to future career goals are especially important in comprehending the gap between Black people's ability and their occupational achievement or professional success, also known as the "ability-attainment gap" (McWhirter, 1997, p. 124).

The literature relating to perceived and experienced career barriers of racial-ethnic minority groups in the US may be applicable to the present research study, as these groups and previously disadvantaged South Africans are similarly underrepresented and marginalised. However, results obtained from a research study conducted by Stead et al. (2004) among 350 Grade 11 and 12 South African learners, revealed an entirely different outcome in terms of perceived barriers related to racial-ethnic discrimination. Contrary as to what was expected, the majority of White students (56%) were the ones reporting race/ethnicity as being problematic to them with regard to future job opportunities and

tended to perceive Black individuals as a threat in the labour market (Stead et al., 2004). This incongruity in perceptions may possibly be due to White students considering the reality of the employment challenges associated with the post-Apartheid labour practices in South Africa where affirmative action policies are introduced to address the workforce inequalities of the past.

Thus Luzzo's (1993) and Luzzo et al.'s (2001) studies may lead us to hypothesise that South African university students from different racial-ethnic backgrounds will perceive their race/ethnicity differently in the post-Apartheid context with many socio-economic and socio-political challenges, i.e., either it will be perceived as a barrier to their future career or not. In addition to that, gender will also play a role, i.e. being male or female will influence the nature or type of career barriers that South African university students perceive and experience.

2.5 Career Barriers and Students

In recent years, researchers have begun to investigate college and university students' acknowledgement of barriers in particular (Swanson & Tokar, 1991b), as it become apparent that the awareness of the perception and experience of career-related barriers among young people were increasing at a fast rate in our contemporary society. Nowadays, students are starting to realise the impact and consequences that their current decisions will have on their future career path, more than ever (Stead et al., 2004).

Referring back to Swanson and Tokar's (1991b) initial study involving 48 undergraduate college students from Carbondale, Illinois, the outcome clearly revealed a significant result with regard to the students' perceptions of the existence of various barriers to their career progress. Students reported the greatest impediments to choosing a major career path to be: being uninformed, being incapable, current and future financial concerns and the influence of significant others. Their major obstacles to finishing or achieving a college degree were internal pressure to succeed academically, a lack of monetary funds

and overall time commitment. It appeared as though participants perceived their greatest barriers to getting a first job "as a combination of job availability and their own qualifications, skills, inadequate experiences and personal qualities" (Swanson & Tokar, 1991b, p. 45). With regard to balancing career and family, a shortage of time and financial issues were reported as the greatest concerns. These results are similar to previous career-related studies (for e.g., Bowman, 1988; Slaney & Brown, 1983) in the sense that financial barriers seem to be a common theme across different samples of college students. Apprehension about one's capability, academic achievement and job market availability are also extensive themes across the majority of studies related to students' career development (Swanson & Tokar, 1991b).

Moving away from psychometric instruments for measuring barriers, a qualitative research study was conducted by Lent et al. (2002) by means of structured interviews to get a clear description of American college/university students' perceptions and experiences on factors that positively and negatively influenced their efforts to select and implement their preferred career choices. The interviews were mainly aimed at identifying (a) possible factors that had affected their *selection* of a particular occupational field, (b) barriers and supports to *pursuing* their choice of career and (c) strategies they had used to *cope* with the encountered barriers related to their selected career (Lent et al., 2002). Students from two different colleges/universities participated, namely a large state university in an urban area and a small technical college located near a rural area – mainly attended by non-affluent students. Both samples reported personal factors (e.g., interests) and work-related experiences as being amongst the most important determinants in choice *selection*, while contextual factors (e.g., financial constraints and social supports) were regarded as the most salient barriers (deterrents) and supports (enablers) to choice *implementation* (Lent et al., 2002). Methods applied to overcome impeding factors, better known as *coping strategies*, were primarily linked to particular environmental and developmental contexts.

However, as the present research study's focal point is on the perceived and experienced difficulties or obstacles to reaching future career goals, the literature discussion of the

American sample examined by Lent et al. (2002), will only be on the barrier results. Although the two samples selected by Lent et al. (2002) varied significantly with regard to geographical area and hence exposure to the amount of resources and opportunities available to them, their responses were merged and combined as their barrier perceptions and experiences overlapped substantially. This is an indication that environment and socio-economic background did not play a role in eliciting any differences with regard to perceived and experienced career barriers among these two particular groups.

In terms of the most frequently mentioned barriers to pursuing their ideal careers, these students reported external contextual factors such as financial concerns as being a top priority on the list (Lent et al., 2002). Personal difficulties (e.g., adjusting to college, motivation, time management), ability limitations (e.g., doubt in competence, problems with academic achievement) and negative social/family influences (e.g., discouragement from relatives) were mentioned with moderate to high frequency. Regardless of having encountered these barriers in implementing their occupational choice, 79% of the university students expected to enter their ideal career fields anyway (Lent et al., 2002). Factors that were considered as having little influence on students' career success and as a result were cited with moderate to low frequency, included concerns about role conflicts, high educational requirements, negative school/work experiences and work conditions (Lent et al., 2002). These findings altogether clearly provide empirical evidence for the application of Swanson and Tokar's (1991a) proposed theoretical *attitudinal*, *social/interpersonal* and *interactional* barriers as internal and external influences affecting students' ability to reach their future career goals.

Nevertheless, two barrier categories were unique to the technical college students from the rural, less flourishing area, namely life events and lack of familiarity/exposure (Lent et al., 2002). Life events, which were mentioned with moderate frequency, refer to negative life experiences that are perceived as hampering one's career progress (e.g., death of a parent, having to take care of siblings, being forced to move out of family home prematurely, being wounded in a drive-by shooting). The other distinct category, which was reported as having a low frequency for this sample of students, involved a

perceived lack of exposure to skill-developing opportunities relevant to one's career goals (Lent et al., 2002). It is important to mention that a low reported frequency equally corresponds with a low score on psychometric instruments such as the CBI-R (Swanson et al., 1996), which is an indication of the individual's perceived ability to overcome these barriers if encountered. Thus, it is not surprising that this group of students commonly believed that they were able to conquer or cope with these obstacles through their own internal resources or efforts, as well as through the support they received from significant others.

Also with regard to coping mechanisms, Luzzo (1995) investigated the career maturity of 401 college students and concluded after qualitative analyses of the individual interviews that the perception of career barriers may serve as a motivating force in many students' career planning and development. In other words, Luzzo (1995) suggested that the awareness and acknowledgement of one's own personal barriers can positively influence individuals' future career progress, as they are now able to actively respond to overcoming these obstacles. It may be that without the perception of such barriers, many students do not seem to make the conscious effort to design intermediate and long-term career goals. The result of this lack of awareness may help explain the dilemma that many graduates experience – the realisation of not knowing what comes next (Jordaan & Heyde, 1979).

Thus, one of the intended goals of the present research study is to raise awareness about the potential influence that barriers can have on a person's career development, so that students can develop strategies for using their identified career barriers as motivating forces and that the necessary steps can be taken to intervene. Albert and Luzzo (cited in Cardoso & Marques, 2008) proposed that students should identify perceived barriers, reflect on the influence that those barriers have on their career development process, and talk about effective resources and strategies to cope with and overcome those barriers.

2.6 Research Hypotheses

Based on the objectives of the study and the previous literature cited, the following non-directional primary research hypotheses were investigated:

(1) There is a significant difference between the nature or type of career barriers that male and female South African university students perceive and experience.

(2) There is a significant difference between the nature or type of career barriers that South African university students from different racial-ethnic backgrounds perceive and experience.

(3) There is a significant difference between the nature or type of career barriers that South African university students at different course levels or academic years of study perceive and experience.

In addition to the three primary research hypotheses stipulated above, two secondary research hypotheses were investigated, namely that (a) gender in conjunction with faculty in which students are currently enrolled and (b) race/ethnicity in conjunction with socio-economic status have a significant influence, when paired together, on the nature or type of career barriers that South African university students perceive and experience.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter will identify and describe the research design and methodology utilised, the participants involved in the investigation, the sampling procedure followed to collect the data, the measuring instruments used in the study and the ethical considerations taken into account.

3.2 Research Design

The present research study adopted a quantitative methodology which made use of a non-experimental cross-sectional survey design. An online survey was set up during which participants completed a demographic questionnaire, as well as a predetermined instrument measuring their barrier perceptions, namely the Career Barriers Inventory-Revised (Swanson et al., 1996), of which the label remained undisclosed. The data gained from respondents were statistically analysed by means of SPSS for Windows (version 17.0), a computer-aided quantitative data analysis software programme for the social sciences. Specific statistical procedures were performed, including ANOVA's and correlation coefficients, to assess the research hypotheses identified beforehand.

3.3 Sampling and Data Collection Procedure

The sample for this research study was obtained from a target population of N = 26 339 undergraduate and postgraduate students registered at a higher educational institution in South Africa, namely Stellenbosch University. The students are distributed across the main campus in Stellenbosch, the Health Sciences campus in Tygerberg, the Business

Management campus in Bellville and the Military academy in Saldanha. This particular target population was selected on the basis of a need to investigate the perceived and experienced career barriers of university students in South Africa, specifically. As mentioned before, a vast amount of research is available on the perceived career barriers of international samples, especially of college students in the US (Russell, 2001), yet little is known about South African university students' perceptions and experiences of career-related barriers (Stead et al., 2004).

In order to meet the study objectives and answer the primary and secondary research hypotheses (refer back to section 2.6), participants were asked to complete the Career Barriers Inventory-Revised (CBI-R) (Swanson et al., 1996), as well as a background questionnaire requesting specific demographical information (see Appendix A for demographic questionnaire and Appendix B for full list of CBI-R items). These two questionnaires, accompanied by a covering letter (Appendix C), was sent to everyone included in the target population via electronic mail in the form of an online survey, hereby giving all students an equal chance to be included in the sample. Only 25 363 students could be reached via e-mail and at the end of a three week period when the survey was deactivated, 2623 responses had been received. A response rate of 9.7% was thus obtained. Subsequently a portion of the responses were deleted from the sample based on five specific criteria that negatively interfered with the results, thus producing a final sample size of $N = 1897$. Participants were only retained if they: (1) fully completed the survey, (2) completed it in more than seven minutes, (3) completed it in less than 40 minutes, (4) were South African citizens and (5) were registered as full-time students.

For the purpose of analysing the data gained from the sample, participants were divided into different groups for the three main variables, namely gender (male vs. female), race/ethnicity (White, Black, Coloured, Indian and Asian South African) and course level or academic year of study (first, second, third, fourth/honours, fifth/masters, sixth/doctoral and seven/postdoctoral). The aim was to measure and compare participants' responses regarding their perception of the degree of potential difficulty or hindrance that a particular barrier would have or has had on their career development

(based on the three main variables), and the differences in the type of barriers these groups of students report. Stating precisely what is being measured by the CBI-R in a particular research study is very important in order to avoid any confusion when using ambiguous concepts in applied settings such as this (Swanson et al., 1996).

3.4 Measuring Instruments

The instruments that were used in this research study include: (1) a demographic questionnaire designed for the purpose of this study that was used to obtain important background information from participants and (2) the Career Barriers Inventory-Revised (Swanson et al., 1996) that was used to identify the perceived or experienced barriers that impede on the career development of South African university students.

3.5 Demographic Questionnaire

The demographic questionnaire consisted of nine questions designed by the researcher to obtain background information relevant to the primary and secondary hypotheses of the study. Gender, race/ethnicity and course level or academic year of study information were of particular importance to test the three primary research hypotheses of the study, whereas socio-economic status and faculty were requested in order to test the two secondary research hypotheses. The socio-economic indicator was included to measure its interaction effect with race/ethnicity on the CBI-R's 'Racial Discrimination' and 'Job Market Constraints' scales, as SES has demonstrated in previous literature (e.g., Luzzo, 1993; Perrone et al., 2001) to be a potential perceived barrier to career choice and advancement. In addition, faculty in which students are currently enrolled was requested as a means of identifying a possible relationship between male and female dominated fields and the CBI-R's 'Discouraged from Choosing Non-Traditional Careers' scale.

3.6 The Career Barriers Inventory

3.6.1 Description

Given the lack of a psychometrically standardised measure for the assessment of career-related barriers, Swanson and Tokar (1991a) constructed the Career Barriers Inventory (CBI). As mentioned before, the CBI is an objective, multidimensional self-report instrument designed to assess clients' perceptions regarding possible career barriers they might encounter, which may hinder or interfere with their career choices and development (Swanson & Tokar, 1991a). This instrument covers a wide range of perceived barriers (including attitudinal, social/interpersonal and interactional sources) that may occur across a series of career-related events, such as choosing a career, performance on the job, job-related discrimination and work-family interface (Swanson et al., 1996).

To guarantee complete coverage of the range of potential barriers, the development of the initial pool of 112 items originated from a systematic review of the pertinent literature on perceived barriers to career development, especially focusing on college students (Swanson & Tokar, 1991a). The 558 participants in the CBI construction sample or pilot study, consisting of 313 female and 245 male college students from Illinois in the USA, rated the possible impact of each of the 112 barriers on their careers using a 7-point Likert-type (ordinal) scale ranging from 1 = *would not hinder at all* to 7 = *would completely hinder*. Principal-component analyses were performed on the 112 CBI items to determine the underlying structure of the instrument. The CBI items were reduced to 102 and 18 main factors or barrier-scales were derived in total (Swanson & Tokar, 1991a).

The original version of the CBI, however, had several weaknesses, i.e. it was too lengthy and the item content of numerous scales needed revision (Swanson et al., 1996). To address these issues, the number of items in the CBI was reduced to eliminate redundancy while leaving the items and scales relatively intact, and certain items were

rewritten slightly to elucidate meaning while maintaining their unique content. Ultimately, these changes resulted in the development of a shortened and improved version of the CBI, namely the CBI-Short (CBI-S), consisting of 84 items and 16 scales (Swanson et al., 1996). In the current and most recent version of the CBI, namely the CBI-Revised (CBI-R), the goal evolved and extended beyond "merely shortening the instrument to incorporating a more extensive evaluation and revision of the content, definition, structure and organisation of the CBI scales" (Swanson et al., 1996, p. 25). This step included the randomisation of the order of appearance of items in the instrument so that items from the same scales were no longer grouped together. As items often seemed to be empirically linked to one another due to their proximate placement, items were rearranged to remove this effect and to increase the reliability of participants' responses (Swanson et al., 1996). The final instrument, the CBI-Revised, consists of 70 items scored on 13 scales, which are described below.

The Sex Discrimination scale consists of seven items, which reflect a number of sex discrimination aspects such as barriers related to financial impact and workplace environment. The Lack of Confidence scale contains four items that are directly related to confidence and self-esteem. The Multiple-Role Conflict scale includes eight items that focus on barriers that are more general in nature. The Conflict between Children and Career Demands scale, consisting of seven items, specifically relates to balancing work responsibilities with child-rearing responsibilities. The Racial Discrimination scale contains six items that reflect the broader aspects of racial discrimination. The Inadequate Preparation scale includes five items that focus on the individual's internal perceptions of not being adequately prepared for the job. The Disapproval by Significant Others scale, consisting of three items, focus on different sources of condemnation about one's career choice. The Decision-Making Difficulties scale contains eight items mainly related to indecisiveness. The Dissatisfaction with Career scale includes five items concerning boredom and disappointment in one's career development. The Discouraged from Choosing Non-Traditional Careers scale consists of five items which suggest that support from significant others is crucial to pursuing non-traditional career fields. The Disability/Health Concerns scale contains three items that focus on any limitations

regarding one's wellbeing such as physical or mental disability. The Job Market Constraints scale, consisting of four items, reflects external barriers related to a tight job market and future employment opportunities. The Difficulties with Networking/Socialisation scale includes five items that addresses issues regarding work adjustment and socialisation (Swanson et al., 1996).

3.6.2 Psychometric Properties

The CBI has undergone rigorous restructuring and factorial analyses time after time to advance and improve the instrument and bring it to its full potential. The psychometric adequacy of the original 18-scale version of the CBI was evaluated by three characteristics: internal consistency or reliability analyses of each individual scale, item-scale correlations and intercorrelations between the scales (Swanson & Tokar, 1991b). Reliability coefficients were calculated for each of the 18 CBI scales using Cronbach's alpha. Several of the longer scales in the instrument had very high scores exceeding .90 and were thus subject to item reduction. A few of the shorter scales, conversely, had alpha coefficients lower than .60 and were hence submitted for further evaluation and revision (Swanson et al., 1996).

Internal consistency of the scales for the latest version of the CBI, the CBI-R, was tested on a sample of 100 college students and ranged from .64 to .86, with an adequate median of .77 (Swanson et al., 1996). Intercorrelations among the 13 CBI-R scales were generally high, ranging from $r = .27$ to $r = .80$, with a median of $r = .60$. The internal features of the revised version of the instrument are thus found to be solid. More information on the most recent psychometric properties of the CBI-R is provided in the results section (Chapter 4), where the latest alpha and intercorrelation coefficients based on the South African sample of university students are given.

Particularly for the present research study, based on the research objectives and hypotheses, the interest was in gender and racial-ethnic differences with regard to

students' perceptions and experiences of career barriers. Thus, we examined the relationship of these two demographic variables, as well as course level or academic year of study, with students' perception of the degree of hindrance a particular barrier would have on their career development if it was encountered.

Data related to the demographic information, based on the previous sample of 100 college students, has shown and proved expected relationships to the CBI-R scales and provided strong and reliable support for the construct validity of this instrument (Swanson et al., 1996). Women scored higher than men on 7 of the 13 CBI-R scales, indicating greater perceptions of career barriers for females. These results are consistent with other research findings (e.g., Luzzo, 1995) that discovered that female students have greater perceptions of career barriers than male students. With regard to racial differences, significant disparity also emerged between White and Black college students on 8 of the 13 CBI-R scales. Not surprisingly (based on previous literature), Black participants scored significantly higher than White participants on the 'Racial Discrimination' scale, which was also the biggest difference in means between the two groups (Swanson et al., 1996). Thus, the CBI-R shows expected group disparities that add to its differential validity across heterogeneous samples.

3.7 Ethical Considerations

The aim, purpose and procedure of this research study were explained to participants beforehand by means of a covering letter and informed consent form (Appendix C). The survey was completed anonymously and participants were assured that the results obtained from this study will stay confidential and will not be used for any purpose other than the thesis document. Every volunteer who chose to participate in this study were asked to give their informed consent, hereby indicating that they understand what the study is about and that they give permission for their responses to be used. All participants who fully completed the online survey were entered into a random draw for a cash prize of R500.

CHAPTER FOUR

RESULTS

4.1 Overview

The quantitative data obtained from respondents through completion of the self-report online survey and which were statistically analysed by means of SPSS for Windows (version 17.0), are presented in this chapter. The statistical results revealed certain psychometric properties of the CBI-R, such as the internal reliability and the correlation coefficients between the different scales. Demographic data were analysed by obtaining descriptive statistics and frequency distribution summaries of the sample. The research hypotheses identified beforehand were tested with specific statistical procedures, including ANOVA's and correlation coefficients. A non-parametric statistical analysis (Spearman) was used for calculating the correlation coefficients, as the non-normally distributed data set violated the assumptions of parametric tests.

4.2 Psychometric Properties

As a result of the large sample size that was obtained, reliability for the CBI-R was initially assessed using Confirmatory Factor Analysis (CFA). The data predicted by the model, however, did not correspond satisfactorily with the data that was obtained or collected from the sample, thus resulting in a poor goodness-of-fit. The Root Mean Square Error of Approximation (RMSEA) score of $p = .07$ revealed a result above the significant p-value for test of close fit (RMSEA < .05), hereby indicating that the model is significantly different from the observed data, and hence a poor fit. The Goodness of Fit Index (GFI) score of .77 and the Adjusted Goodness of Fit Index (AGFI) score of .74 were also below the significant level of .95 for a good fit, therefore another indication of a poor data-model fit. The poor goodness-of-fit between the observed data and the model can possibly be attributed to a measurement error, for e.g., respondent bias, which is bias

introduced by uncooperative participants providing false information by answering questions at random or even misunderstanding some of the questions (Bless, Higson-Smith, & Kagee, 2006).

Since the CFA did not yield satisfactory reliability results, Cronbach's alphas were calculated to measure the internal consistency of the CBI-R. As can be seen from Table 1 below, the internal reliability for the 13 CBI-R scales was fairly high, with the highest Cronbach's alpha being .90 for the Sex Discrimination scale and the lowest being .65 for the Difficulties with Networking/Socialisation scale. The median for this sample was .80. These reliability results are consistent to what was found in Swanson et al.'s (1996) initial pilot study testing the CBI-R, involving 100 college students (refer back to section 3.6.2).

The intercorrelations between the 13 CBI-R scales were determined by Spearman's correlation coefficient to overcome the pitfalls of the non-normally distributed data that was collected and correlated positively with each other, indicating moderate to strong relationships ranging from $r = .39$ between the Racial Discrimination and Disapproval by Significant Others scale to $r = .79$ between the Sex Discrimination and Racial Discrimination scale. The median for the intercorrelations was $r = .55$. These results are consistent with the intercorrelations found in Swanson et al.'s (1996) initial test sample, with scores ranging from $r = .27$ to $r = .80$ and a median of $r = .60$ (refer back to section 3.6.2).

Table 1

Reliability Results Dialog

CBI-R scale	Cronbach's alpha
Sex Discrimination	.90
Lack of Confidence	.80
Multiple-Role Conflict	.82
Children and Career Demands	.80
Racial Discrimination	.89
Inadequate Preparation	.80
Disapproval by Significant Others	.72
Decision-Making Difficulties	.88
Dissatisfaction with Career	.81
Discouraged from Choosing Non-Traditional Careers	.76
Disability/Health Concerns	.76
Job Market Constraints	.76
Difficulties with Networking/Socialisation	.65

4.3 Demographic Data

The final sample of participants in this research study consisted of 1897 students of which 1139 (60%) were females and 758 (40%) were males. Ages of participants ranged between a minimum of 17 years and a maximum of 58 years, with the mean age being 21.45 years. With regard to the racial composition of the sample, the majority of participants (1438 / 76%) were White, 301 (16%) were Coloured, 110 (6%) were Black, 41 (2%) were Indian and only 7 (less than 1%) students were Asian. The home language most frequently indicated by participants was Afrikaans (60%), followed by English (34%). The remaining 6% speak a range of different local and international languages. The sample of students was distributed across the 10 different university faculties as follows: 421 (22%) within Arts and Social Sciences, 419 (22%) within Economic and Management Sciences, 297 (16%) within Natural Sciences, 228 (12%) within Health Sciences, 190 (10%) within Engineering, 115 (6%) within AgriSciences, 102 (5%) within Law, 94 (5%) within Education, 26 (1%) within Theology and only 5 (less than 1%) within Military Sciences.

Current course level or academic year of study was used as a proxy for assessing participants' developmental level, which is also a possible indication of their maturity with regards to overcoming possible career barriers they may perceive or experience. Undergraduate level students made up the majority of the Stellenbosch University student population with 433 (23%) participants being in their first year of study, 449 (24%) in their second year and 459 (25%) in their third year of study. Thereafter, the amount of students in subsequent course levels decreased drastically, with 293 fourth year/honours students encompassing 16% of the total student population, 176 fifth year/masters students encompassing 9%, 58 sixth year/doctoral students encompassing 3% and 3 seventh/postdoctoral students encompassing less than 1% of the total student population. Twenty-six participants were removed from the course level or academic year of study category, as they indicated open-ended information that could not be assigned to a specific category (e.g., extended course, special student, diploma, second degree).

The data revealed that students' perception of their socio-economic status based on their family unit's or household's joint income per month were fairly high. Seven-hundred and ten (37%) participants indicated their family status to be on a middle SES level, 589 (31%) on an upper SES level, 314 (17%) on a lower SES level and 284 (15%) participants indicated their family status to be on an affluent SES level.

When considering respondents' total summed scores on each of the 13 CBI-R scales (minimum = 1; maximum = 7), the highest mean score detected was for the Racial Discrimination scale (M = 4.91; SD = 1.41) and the lowest mean score identified was for the Disapproval by Significant Others scale, which had a mean of 3.27 and a standard deviation of 1.48 (see Table 2 for a summary of the total mean scores on the CBI-R scales). Matching results were subsequently also found with regard to gender mean scores, where both men and women scored highest on the Racial Discrimination scale and lowest on the Disapproval by Significant Others scale.

Table 2

Summary of Total Barrier Scores on the CBI-R scales (N = 1897)

CBI-R scale	Mean	Std. Dev.
Sex Discrimination	4.38	1.49
Lack of Confidence	4.28	1.42
Multiple-Role Conflict	4.27	1.10
Children and Career Demands	3.92	1.20
Racial Discrimination	4.91	1.41
Inadequate Preparation	4.13	1.27
Disapproval by Significant Others	3.27	1.48
Decision-Making Difficulties	4.18	1.22
Dissatisfaction with Career	4.80	1.26
Discouraged from Choosing Non-Traditional Careers	3.51	1.35
Disability/Health Concerns	4.28	1.59
Job Market Constraints	4.38	1.34
Difficulties with Networking/Socialisation	3.80	1.10

4.4 Hypotheses Testing

Factors thought to have a possible influence on the nature or type of career barriers South African university students perceive and experience were investigated by testing three primary research hypotheses. A one-way independent analysis of variance (ANOVA) was performed to test hypothesis 1, namely to identify and compare gender differences with regard to the nature or type of career barriers students perceive or experience. A second one-way independent ANOVA was performed to test hypothesis 2, namely to identify and compare racial-ethnic differences with regard to the nature or type of career barriers students perceive or experience. To test hypothesis 3, Spearman's correlation coefficients were calculated to identify and compare course level or academic year of study differences with regard to the nature or type of career barriers students perceive or experience. A two-way independent ANOVA was conducted to test both secondary research hypotheses, namely that (a) gender in conjunction with faculty and (b) race/ethnicity in conjunction with socio-economic status have a significant influence, when paired together, on the nature or type of career barriers that South African university students perceive and experience.

4.4.1 Hypothesis 1

H1: There is a significant difference between the nature or type of career barriers that male and female South African university students perceive and experience.

A one-way independent analysis of variance (ANOVA) was conducted to compare male and female students' perceptions and experiences regarding the nature or type of career barriers they may view as a possible hindrance to their career development. Based on the results obtained from the one-way independent ANOVA (see Table 3), there was a significant difference between men and women on all 13 CBI-R scales ($p < .01$). Considering the difference in sample size between the two gender groups (men: $n = 758$

vs. women: n = 1139), it was thus not surprising that female students obtained higher scores than male students on all 13 CBI-R scales.

Although the statistical results revealed significant differences between men and women on all 13 CBI-R scales, some of the differences between the two groups may not be as noteworthy from a practical viewpoint. The large sample size might have caused even the smallest difference between the two groups to be identified as significant. For instance, the differences between the two group means on the Dissatisfaction with Career scale (men: M = 4.63; women: M = 4.83) and the Disability/Health Concerns scale (men: M = 4.14; women: M = 4.37) are in reality so small to even regard it as significantly different (see Table 3 below). The majority of the scales, however, showed a clear distinction between the two groups' mean scores, especially the Sex Discrimination scale (men: M = 3.89; women: M = 4.70) and the Children and Career Demands scale (men: M = 3.48; women: M = 4.21).

Thus, hypothesis 1 is not rejected, as there is a significant difference between male and female South African university students with regard to the nature or type of career barriers they perceive and experience.

Table 3

Descriptive and Statistical Information for Gender

CBI-R scale	Gender	Mean	SD	SE	F	Sign. p-value
Sex Discrimination	Male	3.89	1.55	.06	142.05	.00**
	Female	4.70	1.35	.04		
Lack of Confidence	Male	4.01	1.46	.05	46.98	.00**
	Female	4.46	1.35	.04		
Multiple-Role Conflict	Male	4.00	1.12	.04	82.86	.00**
	Female	4.46	1.05	.03		
Children and Career Demands	Male	3.48	1.19	.04	184.29	.00**
	Female	4.21	1.12	.03		
Racial Discrimination	Male	4.73	1.51	.05	20.84	.00**
	Female	5.03	1.33	.04		
Inadequate Preparation	Male	3.90	1.29	.05	39.22	.00**
	Female	4.27	1.23	.04		
Disapproval by Significant Others	Male	3.10	1.48	.05	17.29	.00**
	Female	3.39	1.47	.04		
Decision-Making Difficulties	Male	3.96	1.21	.04	39.79	.00**
	Female	4.32	1.21	.04		
Dissatisfaction with Career	Male	4.63	1.29	.05	11.93	.00**
	Female	4.83	1.24	.04		
Discouraged from Choosing Non-Traditional Careers	Male	3.28	1.35	.05	39.41	.00**
	Female	3.67	1.32	.04		

Table 3 (continued)

CBI-R scale	Gender	Mean	SD	SE	F	Sign. p-value
Disability/Health Concerns	Male	4.14	1.64	.06	9.59	.00**
	Female	4.37	1.56	.05		
Job Market Constraints	Male	4.14	1.37	.05	42.47	.00**
	Female	4.54	1.29	.04		
Difficulties with Networking/ Socialisation	Male	3.62	1.12	.04	33.52	.00**
	Female	3.91	1.07	.03		

** $p < .01$

A particular reason why participants were asked in the demographic questionnaire to indicate the faculty in which they are currently enrolled, was to determine secondary hypothesis (a), namely whether an interaction effect existed between gender and faculty with regards to gender-related CBI-R scales. The motivation behind this interest was as a result of the vast amount of research and literature on both students' reluctance and willingness to pursue atypical career fields for their sex (refer back to section 2.3). A two-way independent ANOVA was performed to test for a possible interaction effect between gender and faculty on the Discouraged from Choosing Non-Traditional Careers scale. The results revealed that no significant interaction effect was found between gender and faculty on this particular scale, F (7, 1859) = 1.43, p = .19. Due to the small sample sizes obtained from the Theology and Military Sciences faculties, 31 participants were removed from this analysis.

4.4.2 Hypothesis 2

H1: There is a significant difference between the nature or type of career barriers that South African university students from different racial-ethnic backgrounds perceive and experience.

With the aim of testing hypothesis 2, participants were asked to indicate their race/ethnicity in the demographic questionnaire according to the South African CENSUS. The categories to select from were White, Black, Coloured, Indian or Asian South African. However, due to the small sample sizes obtained for Indian (2%) and Asian (less than 1%) South African students, which made a comparison to the other racial-ethnic groups difficult, they were removed in the calculation of the one-way independent ANOVA.

The one-way independent ANOVA revealed significant differences between racial-ethnic groups on 9 of the 13 CBI-R scales (see Table 4), with either Black or Coloured participants scoring higher means than their White counterparts on all of these scales. The significant differences found by this test are once again likely to be the result of the large *N* or the big disparity amongst the sample sizes of the three groups (White: $n = 1438$; Coloured: $n = 301$; Black: $n = 110$). Thus, some of the smaller significant differences identified between the three groups may not be as noteworthy from a practical point of view. The differences between the group means of White ($M = 3.91$) and Coloured ($M = 4.08$) students on the Children and Career Demands scale, for example, and of White ($M = 4.72$) and Coloured ($M = 4.90$) students on the Dissatisfaction with Career scale, are in reality so small to even regard it as significantly different (see Table 4). Nevertheless, most of the CBI-R scales such as the Inadequate Preparation scale (White: $M = 4.05$; Black: $M = 4.58$) and the Decision-Making Difficulties scale (White: $M = 4.11$; Black: $M = 4.53$) showed a clear distinction between group mean scores.

Table 4

Descriptive and Statistical Information for Race/Ethnicity

CBI-R scale	Race	Mean	SD	SE	F	Sign. p-value	LSD
Sex Discrimination	White	4.33	1.50	.04	5.77	.00**	a
	Coloured	4.65	1.42	.08			b
	Black	4.31	1.45	.14			a
Lack of Confidence	White	4.20	1.40	.04	13.21	.00**	b
	Coloured	4.58	1.42	.08			a
	Black	4.67	1.60	.15			a
Multiple-Role Conflict	White	4.25	1.08	.03	2.49	.08	
	Coloured	4.41	1.16	.07			
	Black	4.28	1.17	.11			
Children and Career Demands	White	3.91	1.20	.03	3.69	.03*	a
	Coloured	4.08	1.19	.07			b
	Black	3.76	1.20	.11			a
Racial Discrimination	White	4.91	1.41	.04	0.89	.41	
	Coloured	5.01	1.35	.08			
	Black	4.82	1.37	.13			
Inadequate Preparation	White	4.05	1.25	.03	15.15	.00**	b
	Coloured	4.36	1.30	.08			a
	Black	4.58	1.33	.13			a
Disapproval by Significant Others	White	3.29	1.49	.04	0.75	.47	
	Coloured	3.24	1.49	.09			
	Black	3.13	1.40	.13			

Table 4 (continued)

CBI-R scale	Race	Mean	SD	SE	F	Sign. p-value	LSD
Decision-Making Difficulties	White	4.11	1.21	.03	13.85	.00**	b
	Coloured	4.43	1.21	.07			a
	Black	4.53	1.27	.12			a
Dissatisfaction with Career	White	4.72	1.27	.03	4.01	.02*	b
	Coloured	4.90	1.22	.07			a
	Black	4.96	1.29	.12			ab
Discouraged from Choosing Non-Traditional Careers	White	3.43	1.32	.03	12.38	.00**	b
	Coloured	3.83	1.37	.08			a
	Black	3.74	1.42	.14			a
Disability/Health Concerns	White	4.23	1.62	.04	4.63	.01*	a
	Coloured	4.53	1.43	.08			b
	Black	4.34	1.63	.16			ab
Job Market Constraints	White	4.31	1.33	.03	10.07	.00**	b
	Coloured	4.66	1.32	.08			a
	Black	4.60	1.40	.13			a
Difficulties with Networking/ Socialisation	White	3.77	1.08	.03	2.13	.12	
	Coloured	3.89	1.16	.07			
	Black	3.92	1.09	.10			

* $p < .05$, ** $p < .01$

The Fischer Least Significant Difference (LSD) Post Hoc test was administered to determine exactly where the significant differences between the three racial-ethnic groups lie (see Table 4). The letter ‘a’ is used as a sign to indicate the two groups that are similar or alike, whereas the letter ‘b’ signifies the group that is significantly different from the other two. In the case where an ‘ab’ is present, that particular group does not differ from any of the other two groups, however the other two are significantly different from one another.

With regard to the first scale, the Sex Discrimination scale, Coloured students scored significantly higher than the other two groups (M = 4.65). On the Lack of Confidence scale, White students scored significantly lower than the other two groups (M = 4.20), with Black students having the highest mean score (M = 4.67). Coloured students scored significantly higher than the other two groups on the Children and Career Demands scale (M = 4.08), whereas on the Inadequate Preparation scale White students scored significantly lower than the other two groups (M = 4.05), with Black students having the highest mean score (M = 4.58). On the Decision-Making Difficulties scale, White students scored significantly lower than the other two groups (M = 4.11), with Black students having the highest mean score (M = 4.53). On the Dissatisfaction with Career scale, White students scored significantly lower than Coloured students (M = 4.72), whereas Black students did not differ significantly from any of the other two groups.

White students scored significantly lower than the other two groups on the Discouraged from Choosing Non-Traditional Careers scale (M = 3.43). On the Disability/Health Concerns scale, Coloured students scored significantly higher than White students (M = 4.53), whereas Black students did not differ significantly from any of the other two groups. On the Job Market Constraints scale, White students scored significantly lower than the other two groups (M = 4.31), with Coloured students having the highest mean score (M = 4.66).

Thus, hypothesis 2 is not rejected, as there is a significant difference between the nature or type of career barriers that South African university from different racial-ethnic backgrounds perceive and experience.

In addition to hypothesis 2, information on participants' socio-economic status obtained from the demographic questionnaire was used to determine whether an interaction effect existed between race/ethnicity and SES with regards to race-related and economy-related CBI-R scales (secondary hypothesis (b)). The rationale for having investigated these factors was due to the influence of race/ethnicity in conjunction with socio-economic background on students' career development that became apparent in previous studies (refer back to section 2.4). A two-way independent ANOVA was performed to test for a possible interaction effect between race/ethnicity and SES on the Racial Discrimination and the Job Market Constraints scale. However, no significant interaction effect was found between race/ethnicity and SES on both the Racial Discrimination scale, F (4, 1845) = .04, p = .99, and the Job Market Constraints scale, F (4, 1845) = .49, p = .74.

4.4.3 Hypothesis 3

H1: There is a significant difference between the nature or type of career barriers that South African university students at different course levels or academic years of study perceive and experience.

It is important to reiterate that students' current course level or academic year of study was used as a proxy for assessing participants' developmental level, which is also an indication of their maturity with regards to overcoming possible career barriers they may perceive or experience.

As this data set violated the assumptions of parametric tests, given that it is non-normally distributed and that the demographic variables whose effect we want to measure are ordinal ranked data, a non-parametric statistical analysis (Spearman) was used for

calculating the correlation coefficients between the 7 independent or predictor variables (developmental levels) and the 13 dependent or outcome variables (CBI-R scales).

From the correlation matrix presented in Table 5 below, it is clear that only 3 of the 13 CBI-R scales show a significant result ($p < .05$) with regards to the influence that developmental level has on the nature or type of career barriers students perceive or experience. The outcome from the Spearman analysis revealed a small positive (+) relationship between developmental level and the 3 CBI-R scales, which are the Decision-Making Difficulties scale ($r = .05$; $p = .03$), the Dissatisfaction with Career scale ($r = .07$; $p = .01$) and the Difficulties with Networking/Socialisation scale ($r = .08$; $p = .01$).

As a result, it can be concluded that an increase in students' developmental level (current course level or academic year of study) is only marginally significantly related to the amount of hindrance they perceive or experience with regard to indecisiveness, disappointment or frustration, and adjustment to their career development.

Table 5

Spearman Correlation Coefficient Matrix for Developmental Level and CBI-R scales

CBI-R scale	Spearman (r)	Sign. p-value
Sex Discrimination	-.03	.27
Lack of Confidence	.04	.11
Multiple-Role Conflict	.05	.05
Children and Career Demands	.03	.15
Racial Discrimination	.01	.54
Inadequate Preparation	.03	.17
Disapproval by Significant Others	.00	.92
Decision-Making Difficulties	.05	.03*
Dissatisfaction with Career	.07	.01*
Discouraged from Choosing Non-Traditional Careers	-.02	.38
Disability/Health Concerns	.01	.82
Job Market Constraints	.01	.54
Difficulties with Networking/Socialisation	.08	.01*

* $p < .05$

CHAPTER FIVE

DISCUSSION

5.1 Overview

The present research study aimed to investigate the diverse career perceptions and experiences of South African university students with regard to determining the degree to which potential career barriers on the Career Barriers Inventory-Revised (CBI-R) would hinder their career progress if it was encountered. Differences in students' career barrier perceptions were compared in terms of three main variables which also formed three primary research hypotheses, namely gender, race/ethnicity and course level or academic year of study. The three primary hypotheses, as well as the two secondary hypotheses, were assessed by conducting specific statistical analyses reported in the results section (Chapter 4). This chapter will therefore focus on discussing the demographic findings and pertinent results obtained for the research hypotheses, which will be organised into sections per hypothesis. Implications for theory, research and practice will also be discussed, as well as limitations and future recommendations will be presented.

5.2 Demographic Findings

Respondents' total summed scores on each of the 13 CBI-R scales revealed that the highest mean score was for the Racial Discrimination scale (cited with moderate to high frequency) and the lowest mean score was for the Disapproval by Significant Others scale (cited with moderate to low frequency). Although Racial Discrimination was the scale with the highest mean score for the sample and racial bias is thus considered to be a major barrier to their career advancement, no significant difference was detected among the different racial-ethnic groups with regard to this scale (refer back to Table 4 on page 43). In complete contrast to this finding, Swanson et al.'s (1996) initial CBI-R test sample revealed that Black participants scored significantly higher than White

participants on the Racial Discrimination scale, which was also the largest difference in means between the two groups. However, based on the present sample's findings, it can be posited that White, Coloured and Black university students all perceive and experience racial discrimination as an equally important impediment to their career development.

This finding is not surprising in the post-Apartheid era of South Africa where employment opportunities are scarce and students from all racial-ethnic backgrounds are overwhelmed with feelings of uncertainty, mainly as a result of organisations' diverse views around employing certain demographic groups of their choice in the workforce (Stead et al., 2004). Thus, in South Africa, socio-political factors such as affirmative action still appear to play a role in young people's perceptions of barriers. However, these findings are opposite to international literature, especially from the US, where greater perceptions of career barriers among Black college or university students compared to White students were established. Bowman (1988) and Henry (2006) both examined a sample of racial-ethnic minority students who specified their highest ranking career barriers to be overcoming negative racial stereotypes or prejudice and discrimination due to race/ethnicity. Racial-ethnic majority students, on the other hand, did not perceive or experience these factors to be barriers to their career advancement at all.

Other research studies involving college students however, such as that of Swanson and Tokar (1991b), found no reference with regard to the perception of racial discrimination as a major barrier to students' career progress. The students in their sample rather seemed to perceive the greatest barriers to attaining their future career goals to be related to factors such as being uninformed, being incapable, current and future financial concerns, internal pressure to perform academically, extensive time commitment, job availability and their own qualifications, skills and inadequate experience. The fact that the Disapproval by Significant Others scale had the lowest mean score in the present sample, hence a sign of participants' perceived ability to overcome this particular barrier if encountered (Swanson et al., 1996), is an indication that these students believe that they are not influenced by the views and opinions of their family and peers with regard to their choice of career. Swanson and Tokar's (1991b) study, on the other hand, revealed that

one of students' greatest perceived obstacles to choosing a major career path is, amongst other things, the influence and pressure from significant others.

5.3 Research Hypotheses

5.3.1 Differences between the nature or type of career barriers that male and female South African university students perceive and experience

The one-way independent ANOVA that was computed to identify differences between male and female students' perceptions and experiences regarding the nature or type of career barriers they may view as a possible hindrance to their career development, revealed a significant difference between men and women on all 13 CBI-R scales. The fact that the women in the sample scored significantly higher means than the men on all 13 CBI-R scales, is a clear indication of greater perceptions of career barriers among female students than male students. These results are consistent with research findings from the US, such as that of Luzzo (1995) and McWhirter et al. (1998) who discovered that female high school students perceive and experience more barriers to their career development than do their male counterparts. As a result, it is clear that gender is an important determinant when considering the amount and nature or type of career barriers students perceive or experience in South Africa. However, as mentioned before, the ability to discriminate between groups with a big difference in sample size is problematic in statistical analyses such as ANOVA's. Hence, the large sample size has caused even the smallest differences between men and women to prove significant when in reality it might not even exist.

The majority of the CBI-R scales, however, showed a clear distinction between the two groups' mean scores, especially the Sex Discrimination scale and the Children and Career Demands scale. The fact that women scored higher than men on these gender-oriented scales is an indication of their awareness that being female could have an effect on their career development. The women in the sample, compared to the men, clearly feel that if

they were subjected to gender bias, there is a high possibility that it might interfere with their chances of succeeding in their career, as well as the fact that having the duty of caring and providing for a family would hinder them from reaching their future career goals.

These results correlate significantly with a study conducted by Stead et al. (1999), who discovered that female South African high school learners are significantly more concerned about gender discrimination as a possible barrier to their career advancement than male learners. Luzzo et al. (2001) confirmed this statement by referring to a barrier investigation he conducted in the US, where the women in the sample were much more likely than the men to perceive and experience discrimination because of their sex and also reported having a harder time finding a job or getting promoted. With regard to family-related barriers, Luzzo and Hutcheson (1996) also found that significantly more women than men perceive barriers such as dealing with both work and family responsibilities as potential difficulties to their career plans.

Hypothesis 1 was therefore not rejected, as there is a significant difference between male and female South African university students with regard to the nature or type of career barriers they perceive and experience.

In addition, the two-way independent ANOVA performed to test for a possible interaction effect between gender and faculty on the Discouraged from Choosing Non-Traditional Careers scale (secondary hypothesis (a)), revealed no significant interaction effect. Thus, gender in conjunction with faculty does not seem to have a significant influence on students' reluctance or willingness to pursue atypical career fields for their sex. This finding is disparate to the vast amount of research and literature available on this topic. Morgan et al. (2001), for example, discovered that male college students often feel discouraged to pursue female-dominated occupations such as becoming a counsellor or teacher, which are courses offered by the Education or Arts and Social Sciences faculties. According to Kotarinou (2004), female students, on the other hand, feel less discouraged to pursue masculine or sex-atypical career paths such as mathematics and

science, which are courses offered by the Engineering and Natural Sciences faculties. This perception indicates that selecting and pursuing a career that is atypical for their gender would not hinder women from reaching their future career goals.

5.3.2 Differences between the nature or type of career barriers perceived and experienced by South African university students from different racial-ethnic backgrounds

The one-way independent ANOVA that was computed to identify differences between racial-ethnic groups' perceptions and experiences regarding the nature or type of career barriers they may view as a possible hindrance to their career development, revealed significant differences on 9 of the 13 CBI-R scales. This is similar to what Swanson et al. (1996) discovered from the initial CBI-R test sample with regard to racial-ethnic comparisons, where significant differences emerged on 8 of the 13 CBI-R scales. The fact that White students scored the lowest mean scores on most of the statistically significant scales and that either Black or Coloured students scored the highest means on all 9 statistically significant scales, is a clear indication of greater perceptions of career barriers among previously disadvantaged students. These results are consistent with research findings of Lopez and Ann-Yi (2006), who also established that racial-ethnic minorities perceive significantly greater career barriers than comparative samples of non-minorities.

It is therefore clear that race/ethnicity is an important determinant when considering the amount and nature or type of career barriers students perceive or experience in South Africa. However, as mentioned before, the significant differences are once again likely to be attributed to the large *N* or the big disparity amongst the sample sizes of the three groups. Nevertheless, most of the CBI-R scales, specifically the Inadequate Preparation scale and the Decision-Making Difficulties scale, showed a clear distinction between group mean scores, indicating a sufficient amount of disparity among different racial-

ethnic groups. Thus, the CBI-R showed expected group differences that once again contributed to demonstrating its differential validity across heterogeneous samples.

In order to determine exactly where the differences between the three racial-ethnic groups lie, a Post Hoc test, called the Fischer Least Significant Difference (LSD) test, was administered. Interesting and conspicuous results emerged from the Lack of Confidence scale on which White students scored significantly lower than the other two groups, meaning that a shortage or deficit in self-belief would not particularly hinder them from reaching their future career goals. The reality of a current high self-esteem could interfere with these students ability to envision themselves in a position where they do not have ample confidence to follow their career dreams. Black students scored highest on this scale, an indication that the idea or thought of a lack in confidence would surely interfere with their ability to advance in their career.

Luzzo et al. (2001) explained that not only do racial-ethnic minority students perceive or experience more career-related barriers, but they also report a lower perceived coping efficacy for dealing with these barriers than do majority students. These opposites in perceptions or experiences can most likely be attributed to the restricted exposure that Black students, of whom the majority in South Africa come from underprivileged backgrounds, have to: adequate information or knowledge regarding their field of interest, skill-developing opportunities relevant to their career goals and practical experience in the world of work. It would therefore be particularly helpful if career counselling services could focus on improving the quality of the information given to students about career opportunities available in the employment industry, as well as enhancing students' beliefs about their capabilities to succeed in their field of interest.

The same assumption can also be applicable to a closely related scale, the Inadequate Preparation scale, on which White students once again scored significantly lower than the other two groups, meaning that being internally insufficiently prepared for a job would not particularly concern them and would not impede on their future career plans. Thus, these students appear to have trust in their ability to handle and deal with career-related

challenges as it comes along. Black students, on the other hand, are the group who scored highest on this scale, which is an indication of their perceived lack in self-assurance to perform and complete tasks and duties entailed in a particular job. Once again, Black students who come from disadvantaged backgrounds have limited resources and experience in order to be fully prepared (physically, emotionally and psychologically) for what lies ahead in the employment industry itself.

White students also scored significantly lower than the other two groups on the Decision-Making Difficulties scale, demonstrating that being indecisive about their future career plans would not particularly serve as an obstruction to reaching their future career goals. Black students, however, the group with the highest score on this scale, view uncertainty with regard to their career choice as something that could have a negative impact on their career advancement. The fact that financial support is not just readily available to students who come from disadvantaged backgrounds is likely to have an influence on these students' perceptions of the importance of making the correct decision from the start with regard to their future career plans.

On the Job Market Constraints scale, White students scored significantly lower than the other two groups, indicating that they do not perceive a tight job market and a lack of future employment opportunities as a hindrance to their future career goals. White students therefore appear to be more optimistic, though not necessarily realistic, about their ability to find a job despite difficulties or restrictions in the job market than for example their Coloured counterparts, who scored highest on this scale. It can be speculated that Coloured students who, just like Black students, often come from disadvantaged backgrounds, are more familiar with looking for employment from an early age on already and have often experienced the lack or decline of opportunities in the work industry and the reality of being denied access to the workforce. As a result, students of colour are more doubtful of career options and the possibility of finding work. These findings are similar to US literature, which has confirmed that students of colour hold lower job expectations (Hughes & Demo, 1989) and have a wider gap between their

occupational expectations and aspirations than do White students (Pelham & Fretz, 1982).

Hypothesis 2 was therefore not rejected, as there is a significant difference between the nature or type of career barriers that South African university students from different racial-ethnic backgrounds perceive and experience.

In addition, the two-way independent ANOVA performed to test for a possible interaction effect between race/ethnicity and SES on the Racial Discrimination and the Job Market Constraints scale (secondary hypothesis (b)), revealed no significant interaction effect. Thus, students' race/ethnicity in conjunction with their SES does not appear to have a significant influence on the amount of racial bias they perceive or experience, as well as on their perception of their ability to find a job regardless of difficulties or restrictions in the job market. This finding, however, revealed the opposite to what previous studies in the literature established about this topic. Perrone et al. (2001), for example, discovered that SES, or financial/economic considerations for that matter, and racial bias play a very important role in students' ability to reach their future career goals and are often cited as the most salient barriers perceived and experienced by racial-ethnic minorities.

5.3.3 Differences between the nature or type of career barriers that South African university students at different course levels or academic years of study perceive and experience

Spearman's correlation coefficient that was used for calculating the correlation coefficients between the 7 developmental levels and the 13 CBI-R scales, revealed a significant result for only 3 of the 13 CBI-R scales. A small positive (+) relationship was found between students' developmental level (current course level or academic year of study) and the Decision-Making Difficulties scale, the Dissatisfaction with Career scale and the Difficulties with Networking/Socialisation scale. The positive relationship,

although small, implies that as students' developmental level (and accordingly their age) increase, so does their perception regarding the amount of hindrance that a particular barrier has or will have on their future career development.

Therefore, the higher students' progress in terms of their course level or academic year of study, the more they perceive factors such as indecisiveness, disappointment or frustration, and adjustment as barriers to their career advancement. These are all considered to be major negative role players in preventing individuals from moving forward in their careers. However, it is clear that as students mature with regard to their ability to overcome possible career barriers they may perceive or experience, the amount of barriers they perceive lessen accordingly.

Hypothesis 3 was therefore not rejected, as it was concluded that an increase in students' developmental level (current course level or academic year of study) is positively related to the amount and nature or type of career barriers they perceive and experience with regard to their career development.

5.4 Implications for Theory, Research and Practice

Considering the critique that had been raised in the past with regard to the conceptual definition and temporal dimension of perceived career barriers (Lent et al., 2000), modern theorists will need to place a further emphasis on clarifying the exact meaning and sequential spectrum perceived career barriers cover in order for researchers to apply it validly and accurately when utilising it in practice.

As it had been noticed what a critical influence perceived and experienced career barriers can have on individuals' career progress, it is important that the specific personal and environmental factors that affect individuals' career development be identified and targeted as early as possible. This will assist career researchers and counsellors to subsequently develop and implement suitable and effective vocational intervention

strategies that will guide and support students to actively respond to managing and conquering these obstacles. Being aware and acknowledging their own personal barriers can have a positive influence on students' career progress in the sense of making a conscious effort to plan and create future career goals (Luzzo, 1995).

It may also be important for career counsellors to consider students' accessibility to social support structures in order to understand where their perceptions of the existence or occurrence of career barriers are originating from. In the present study, for example, it was found that Coloured and Black university students perceive and experience more career barriers than their White counterparts and more often believe that certain types of attitudinal and interactional barriers (Swanson & Tokar, 1991a) would hinder them from reaching their future career goals, especially being indecisive about what type of profession to pursue and being inadequately prepared for their job or career. This is likely to be the result of a lack of exposure to sufficient career information and practical experience in the work industry. Amplified attention should therefore be paid to the establishment and availability of career counselling centres in low socio-economic areas that provide wide-ranging counselling services to previously disadvantaged individuals in order to effectively address the vocational needs of ethnically diverse student populations.

Finally, although it is beyond the scope of this research study, integrating interventions into career counselling specifically aimed at *coping* with barriers in and out of a person's control, may be especially important for those individuals who are likely to perceive and experience several barriers during their career development process (Brown & Lent, 1996). Attitudinal barriers, for instance, can be alleviated by systematically enhancing individuals' coping skills and abilities through personal growth training. However, the perception and experience of interactional barriers (Swanson & Tokar, 1991a) such as institutional sexism, as was found with the female South African university students in the present sample, require broad-based changes. Career counsellors could, for example, attempt to engage in socio-political efforts to surmount the existence of such discrimination, especially against women and racial-ethnic minorities (Luzzo et al.,

2001). Future research studies could also potentially consider investigating the positive influence of existing psychosocial support structures as coping-efficacy measures or mitigating factors in the extent to which career barriers are perceived and experienced.

5.5 Limitations and Recommendations

A major influencing factor, which can possibly be regarded as a limitation to the present research study, is the effect of the large sample size and the variance between the individual group sizes (male vs. female participants and subsections within the racial-ethnic groups). As mentioned before, the large *N* and the big disparity among group sizes, may have caused even the smallest differences between groups to be identified as significant when in reality they do not exist – meaning that some of the differences between the groups may not be as noteworthy from a practical viewpoint after all.

The large sample size does, however, include one advantage in terms of its broader generalisability. The gender and racial-ethnic composition of the sample of participants in the present research study adequately reflected the diversity-ratio of the student population at Stellenbosch University where the data was collected. Although the research sample only included students from Stellenbosch University, the findings obtained from the present study can in reality also be generalised to other South African student populations with similar demographic characteristics. However, future career barrier studies might consider including other subgroups of students and students from different geographical areas, i.e. universities in other provinces across the country.

As with any other descriptive, exploratory and non-experimental research, the present study's design limited the interpretative value of the results as it could yield no definite statements with regard to causal relationships – it could only point out specific factors or variables that are related to students' perceptions and experiences of career barriers and of which doubtful speculations were made. The fact that specific reasons for the observed differences were not clearly identifiable can also be regarded as one of the major

limitations of the present research study, as it would be very interesting to know, for example, why an increase in students' developmental level are significantly related to only 3 CBI-R scales or barriers, namely indecisiveness, disappointment or frustration, and adjustment to career advancement.

Also, the fact that the CBI-R is a psychometric instrument in the form of a fixed self-report questionnaire (Swanson & Tokar, 1991a) and that it was administered by means of an online survey, prohibited the incorporation of participants' detailed responses with regard to their perceptions and experiences of career barriers, and as a result could not capture any information regarding causality. Despite these limitations, the discovery of significant differences between groups highlighted several areas for future research. To overcome this problem of establishing cause-and-effect, future career barrier studies could adopt a qualitative methodology that includes interviews with open-ended questions, so that participants are free to elaborate on their perceptions and experiences with regard to career barriers and hereby gaining a clear description of factors that negatively interfere with their career development.

Adding to the constraints of the non-experimental research design, the cross-sectional nature of the present study is another limitation in the sense that students' once-off responses could for example have been influenced by respondent errors such as fatigue or current mood state. Moreover, students who perceive(d) or experience(d) multiple career barriers in their lives might have been less encouraged to respond truthfully to the questions in the online survey in order to avoid painful matters. Luzzo (1996) proposed that future longitudinal research or reputability studies could examine students' perceived career barriers across a period of time in order to determine whether changes in their perceptions occur throughout the career development process or whether their perceptions of barriers remain fairly stable over time.

With regard to the identified independent variables used to determine the research hypotheses, most previous studies (e.g., Lucas & Epperson, 1990; Slaney & Brown, 1983), including the present one, have focused almost solely on the differences in

perceived career barriers among high school and college/university students on the basis of common demographic characteristics such as gender and race/ethnicity. Prospective studies could extend the application of Lent et al.'s (1994) Social Cognitive Career Theory to an investigation of other personal characteristics that may potentially reveal differences in the amount and nature or type of career barriers students perceive or experience, for example sexual orientation and disability status.

5.6 Conclusion

It has become evident over the past several years that there are a substantial number and a variety of career-related barriers that people all around the world perceive and experience. Many research studies have also indicated that the perception of career barriers is a complex phenomenon that negatively interferes with individuals' career development process and that appears to be rather specific to certain groups of people, especially college and university students. These studies have mostly been performed on student samples in the US, where after a need occurred to expand the exploration to other countries with different socio-political contexts, such as South Africa.

The objectives of the present study resulted in the formulation of three primary research hypotheses concerning how perceptions and experiences of career barriers may be related to certain demographic characteristics of students in South Africa, specifically that of gender, race/ethnicity and course level or academic year of study. Students from Stellenbosch University's barrier perceptions were measured by means of rating the extent to which certain factors appearing in the Career Barriers Inventory-Revised (CBI-R) would hinder or has hindered their career development if it was encountered.

The first hypothesis stated that gender differences between students would be found for perceived barriers to career development, which was indeed confirmed. Female students scored significantly higher means than male students on all 13 CBI-R scales. The second hypothesis stated that racial-ethnic differences between students would be found for

perceived barriers to career development, which was also verified. Results fluctuated between Black and Coloured students, who interchangeably scored significantly higher means than White students on 9 of the 13 CBI-R scales. The third hypothesis stated that course level or academic year of study differences between students would be found for perceived barriers to career development, which was also supported. It was determined on 3 of the 13 CBI-R scales that the higher the developmental level of students is, the more career barriers they would perceive or experience.

The present research study therefore revealed descriptive and exploratory baseline data regarding perceived career barriers among South African university students and clearly demonstrated the CBI-R's validity and applicability in the South African student context. However, the significant results obtained in this study could not reveal causal relationships with regard to the perceptions or experiences of career barriers and therefore require further experimental investigation regarding the basis of these existing perceptions. Finally, it is important for researchers to take into account that while the perception of career barriers is certainly a reality for the individual, it remains essentially subjective from that person's perspective and should thus be interpreted with caution.

REFERENCES

Albert, K.A., & Luzzo, D.A. (1999). The role of perceived barriers in career development: A social cognitive perspective. *Journal of Counseling and Development*, *77*(4), 431-436.

Arbona, C. (1990). Career counseling research and Hispanics: A review of the literature. *The Counseling Psychologist*, *18*(2), 300-323.

ASHE Higher Education Report. (2009). Barriers encountered by administrators of colour in higher and postsecondary education. *Ethnic and Racial Administrative Diversity, 35*(3), 31-46.

Bandura, A. (1982). The self and mechanisms of agency. In J. Suls (Eds.), *Psychological perspectives on the self* (pp. 3-39). Hillsdale, NJ: Erlbaum.

Betz, N.E., & Fitzgerald, L.F. (1987). *The career psychology of women*. Orlando: Academic Press.

Bless, C., Higson-Smith C., & Kagee, A. (2006). *Fundamentals of social research methods: An African perspective* (4th ed.). Cape Town: Juta.

Bowman, S.L. (1988). *An examination of the career development of black students*. Unpublished doctoral dissertation, Southern Illinois University.

Brown, S.D., & Lent, RW. (1996). A social cognitive framework for career choice counseling. *The Career Development Quarterly*, *44*, 354-366.

Cardoso, P., & Marques, J.F. (2008). Perception of career barriers: The importance of gender and ethnic variables. *International Journal of Educational/Vocational Guidance*, *8*, 49-61.

Chartrand, J.M. (1996). Linking theory with practice: A sociocognitive interactional model for career counseling. In M.L. Savickas, & W.B. Walsh (Eds.), *Handbook of career counseling* (pp. 121-134). Palo Alto, CA: Davies-Black.

Chartrand, J.M., & Rose, M.L. (1996). Career interventions for at-risk populations: Incorporating social cognitive influences. *Career Development Quarterly*, *44*(4), 341-353.

Chung, Y.B., & Harmon, L.W. (1999). Assessment of perceived occupational opportunity for black Americans. *Journal of Career Assessment, 7*, 45-62.

Creed, P.A., Patton, W., & Bartrum, D. (2004). Internal and external barriers, cognitive style and the career development variables of focus and indecision. *Journal of Career Development, 30*(4), 277-294.

Crites, J.O. (1969). *Vocational psychology*. New York: McGraw-Hill.

Dryburgh, H. (2000). Underrepresentation of girls and women in computer science: Classification of 1990s research. *Journal of Educational Computing Research, 23*(2), 181-202.

Fabian, E.S., Beveridge, S., Ethridge, G. (2009). Differences in perceptions of career barriers and supports for people with disabilities by demographic, background and case status factors. *The Journal of Rehabilitation*, *75*(1), 41-49.

Farmer, H.S. (1976). What inhibits achievement and career motivation in women? *The Counseling Psychologist, 6*, 12-14.

Gushue, G.V., Clarke, C.P., Pantzer, K.M., & Scanlan, K.R.L. (2006). Self-efficacy, perceptions of barriers, vocational identity and the career exploration behavior of Latino/a high school students. *Career Development Quarterly, 54*(4), 307-317.

Hayes, R. (1989). Men in female-concentrated occupations. *Journal of Organizational Behavior, 10*, 201-212.

Henry, P. (2006). Educational and career barriers to the medical profession: Perceptions of underrepresented minority students. *College Student Journal*, *40*(2), 429-441.

Hughes, M., & Demo, D.H. (1989). Self-perceptions of black Americans: Self-esteem and personal efficacy. *American Journal of Sociology, 95*, 132-157.

Jordaan, J.P., & Heyde, M.B. (1979). *Vocational maturity during the high school years*. New York: Teacher's College.

Kenny, M.E., Blustein, K.L., Chaves, A., Grossman, J.M., & Gallagher, L.A. (2003). The role of perceived barriers and relational support in the educational and vocational lives of urban high school students. *Journal of Counseling Psychology, 50,* 142-155.

Kotarinou, P. (2004). *Gender and mathematics*. Diploma thesis, University of Athens.

Lee, S.H. (2006). The relationship between dispositional variables, career barriers, career decision-making self efficacy and career attitude maturity of college students. *The Korean Journal of Counseling and Psychotherapy, 18,* 399-417.

Lee, S.H., Yu, K., & Lee, S.M. (2008). A typology of career barriers. *Asia Pacific Education Review, 9*(2), 157-167.

Lent, R.W., Brown, S.D., Brenner, B., Chopra, S.B., Davis, T., Talleyrand, R. et al. (2001). The role of contextual supports and barriers in the choice of math/science educational options: A test of social cognitive hypotheses. *Journal of Counseling Psychology, 48*, 474-483.

Lent, R.W., Brown, S.D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice and performance. *Journal of Vocational Behavior, 45*, 79-122.

Lent, R.W., Brown, S.D., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology, 47*(1), 36-49.

Lent, R.W., Brown, S.D., Talleyrand, R., McPartland, E.B., Davis, T., Chopra S.B. et al. (2002). Career choice barriers, supports and coping strategies: College students' experiences. *Journal of Vocational Behavior, 60*(1), 61-72.

Lindley, L.D. (2005). Perceived barriers to career development in the context of social cognitive career theory. *Journal of Career Assessment, 13*, 271-287.

Lopez, F.G., & Ann-Yi, S. (2006). Predictors of career indecision in three racial/ethnic groups of college women. *Journal of Career Development, 33*, 29-39.

Lucas, M.S., & Epperson, D.L. (1990). Types of vocational undecidedness: A replication and refinement. *Journal of Counseling Psychology, 37*, 382-388.

Luzzo, D.A. (1993). Ethnic differences in college student's perceptions of barriers to career development. *Journal of Multicultural Counseling and Development, 21*(4), 227-236.

Luzzo, D.A. (1995). Gender differences in college students' career maturity and perceived barriers in career development. *Journal of Counseling and Development, 73*, 319-322.

Luzzo, D.A. (1996). Exploring the relationship between the perception of occupational barriers and career development. *Journal of Career Development, 22*, 239-248.

Luzzo, D.A., & Hutcheson, K.G. (1996). Causal attributions and sex differences associated with perceptions of occupational barriers. *Journal of Counseling and Development, 75*, 124-130.

Luzzo, D.A., & Jenkins-Smith, A. (1998). Development and initial validation of the assessment of attributions for career decision-making. *Journal of Vocational Behavior, 52*, 224-245.

Luzzo, D.A., McWhirter, G., & Hawley, E. (2001). Sex and ethnic differences in the perception of educational and career-related barriers and levels of coping efficacy. *Journal of Counseling & Development*, *79*(1), 61-67.

McWhirter, E.H. (1997). Perceived barriers to education and career: Ethnic and gender differences. *Journal of Vocational Behavior, 50*, 124-140.

McWhirter, E.H., Torres, D., & Rasheed, S. (1998). Assessing barriers to women's adjustment. *Journal of Career Assessment, 6*, 449-479.

Morgan, C., Isaac, J.D., & Sansone, C. (2001). The role of interest in understanding the career choices of female and male college students. *Sex Roles, 44*, 295-320.

Papastergiou, M. (2008). Are computer science and information technology still masculine fields? High school students' perceptions and career choices. *Computers & Education*, *51*(2), 594-608.

Pascarella, E.T., & Terenzini, P.T. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco, CA: Jossey-Bass.

Pelham, J.P., & Fretz, B.R. (1982). Racial differences and attributes of career choice unrealism. *Vocational Guidance Quarterly, 30*, 36-42.

Perrewé, P.L., & Nelson, D.L. (2004). Gender and career success: The facultative role of political skill. *Organizational Dynamics, 33*, 366-37.

Perrone, K.M., Sedlacek, W.E., & Alexander, C.M. (2001). Gender and ethnic differences in career goal attainment. *Career Development Quarterly*, *50*(2), 168-178.

Prelow, H.M., & Guarnaccia, C.A. (1997). Ethnic and racial differences in life stress among high school adolescents. *Journal of Counseling and Development, 75*, 442-450.

Restubog, S.L.D., Florentino, A.R., & Garcia, P.R.J.M. (2010). The mediating roles of career self-efficacy and career decidedness in the relationship between contextual support and persistence. *Journal of Vocational Behavior*, 1-34.

Robbins, S.P., & Judge, T.A. (2010). *Organizational Behavior* (14th ed.). New Jersey: Pearson-Prentice Hall.

Russell, J.E.A. (2001). Vocational psychology: An analysis and directions for the future. *Journal of Vocational Behavior, 59,* 226-234.

Sax, L.J., & Bryant, A.N. (2006). The impact of college on sex-atypical career choices of men and women. *Journal of Vocational Behavior*, *68*(1), 52-63.

Slaney, R.B., & Brown, M.T. (1983). Effects of race and socioeconomic status on career choice variables among college men. *Journal of Vocational Behavior*, *23*, 257-269.

Stead, G.B. (1996). Career development of black South African adolescents: A developmental-contextual perspective. *Journal of Counseling and Development, 74,* 270-275.

Stead, G.B., Els, C., & Fouad, N.A. (1999). *Construct validity of the Perceived Barriers Questionnaire among South African high school students.* Paper presented at the 107th Annual Convention of the American Psychological Association, Boston, MA.

Stead, G.B., Els, C., & Fouad, N.A. (2004). Perceived career barriers among South African high school learners. *South African Journal of Psychology*, *34*(2), 206-221.

Swanson, J.L., & Daniels, K.K. (1994). *The relation of Perceived Career Barriers Inventory-Revised.* Carbondale, Illinois: Southern Illinois University Press.

Swanson, J.L., Daniels, K.K., & Tokar, D.M. (1996). Assessing perceptions of career-related barriers: The Career Barriers Inventory. *Journal of Career Assessment, 4*(2), 219-244.

Swanson, J.L., & Tokar, D.M. (1991a). Development and initial validation of the Career Barriers Inventory. *Journal of Vocational Behavior*, *39*, 344-361.

Swanson, J.L., & Tokar, D.M. (1991b). College students' perceptions of barriers to career development. *Journal of Vocational Behavior*, *38*, 92-106.

Swanson, J.L., & Woitke, R. (1997). Theory into practice in career assessment for women: Assessment and interventions regarding perceived career barriers. *Journal of Career Assessment*, *5*, 443-462.

Taylor, K.M. (1982). An investigation of vocational indecision in college students: Correlates and moderators. *Journal of Vocational Behavior*, *21*, 318-329.

Tidwell, B.J. (1992). *The state of black America 1992*. New York: The National Urban League.

Tien, H.S., Wang, Y., & Liu, L. (2009). The role of career barriers in high school students' career choice behaviour in Taiwan. *Career Development Quarterly*, *57*(3), 274-288.

Watson, M.B., & Stead, G.B. (2006). An overview of career theory. In G.B. Stead, & M.B. Watson (Eds.), *Career psychology in the South African context* (2nd ed.). Pretoria: Van Schaik.

Weiner, B. (1985). An attribution theory of achievement motivation and emotion. *Psychological Review*, *92*, 548-573.

APPENDIX A

DEMOGRAPHIC INFORMATION

Please indicate your gender:

- ○ Male
- ○ Female

How old are you today? _____

Please indicate your first (home) language:

- ○ Afrikaans
- ○ English
- ○ isiXhosa
- ○ isiZulu
- ○ Other (Please specify: _____)

How many years have you been studying at the University of Stellenbosch? "In total, this is my..."

- ○ 1st year
- ○ 2nd year
- ○ 3rd year
- ○ 4th year
- ○ 5th year
- ○ 6th year
- ○ 7th year
- ○ 8th or more year

What course level you are CURRENTLY registered for?

- ○ 1st year
- ○ 2nd year
- ○ 3rd year
- ○ Honours Program

- ○ Masters Program
- ○ Doctoral Program
- ○ Postdoctoral Program
- ○ Other (Please specify: _____)

Which faculty are you currently studying in?

- ○ AgriSciences
- ○ Arts and Social Sciences
- ○ Economic and Management Sciences
- ○ Education
- ○ Engineering
- ○ Health Sciences
- ○ Law
- ○ Military Sciences
- ○ Natural Sciences
- ○ Theology
- ○ Other (Please specify: _____)

Please indicate the student status below that describes you best:

- ○ Registered as a Full-time student
- ○ Registered as a Part-time student
- ○ Other (Please specify: _____)

Please indicate which of the categories below describes you best (see disclaimer below):

- ○ White South African
- ○ Black South African
- ○ Coloured South African
- ○ Indian South African
- ○ Asian South African
- ○ Non-South African
- ○ Other (Please specify: _____)

* These categories are included in this survey only as a control measure to determine how closely the distribution of participants reflects the diverse student population at Stellenbosch University in general.

Please indicate your family unit's socio-economic status (estimated joint income of household per month):

- ○ Lower Socio-Economic Status (below R10 000 p.m.)
- ○ Middle Socio-Economic Status (R10 000 – R20 000 p.m.)
- ○ Upper Socio-Economic Status (R20 000 – R40 000 p.m.)
- ○ Affluent Socio-Economic Status (above R40 000 p.m.)

APPENDIX B

CAREER BARRIERS INVENTORY-REVISED (CBI-R)

A barrier is a factor, event or condition, either within a person (internal) or in his/her environment (external), which interferes with their career plans or job.

For each item or question listed below, rate the potential difficulty or extent to which the particular barrier would hinder/has hindered your career development if it should occur, currently exists or have been encountered in the past. In other words, the question is: How much effect do you think each of the following things will have in keeping you from reaching your future career goals?

Mark your answer using the following 7-point Likert scale.

would not hinder at all			would hinder somewhat			would completely hinder
1	2	3	4	5	6	7

1.	Unsure of my career goals.	1	2	3	4	5	6	7
2.	Needing to take time off work when children are sick or on school breaks.	1	2	3	4	5	6	7
3.	Experiencing racial discrimination in hiring for a job.	1	2	3	4	5	6	7
4.	Needing to relocate because of my spouse's/partner's job.	1	2	3	4	5	6	7
5.	Changing my mind again and again about my career plans.	1	2	3	4	5	6	7

6. Having a disability which limits my choice of careers.	1	2	3	4	5	6	7
7. Discrimination by employer because I have, or plan to have, children.	1	2	3	4	5	6	7
8. Unsure of how to "sell myself" to an employer.	1	2	3	4	5	6	7
9. Becoming bored with my job/career.	1	2	3	4	5	6	7
10. Being discouraged from pursuing fields which are non-traditional for my sex (e.g., engineering for women).	1	2	3	4	5	6	7
11. Feeling a conflict between my job and my family (spouse and/or children).	1	2	3	4	5	6	7
12. Having a boss or supervisor who is biased against people of my racial/ethnic group.	1	2	3	4	5	6	7
13. Experiencing problems with my health that interfere with my job/career.	1	2	3	4	5	6	7
14. Unsure of my work-related values.	1	2	3	4	5	6	7
15. Allowing my spouse's desire for children to take precedence over my career goals.	1	2	3	4	5	6	7
16. Difficulty in finding a job due to a tight job market.	1	2	3	4	5	6	7
17. Feeling pressure to "do it all" – expected to do well as parent, spouse, career person, etc.	1	2	3	4	5	6	7
18. Not feeling confident about my ability on the job.	1	2	3	4	5	6	7
19. Not being able to find good day-care services for my children.	1	2	3	4	5	6	7
20. My spouse/partner doesn't approve of my choice of job/career.	1	2	3	4	5	6	7
21. Not feeling confident about myself in general.	1	2	3	4	5	6	7
22. Not wanting to relocate for my job/career.	1	2	3	4	5	6	7
23. Feeling guilty about working while my children are young.	1	2	3	4	5	6	7
24. Experiencing racial harassment on the job.	1	2	3	4	5	6	7

25. Experiencing discrimination in hiring for a job because I have a disability.	1	2	3	4	5	6	7
26. Not being paid as much as co-workers of the opposite sex.	1	2	3	4	5	6	7
27. Being undecided about what job/career I would like.	1	2	3	4	5	6	7
28. Stress at home (spouse or children) affecting my performance at work.	1	2	3	4	5	6	7
29. Lacking the required personality traits for my job (e.g., assertiveness).	1	2	3	4	5	6	7
30. Disappointed in my career progress (e.g., not receiving promotions as often as I would like).	1	2	3	4	5	6	7
31. Other people's belief that certain careers are not appropriate for people of my sex.	1	2	3	4	5	6	7
32. Losing interest in my job/career.	1	2	3	4	5	6	7
33. Difficulty in re-entering job market after taking time off to care for my children.	1	2	3	4	5	6	7
34. Difficulty in planning my career due to changes in the economy.	1	2	3	4	5	6	7
35. Lacking the required skills for my job (e.g., communication, leadership, decision-making).	1	2	3	4	5	6	7
36. Experiencing racial discrimination in promotions in my job/career.	1	2	3	4	5	6	7
37. Difficulty in maintaining the ground gained at my job after having children.	1	2	3	4	5	6	7
38. Not being sure how to choose a career direction.	1	2	3	4	5	6	7
39. Unsure of what my career alternatives are.	1	2	3	4	5	6	7
40. Conflict between marriage/family plans and my career plans.	1	2	3	4	5	6	7
41. Lack of maturity interferes with my career.	1	2	3	4	5	6	7
42. Not having a role model or mentor at work.	1	2	3	4	5	6	7

43. Experiencing sex discrimination in hiring for a job.	1	2	3	4	5	6	7
44. Not receiving support from my spouse/partner.	1	2	3	4	5	6	7
45. Having low self-esteem.	1	2	3	4	5	6	7
46. Discrimination due to my marital status.	1	2	3	4	5	6	7
47. My parents/family don't approve of my choice of job/ career.	1	2	3	4	5	6	7
48. Having a boss or supervisor who is biased against people of my sex.	1	2	3	4	5	6	7
49. People of the opposite sex receive promotions more often than people of my sex.	1	2	3	4	5	6	7
50. No opportunities for advancement in my career.	1	2	3	4	5	6	7
51. Not being paid as much as co-workers of another racial/ ethnic group.	1	2	3	4	5	6	7
52. My belief that certain careers are not appropriate for me because of my sex.	1	2	3	4	5	6	7
53. Having children at a "bad time" in my career plans.	1	2	3	4	5	6	7
54. People of other racial/ethnic groups receive promotions more often than people of my racial/ethnic group.	1	2	3	4	5	6	7
55. Lacking information about possible jobs/careers.	1	2	3	4	5	6	7
56. The outlook for future employment in my field is not promising.	1	2	3	4	5	6	7
57. Being dissatisfied with my job/career.	1	2	3	4	5	6	7
58. Unable to deal with physical or emotional demands of my job.	1	2	3	4	5	6	7
59. Unsure of what I want out of life.	1	2	3	4	5	6	7
60. Having an inflexible work schedule that interferes with my family responsibilities.	1	2	3	4	5	6	7

61. Unsure of how to advance in my career.	1	2	3	4	5	6	7
62. Lacking the necessary educational background for the job I want.	1	2	3	4	5	6	7
63. Experiencing sexual harassment on the job.	1	2	3	4	5	6	7
64. Fear that people will consider me "unfeminine" or "unmasculine" because my job/career is non-traditional for my sex.	1	2	3	4	5	6	7
65. Not knowing the "right people" to get ahead in my career.	1	2	3	4	5	6	7
66. Lacking the necessary hands-on experience for the job I want.	1	2	3	4	5	6	7
67. Lack of opportunities for people of my sex in non-traditional fields.	1	2	3	4	5	6	7
68. No demand for my area of training/education.	1	2	3	4	5	6	7
69. Stress at work affecting my life at home.	1	2	3	4	5	6	7
70. My friends don't approve of my choice of job/career.	1	2	3	4	5	6	7

(The Career Barriers Inventory-Revised developed by Professor Jane L. Swanson).

APPENDIX C

Dear Stellenbosch University student

You are invited to participate in a research study that focuses on investigating the perceived career barriers of university students in South Africa. You were selected as a possible participant in this study due to being an undergraduate or postgraduate student registered at SU in 2010. This study is undertaken by Ms Jonéll Bester, a Master's student in Psychology at Stellenbosch University, and Prof Tony Naidoo, chairperson of the Psychology Department. Permission for this study to be conducted on the university's premises has been granted and approved by the Psychology Department, as well as by the Ethics Committee of Stellenbosch University. The results obtained from this study will be contributed to a Master's thesis and will not be used for any purpose other than the thesis document.

PURPOSE AND INSTRUCTIONS:

Based on the instrumental role that career barriers can play in individuals' career development process, the present research study will aim to assess and investigate the diverse career perceptions and experiences of South African university students with regard to determining the degree to which potential barriers would hinder or has hindered their career progress and whether these barriers (a) vary by gender, (b) vary by race/ethnicity and (c) vary by course level or academic year of study. If you volunteer to participate in this study, you will be asked to fill out the short demographic questionnaire and complete the measure of perceived career barriers. These two instruments are easy to complete by merely requiring you to tick the response that best describes your situation. This process will only take up 15 minutes of your time. The results gained from respondents will permit the researcher to make a comparison between the types of career barriers perceived and experienced by South African university students and demographic variables such as gender, race/ethnicity and course level or academic year of study.

CONFIDENTIALITY AND RIGHTS:

This survey is completed anonymously in order to protect participants' identity. Any information that is obtained in connection with this study will remain confidential, thus there is no apparent risk to partake in this study. If you volunteer to participate in this study you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you do not want to answer. Take note: the researcher may withdraw your response from this study if circumstances arise which warrant doing so.

POTENTIAL BENEFITS:

A potential benefit this study holds to participants who complete the survey is the opportunity to become aware of and gain insight into their current perception of possible career barriers. Participants who submit a fully completed survey will be entered into a lucky draw to win a cash prize of R500. However, only one lucky student will win a R500 cash prize as reward for volunteering to take part in this research study. The winner will be drawn randomly and will be notified by e-mail. This draw will be overseen by the Psychology Department of Stellenbosch University.

Please be as forthright as possible when answering the questions and remember to save and submit your answers after completion of the online process.

If you have any questions or concerns about this research study, please feel free to contact the research conductor, Ms Jonéll Bester (14907046@sun.ac.za; 021 919 1301), or the research supervisor, Prof Tony Naidoo (avnaidoo@sun.ac.za; 021 808 3461).

If you have any questions or concerns regarding your rights as a research participant, please feel free to contact Ms Maryke Hunter-Hüsselmann (mh3@sun.ac.za; 021 808 4623) at the Division for Research Development.

Thanking you in advance for your assistance.

Please select the “I AGREE” icon below to indicate that, you, as the participant, acknowledge that you have read through the information provided above and are giving your informed consent for the data to be used. You will then be directed to the online survey.

- ○ **I AGREE** to participate in this study
- ○ **I DO NOT AGREE** to participate in this study