MODIFICATION AND ELABORATION OF THE ORIGINAL SMUTS (2011) EXPLANATORY INTENTION TO QUIT STRUCTURAL MODEL AND EMPIRICAL TESTING OF THE MODIFIED AND ELABORATED REITZ MODEL

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DECLARATION

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ABSTRACT

Today's business environment has become very competitive and the retention of skilled, high-performing employees has therefore also become a major concern to managers worldwide. It has become crucial to recruit talented, smart and capable people and also to keep these top talent employees out of the hands of other companies.

Organisations invest large amounts of money time and energy each year to recruit, select and develop talented employees. Organisations also need to invest resources to retain these talented employees. At the same time, however, they also find themselves reluctant to spend too much money on talented employees, because of the possibility of losing their best employees to competitors.

Voluntary turnover of employees occurs when an employee voluntarily leaves his/her job and has to be replaced by someone else (Samuel & Chipunza, 2009). Retention, represents an integrated set of interventions developed by organisations aimed at retaining talented employees and rooted in the reasons for the intention to quit under their (high-performing) employees. Thus, the primary goal of interventions aimed at retaining talented employees is to try and minimise the outflow of high-performing employees. The loss of its high-performing employees holds serious have negative consequences for organisations' productivity and service delivery.

The strength of the intention to quit varies across employees. The differences in the strength of the turnover intention across employees is not the outcome of a chance phenomenon, but rather the result of specific latent variables that define the employee and his/her working environment. It is consequently important to validly understand the identity of these determining variables.

Smuts (2011) argued that the psychological mechanism that regulates the performance level that line managers achieve on the talent management competencies affect the strength of their subordinates' turnover intention, is more intricate than is acknowledged by the Oehley (2007) structural model. Oehley (2007) has developed the first integrated structural model aimed at describing the psychological mechanism that regulates employees' intention to quit. Smuts (2011) has formally acknowledged the importance of cumulative research by proposing extensions to the Oehley (2007) intention to quit model, but, however, failed to test her full model. The strength of employees' intention to quit is complexly determined.

A need therefore exists to re-attempt to fit the comprehensive Smuts (2011) model that she originally proposed. Therefore, the primary aim of the current study is to expand (and to modify if necessary) the original Smuts (2010) explanatory intention to quit structural model and to empirically test the modified and expanded model. The present study further elaborated and integrated the work done by Oehley (2007), Smuts (2011) and Bezuidenhout (2013).

The overarching substantive research hypothesis was dissected into fifteen more detailed, path-specific substantive research hypotheses. The Reitz measurement model showed good fit (RMSEA=.02). The comprehensive LISREL Reitz intention to quit model showed reasonable fit according to the goodness of fit statistics (RMSEA=.063, p>.05). Support was found for one of the fifteen path-specific substantive hypotheses and partial support was obtained for nine of the fifteen path-specific substantive hypotheses.

Practical managerial implications are discussed. Recommendations for future research are made.

OPSOMMING

Vandag se besigheidsomgewing het baie mededingend geword en die behoud van geskoolde, hoog-presterende werknemers het dus ook wêreldwyd 'n groot bekommernis vir bestuurders geword. Dit het noodsaaklik geraak om talentvolle, slim en bevoegde mense te werf en ook om hierdie top talentvolle werknemers uit die hande van ander maatskappye te hou.

Organisasies spandeer jaarliks groot hoeveelhede finansiële en ander hulpbronne in 'n poging om talentvolle werknemers te lok, te ontwikkel en te behou, maar terselfdertyd vind hulle hulself ook huiwerig om té groot hoeveelhede geld aan talentvolle werknemers te spandeer, weens die moontlikheid om hulle beste werknemers te verloor aan mededingers.

Vrywillige omset van werknemers vind plaas wanneer 'n werknemer vrywillig sy/haar werk verlaat en deur iemand anders vervang moet word (Samuel & Chipunza, 2009). Behoud, verteenwoordig 'n geïntegreerde stel intervensies wat deur organisasies ontwikkel is, wat daarop gemik is om talentvolle werknemers te behou en wat gewortel is in die redes vir die voorneme onder hul (hoog-presterende) werknemers om hul werk te verlaat. Die primêre doel van behoud is dus om die verlies van hul bevoegde werknemers te voorkom, aangesien dit die produktiwiteit en dienslewering van die organisasie negatief kan beïnvloed.

Die sterkte van die voorneme om werk te verlaat wissel tussen werknemers. Die verskille in die sterkte van die omsetvoorneme oor werknemers is nie die gevolg van 'n ewekansige gebeurtenis nie, maar eerder die gevolg van sommige bepalende veranderlikes wat die werknemer en sy/haar werksomgewing karakteriseer. Dit is dus belangrik om die identiteit van hierdie bepalende veranderlikes geldig te verstaan.

Smuts (2011) het geargumenteer dat die sielkundige meganisme waardeur die vlak van bevoegdheid wat lynbestuurders op die talentbestuursbevoegdhede bereik, die sterkte van hul volgelinge se voorneme om op te hou werk affekteer, meer ingewikkeld is as wat die Oehley (2007) struktuele model erken. Oehley (2007) het 'n waardevolle verklarende model van werknemeromset-voorneme voorgestel. Smuts (2011) het die belangrikheid van kumulatiewe navorsing formeel erken deur uitbreidings aan die Oehley (2007) model aan te bring, maar het nie daarin geslaag om haar volle model te toets nie. Die sterkte van werknemers se voorneme om op te hou werk is kompleks gedetermineer.

Daar bestaan dus 'n behoefte om die omvattende Smuts (2011) model wat sy oorspronklik voorgestel het, weer te evalueer en te probeer pas. Daarom is die primêre doel van hierdie

navorsingsinisiatief om die oorspronklike Smuts (2010) se verklarende werknemeromset-struktuele model aan te pas en uit te brei en om dan die uitgebreide model empiries te evalueer. Die huidige studie het ook verder uitgebrei en geïntegreer op die werk wat deur Oehley (2007), Smuts (2011) en Bezuidenhout (2013) gedoen is. Die huidige studie beoog dus om die verklarende Oehley - Smuts - Bezuidenhout - Reitz talentbestuursvaardigheidsmodel te toets.

Die oorkoepelende substantiewe navorsingshipotese is in vyftien meer gedetailleerde, baanspesifieke substantiewe navorsingshipoteses dissekteer. Die Reitz metings model het goeie pasgehalte getoon (RMSEA=.02). Die omvattende LISREL Reitz werknemeromset-voorneme model het volgens die pasgehalte statistieke redelike pasgehalte getoon (RMSEA=.063, p>.05). Steun is gevind vir een van die vyftien baanspesifieke substantiewe navorsingshipoteses en gedeeltelike steun is gevind vir nege van die vyftien baanspesifieke substantiewe navorsingshipoteses.

Praktiese bestuurs-implikasies word bespreek. Aanbevelings vir verdere navorsing word gemaak.

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CHAPTER 1

RESEARCH INITIATING QUESTION AND RESEARCH OBJECTIVES

1.1 INTRODUCTION

Organisations are created by man. Man's behaviour is goal-directed, motivated behaviour. Organisations therefore exist for a reason. Organisations in the private and the public sector exist to serve society. Organisations serve society by combining and transforming limited production factors into market offerings that the market values. The economic principle guides organisations in the manner in which they approach this task. The economic principle requires that organisations should endeavour to maximise its yield of market offerings to the market whilst minimising the factors of production it commits to the combination and transformation process. Complying with this principle serves the interests of society. Complying with this principle ensures that organisations do not commit more resources than is warranted by the utility of the product and/or service to the market and that organisations do waste limited resources by yielding output to the market that the market does not value. The extent to which organisations serve society depends on the efficiency and effectiveness with which they combine and transform scarce production factors into products or services that the market values. In a capitalistic system organisations are motivated to adhere to the economic principle because they thereby derive the opportunity to earn profit. It is in the interest of all concerned that organisations in both the private sector and the public sector successfully act in accordance with the directive of the economic principle.

People manage and run organisation. Employees bring the production factor labour to life. The other factors of production do not have agency. Employees have to activate the other production factors. Employees are the driving force behind every successful company. Organisations are dependent on the knowledge, skills and abilities of their employees in this information age era, in order to stay ahead in the competitive market (Samuel & Chipunza, 2009). Some even say that workers are often seen as the key factor in deriving a competitive advantage over competitors when everybody essentially has access to the same technology and everybody uses similar procedures and structures (Templer & Cawsey, 1999).

It therefore follows that the human resources of an organisation are an important determinant of its success in as far as it determines how effective and efficient the innate production factors are used and managed. Employee work performance is therefore an important determinant of organisational success. Employee work performance firstly refers to the behavioural actions that employees need to perform to achieve the results or

outcomes for which their jobs exist. Employee work performance secondly, however, also refers to the outcomes that the employee is expected to achieve through these behavioural actions. In the current study employee work-performance is interpreted in terms of the level achieved on a structurally inter-linked set of latent behavioural competencies and latent outcome variable (Myburgh & Theron, 2014).

Given the pivotal role that employee work performance plays in organisational success organisations attempt to purposefully enhance the performance of their employees through a synchronised array of human resource management interventions. Two broad categories of interventions can be distinguished (Milkovich, Boudreau, & Milkovich, 1991). Flow interventions attempt to enhance employee performance by affecting the flow of employees into the organisation, up the organisation and out of the organisation in terms of their non-malleable attributes that regulate the level of performance that they achieve. Stock interventions in contrast attempt to enhance employee performance by affecting the malleable characteristics of employees in their current positions that determine the performance level that they reach. Recruitment, promotion and the retention of talented employees represent examples of flow interventions (Milkovich et al., 1991).

Today's business environment has become very competitive and the retention of skilled, high-performing employees has thus also become a major concern to managers worldwide. Attracting talented employees and especially talented knowledge workers is recognised as a critical success factor by organisations, as a company is only as good as the work performance of its employees. Successfully recruiting and selecting talented employees is, however of little value if the services of those talented, high-performing employees cannot be retained. Talent management (Sutherland, Torricelli, & Karg, 2002), and specifically the retention of talented employees, therefore represents a critical human resource intervention. Attracting and retaining talented employees so as to foster and sustain competitive advantages has become a major issue for the human resource (HR) departments and their organisations. According to Leonard (2000), to recruit talented, smart and capable people is the single most important job, and the second most important thereafter is to keep these top talent employees out of the hands of other companies. It is becoming more and more difficult for managers to attract highly skilled employees because of the extreme competition in the labour market for these employees (Samuel & Chipunza, 2009). To recruit, select high performing talented employees and further hone them down through performance management initiatives organisations have to invest substantial resouces each year. It therefore follows that interventions aimed at retaining talented employees in which such

invetments had been made becomes crucial. At the same time also find themselves reluctant to spend too much money on talented employees, because of the possibility of loosing their best employees to competitors (Herselman, 2014). According to Leonard (2000), whether businesses florish or wither away depends on the extent to which they succeed in attracting and retaining highly talented employees.

Turnover of employees occur when an employee leaves his/her job and has to be replaced by someone else (Samuel & Chipunza, 2009). Retention, as explained by Chaminade (2007), represents an integrated set of interventions developed by organisations aimed at influencing the person-centred and contextual determinants of the turnover intention of their employees. The ultimate goal of retention is to prevent the loss of their competent employees, as this can have a negative effect on the organisation's productivity and service delivery. However, managers are struggling more and more to retain high performing employees, as this category of employees is continuously being attracted by more than one organisation at a time, and therefore find themselves moving frequently from one job to another (Samuel & Chipunza, 2009). Masibigirl and Nienaber (2011) reported that not only do companies in South Africa struggle to retain the skilled employees that they do have, but that South African organisations in addition often find it difficult to recruit high-level skills and as a consequence high-skill positions too often remain vacant which invariably makes it difficult to maintain service delivery of a high standard, especially in the public sector. This is another "add-on" concern that leads to aggrevating the "war for talent" (Muteswa & Ortlepp, 2011).

Turnover is not only disruptive to the functioning of organisations, it also costs them a lot of money. Every time that a company loses an employee, because of quitting, that company has to pay for the replacement employee, which includes the costs associated with recruitment, advertisements, interviews, selection and initial training. In a study done by Loi, Hang-yue and Foley (2006), they also noted that employees that voluntary leave the service of organisations present these organisations with the dilemma that because of the loss of talent they unavoidably need to (re)invest in the recruitment, selection and training of new employees. High turnover firstly puts organisations in a difficult situation due to the direct financial implications that turnover has, in terms of the costs associated with the recruitment, selection, and training and development of the employees that have to replace those that have left. Furthermore it also requires allowing the new employee time on the job to gain the necessary experience required to successfully perform the job that the previous employee, who has left the company, probably already had, because he/she had to go through the

same induction and learning phase when they first started at this company (Samuel & Chipunza, 2009). Excessive turnover also results in indirect costs associated with (Bliss, 2007; Sutherland, 2004) the loss of productivity brought about by the vacancy, the loss of social and intellectual capital due to the loss of knowledge, skills and contacts that the employee took with him/her and customer defection, when an employee that excelled in service delivery, quits. Loi et al. (2006) also stress that the loss of employees with unique knowledge, abilities and skills that played a crucial role in differentiating an organisation from its competitors and/or employees with long tenure that carried a lot of institutional memory have major indirect financial implications for organisations. Turnover amongst talented employees that most likely play a pivotal role in the organisations operations moreover creates the risk that these operations may be disrupted. Furthermore Armstrong (2009), Bowes (2010) and Reiss (2008), point out that there are also indirect costs associated with the time that the immediate superior needs to put into getting the performance of the new recruits on par with that of the more experienced employees. This includes time spend on supervision, mentoring, coaching, and performance evaluation. Moreover, while “functional turnover” (namely, employees that perform poorly quit but employees that perform well remain) can assist in reducing below par organisational performance, high turnover can be destructive to the effectiveness and efficiency with which an organisation runs its business. This in turn can further lead to the loss of market share and important relationships, and it can even risk the achievement of organisational goals (Stovel & Bontis, 2002).

It must also be noted that turnover is not always undesirable and negative, especially when one looks at the turnover amongs less talented employees. It also promotes the infusion of new “blood” in the organisation which fosters renewal and also prevents stagnation in the organisation (C. C. Theron, personal communication, 3 June 2015). Furthermore, Theron (2015) explains that the services of the talented employees that leave the company need not to be lost altogether. He says that when good relations are maintained with the talented employees that leave the organisation, valuable networks across different organisations can be formed and used to the benefit of all the organisations involved.

Given the generally undesirable and negative consequences of turnover amongst talented employees, it is nonetheless imperative that the human resource management function will have to develop and apply appropriate retention strategies to attempt to reduce the incidence of turnover amongst their most talented staff (Gillingham, 2008).

The strength of the intention to quit varies across employees. The differences in the strength of the turnover intention across employees is not a chance phenomenon. Rather the

strength of the intention to quit is the result of the working of an intricate psychological mechanism comprising structurally inter-related constructs defining the employee and their work environment. It therefore follows that the identity if these determining variables and how they influence each other in the psychological mechanism to determine the strength of the intention to quit need to be validly understood in order to be able to develop and run human resource interventions aimed at retaining talented employees. Only when a company comes to a valid understanding of the mechanism that regulates employees' turnover intention, can it successfully manage employee turnover behaviour and retain its scarce talented employees (Smuts, 2011).

Oehley (2007) has developed and empirically evaluated a employee intention to quit structural model aimed at psychologically explaining employee turnover behaviour. Although, this model was originally proposed and evaluated to explain theturnover intention of the employees of a large South African telecommunication company, the model that she developed is relevant to explain the turnover behavuiour of employees in other industries as well. The Oehley (2007) model argues that it is the direct supervisor of an employee that is responsible for managing the turnover intention of his/her subordinate. The Oehley (2007) model hypothesised that the strength of the turnover intention of the subordinate employee is the result of the degree of competence that their line managers disply on a set of talent management competencies. The talent management competence of managers display does not, however, affect the strength of the employee's intention to quit directly. Oehley (2007) rather argued for an indirect effect. The talent management competence of line managers are hypothesised to impact on two organisational outcome latent variables that characterise the psychological state of their followers, namely job satisfaction and organisational commitment. Oehley (2007) therefore hypothesises that these two organisational outcome latent variables mediate the effect of the talent management competence of line managers on the strength of employees' turnover intention. Oehley (2007), consequently argued that (conditional on empirical support for her model) the key to the retention of talented employees lies in increasing the talent management competence of line managers. The ability of the human resource function to enhance the talent management competence of managers, however, depend on the extent to which a the psychological mechanism that regulates the level of talent management performance is validly understood (Smuts, 2011).

Smuts (2011), disagreed with Oehley (2007) that the talent management competence of managers directly affects the level of job satisfaction and organisational commitment that

their followers experience. Smuts (2011) argued that the psychological mechanism through which the talent management competence of line managers affects the strength of their followers intention to quit is more intricate than is acknowledged by the Oehley (2007) structural model. Smuts (2011) subsequently elaborated the Oehley (2007) model by adding additional mediating constructs through which talent management competence operate to indirectly determine the strength of employees intention to quit. Smuts (2011), however, was prevented from empirically testing her elaboration of the Oehley (2007) model due to her inability to find empirical support for the construct validity of the talent management competency measure.

A single explanatory research study will never be comprehensive enough to fully explain the complex nomological network comprising a large number of explanatory constructs and paths determing the turnover behaviour of employees. The likelihood that significant progress will be made towards achieving a more penetrating understanding of the psychological mechanism regulating turnover intention will increase if subsequent researchers would initiate studies to extend the models proposed by researchers that came before them (Oehley & Theron, 2010). Getting to a comprehensive, detailed understanding of the psychological mechanism regulating the turnover intention of employees will only become a realistic possibility if conscious, purposefull attempts are undertaken to extend the structural models created by earlier researchers (Oehley & Theron, 2010). The need researchers to continue the research of their colleagues was already argued many years ago by Gorden, Kleinman and Hanie (1978, p. 901).

> The short-lived interest that industrial-organizational psychologists display in their work promotes severe intellectual disarray. Lack of commitment to thorough exploration of a subject is inimical to the creation of viable psychological theory. By continuing to ignore the integrative role of theory, industrial-organizational psychologists are likely to share a fate that Ring (1967) forecast for social psychologists: We approach our work with a kind of restless pioneer spirit: a new (or seemingly new) territory is discovered, explored for a while, and then usually abandoned when the going gets rough or uninteresting. We are a field of many frontiersmen, but few settlers. And, to the degree that this remains true, the history of social psychology will be written in terms not of flourishing interlocking communities, but of ghost towns, (pp. 119 - 120).

Oehley (2007) has developedand empirically tested an important structural model that serves to provide an explanation of employees' intention to quit. Smuts (2011) has formally acknowledged the preceding argument on the importance of cumulative research by proposing extentions to the Oehley (2007) intention to quit model. Smuts (2011), however,

failed to test her full model but only tested the path-specific hypotheses related to the paths between the various outcome variables. The strength of employees' intention to quit is complexly determined. The psychological mechanism that regulates employees' intention to quit is complex in the sense that a many constructs directly, but mostly indirectly, affect the level of the intention to quit and in the sense that these latent variables are richly inter-connected. As a consequence the explanation of variance in intention to quite ultimately lies in the whole integrated nomological net (Cilliers, 1998). The implication of this is that the disection of the nomological net, or a partial explication of the net, invariably results in a more shallow and less satisfactory explanation (Cilliers, 1998). Moreover human resource interventions derives their power to affect employees' intention to quit to the extent that the nomological net of latent variables underpinning intention to quit is validly understood. To the extent that the assumption that the existing explanatory structural models of turnover intention (Bezuidenhout, 2013; Oehley, 2007, Smuts 2011) only provide a partial description of the psychological mechanism controling turnover intention is valid it follows that human resource interventions in practice necessarily have to be less effective than they could have been if the psychological mechanism had been better understood.

A need therefore exists to re-attempt to fit the comprehensive Smuts (2011) model that she originally proposed. However, rather than merely refitting the originally proposed Smuts (2011) model the current study will also critically review the theoretical merits of the arguments underpinning the elaborations suggested by Smuts (2011) as well as amend and extend the already existing model developed by Smuts (2011).

1.2 RESEARCH OBJECTIVE

The third-generation research-initiating question posed in the current study is the question: Why is there still variance in intention to quit when the latent variables in the Smuts (2011) model would be statistically controlled. The research initiating question is therefore which other constructs that exemplify the employee or his/her working conditions influence the level of the employee's intention to quit and how should these additional latent variables be structurally embedded in the current Smuts (2011) model?

The research-initiating question has been purposefully phrased as an open-ended question that does not identify any explanatory latent variables up front for inclusion in the to-be-developed structural model. The latent variables that will eventually be included in the structural model have to earn their place by being found necessary to construct a

psychological mechanism via theorising capable of regulating the level of turnover intention that employees experience.

The aim of the current study is consequently to expand, and if necessary, modify the original Smuts (2011) explanatory intention to quit structural model and to empirically test the modified and expanded model.

1.3 STRUCTURAL OUTLINE OF THE PROPOSAL

The outline of the structure of the proposal provides an overview of the remainder of the proposal and indicates what will be discussed in the subsequent chapters.

Chapter 1 presented a logical argument to motivate and justify the research objective.

The literature study in Chapter 2 the literature study presents an attempt to provide a theoretically compelling response to the research-initiating question. The literature study will first present the Oehley (2007) structural model, empirical research findings on the model and then present the extensions proposed by Smuts (2011) and the empirical results obtained on her model. The literature study will subsequently suggest additional constructs that should grafted on to the Smuts (2011) intention to quit structural model and present arguments to justify the relevance of the proposed additions as well as the hypothesised manner in which they are embedded in the existing structural model.

Chapter 3 describes the research methodology that will be used to empirically test the validity of the expanded Reitz-Bezuidenhout-Smuts intention to quit structural model. Chapter 3 also reflects on and analyses the ethical risks associated with the research study.

Chapter 4 discusses the research findings regarding the item analyses, dimensionality analyses, confirmatory factor analyses and the fitting of the hypothesised comprehensive LISREL model.

Chapter 5 compares the research findings of the current study to those obtained by Oehley (2007), Smuts (2011) and Bezuidenhout (2013), discusses the managerial implications of the findings and where future research on the intention to quit structural model should focus.

CHAPTER 2

LITERATURE REVIEW

2.1 DEVELOPMENT OF THE OEHLEY (2007) MODEL

The current research study had as its aim the amendment and extension of the original Smuts (2010) model and to empirically test the modified and extended model. Therefore, this study will attempt to further insight into the nature of the psychological constructs that form the components of the psychological mechanism that determines the level of the *intention to quit* that employees experience as well as the manner in which these constructs as components of the mechanism structurally relate to each other in the mechanism. Since the current study intends to extend the work done by Smuts (2010), it is necessary to first; (a) depict the Smuts (2010) model, (b) explain how she theorised to get to her model, (c) describe the degree of fit she obtained for her structural model, and (d) describe the decisions she took on the path-specific substantive hypotheses. Subsequently the question should then be addressed how the fitted Smuts (2010) model should be modified and/or elaborated.

The Smuts (2010) intention to quit model is an extension of the Oehley (2007) model. Oehley (2007) developed a model which links a number of critical line manager talent management competencies to three leading and lagging outcome variables typically targeted by talent management interventions, with turnover intention as the primary lagging outcome latent variable. Therefore, according to Smuts (2010), the Oehley (2007) model should be seen as pioneering initiative to explain *turnover intention to quit* in organisations in terms of the competence of the immediate superior of employees on an array of talent management competencies and the effect the competence of the immediate superior has on a number of psychological states (and potentially also malleable abilities) that characterise the employee. Oehley (2007) argued that the influence of immediate superiors' talent management competence on an *employee's intention to quit* can happen directly or indirectly. Furthermore, she stated that the influence of the immediate superiors' talent management competence on *intention to quit* operate in an indirect manner through *job satisfaction* and *organisational commitment*. Thus, *job satisfaction* and *organisational commitment* are treated as influential constructs that mediate these relationships.

2.1.1 Identification of the Talent Management Competencies

To be able to isolate the latent talent management behaviours that managers have to use to dissuade their subordinates from leaving the employment of the organisation, Oehley (2007) first conceptualised the term "*talent management competencies"*. Oehley (2007) was, however, not able to locate a definition of the concept in the existing literature that she found satisfactory and this led her to conceptualise the two terms *talent management* and *competencies* separately and to integrate the two definitions in order to define and conceptualise the construct *talent management competencies*.

2.1.1.1 Defining the term: Talent Management

According to Fegley (2006), talent management was initially conceived to improve the processes when it comes to the recruitment and the development of people with the required skills and aptitudes. Talent management is, however, nowadays not only appreciated as an administrative process anymore, where employees are recruited and developed/trained to serve the organisation's need. Instead it has developed into an array of interventions that serves a leading and lagging network of strategic outcomes ultimately aimed at market share and future growth.

Even though it is difficult to give a precise definition for the term "talent management", Oehley (2007) defined it in accordance with the definition of the Society for Human Resource Management (SHRM) as "the implementation of integrated strategies or system designed to increase workplace productivity by developing improved processes for attracting, developing, retaining and utilising people with the required skills and aptitude to meet current and future business needs" (SHRM in Oehley, 2007, p. 13). Furthermore, Oehley concluded that the term "talent management" "advocates the use of various HR processes and line management responsibilities which are aligned with organisational strategies, to be used with the intent of improving organisational success" (Oehley, 2007, p. 13).

2.1.1.2 Defining the term: Competencies

A diversity of definitions exist that attempt to define the term *competency.* The number of different definitions indicates that human resource management scholars differ substantially in their understanding of the term and therefore they also differ in the manner in which they formally define the construct (Bartram, 2005; Bailey, Bartram, & Kurz, 2001; Cheng, Dainty & Moore, 2003; Rees & Garnsey, 2003; Whiddett & Hollyforde, 2000). The constitutive definition of the *competency* construct, according to Hoffman (1999), differs depending on the context in which it is used and the purpose for which scholars use it.

Throughout literature two basic schools of thought or viewpoints underlie the various definitions of competencies. The first school of thought sees competencies as underlying attributes of employees that distinguish those that deliver superior performers in a job from those that deliver average or poor performers (Boyatzis, 1982; Fletcher, 1997; Mitrani, Dalziel & Fitt, 1993; Spencer & Spencer, 1993; Weightman, 1995 in Oehley, 2007; Whiddett & Hollyforde, 2000. According to Boyatzis in Oehley (2007, p.14) these underlying attributes of a person can be described as a "motive, trait, and skill, an aspect of one's self-image or social role, or a body knowledge which he or she uses". The second school of thought sees competencies as "relatively stable sets of behaviours that are instrumental in the delivery of superior performance defined in terms of outcomes for which the individual is held accountable" (Smuts, 2010, p. 8).

Consequently Oehley (2007) chose to interpret the term *competencies* as a behavioural construct that refers to the behavioural actions of line managers as it relates to talent management. According to Oehley (2007), Woodruffe's (1993) definition was identified as the most suitable, as it emphasises competencies as "dimensions of behaviour" (Oehley, 2007, p. 15). Woodruffe (1993, p. 29) defines competencies as "the set of behaviour patterns that the incumbent needs to bring to a position in order to performs its tasks and functions with competence".

2.1.1.3 Definition of the term: Talent Management Competencies

Taking into considerations all the arguments and previously mentioned perspectives Oehley (2007, p. 16) defined the term talent management competencies as "sets of behaviour patterns that line managers need to bring to positions in order to attract, select, engage, develop and retain talented employees in order to reach specific desirable business objectives for the organisation".

Smuts (2010) retained the Oehley (2007) definition in her study. The current study likewise will use the foregoing definition in its attempt to elaborate the Smuts (2010) model.

2.2 OUTCOMES LINKED TO TALENT MANAGEMENT COMPETENCIES AND FORMULATION OF THE OEHLEY (2007) MODEL

In the final analysis a talent management strategy's intended outcome, is the retention of talented/ skilled employees (Smuts, 2010). In order to succeed in the war for talent in today's turbulant global economy, companies need to discover how to attract and retain this talent.

The main focus of the Smuts (2010) study was to find the link between the talent management outcome latent variables and *intention to quit*. According to Smuts (2010), Oehley (2007) argued that "the talent management outcome variables of interest characterise the follower and are presumed to affect the follower's intention to quit. The assumption is that these outcome variables are at least to some degree sensitive to the manner in which the manager behaves towards the follower" (Oehley, 2007, p. 15).

Oehley (2007) argued that that it is very difficult to empirically test hypotheses that attempt to explain variance in actual turnover behaviour since those employees that left the employment of the organisation need to be tracked down. *Intention to quit* or turnover intention is a measurable antecedent of actual turnover that allows all data to be collected from current employees. Oehley (2007), as well as Smuts (2010), therefore chose to treat *intention to quit* as the focal endogenous latent variable on which their structural models focus rather than actual turnover.The current study will likewise focus on turnover intention rather than actual turnover.

It could be argued that a low turnover can only be assured if the employer succeeds in meeting the needs of their talented employees and if the employer is perceived to be more successful than its competitors in providing that which talented workers are looking for when selecting an employer (Sutherland, Torricelli, & Karg, 2002). Oehley (2007) argued that *job satisfaction* and *organisational commitment* are two attitudinal constructs that act as mediator variables through which the level of talent management competence operate to affect turnover intention and ultimately actual turnover. Oehley (2007) therefore argued that the level of talent management competence that an employees' immediate superior displays, both a direct and an indirect manner, influences the employee's *intention to quit*. She argued that the indirect influence will occur throught the outcomes of *job satisfaction* and *affective commitment.* Figure 2.1 depicts the essential idea put forward by by Oehley (2007).

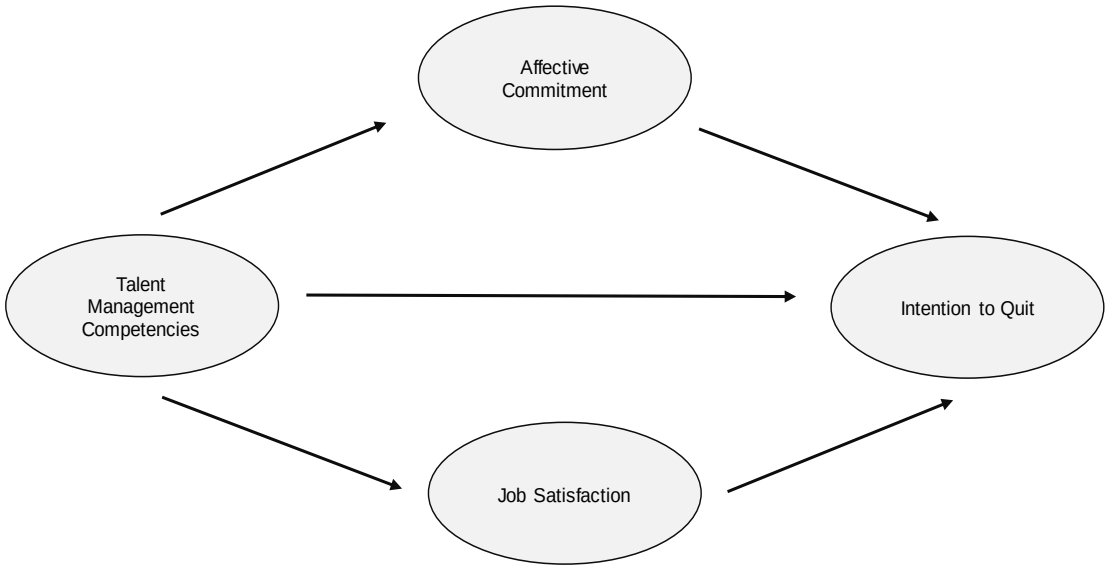

Figure 2.1. Fundamental partial talent management competency model. *The development and evaluation of a partial talent management competency model*, by A. Oehley, 2007, p. 49. Unpublished master's thesis, University of Stellenbosch.

As illustrated in *Figure 2.1*, the talent management competencies are depicted as the independent constructs, whereas *affective commitment*, *job satisfaction* and *intention to quit* are depicted as dependent constructs. Moreover, Oehley (2007) argued that the competence on specific competencies would foster *affective commitment* and that the degree of competence displayed on specific other competencies would foster *job satisfaction*. According to Oehley (2007) *affective commitment* and *job satisfaction* should in turn be negatively related to *turnover intention*.

In the elaborated model (Figure 2.2), eight specific talent management competencies were identified and structurally mapped onto the two talent management outcome latent variables. Oehley (2007) broke up the talent management competencies into eight specific latent line manager talent management competencies, to allow her to develop hypotheses on the manner in which they structurally relate to each other and how they relate separately to *job satisfaction*, *organisational commitment* and finally *intention to quit*. Oehley (2007) utilised the short version of the Job Descriptive Index (JDI) created by Smith, Kendall and Hulin (as cited by Kinicki, McKee-Ryan, Schriesheim & Carson, 2002) to measure job satisfaction. The abridged JDI (AJDI) sets out to assess employees' standing on five dimensions of job satisfaction, namely *work itself*, *pay, promotion, supervision* and *co-workers*. In addition, the scale also makes provision for a separate scale for *overall job satisfaction.* Oehley (2007) fitted a single-factor JDI measurement model in which the single (second-order) *satisfaction* latent variable was operationalised by the sums obtained on the JDI subscales. The measurement model fitted poorly. Principal component analysis of the correlations between

the 5 subscale scores identified two orthogonal satisfaction factors. Oehley (2007) interpreted the extracted factors as an *organisational job satisfaction* factor and a *supervisory job satisfaction* factor. Oehley (2007) unfortunately did not fit the two-factor measurement model that emerged from the principal component analysis.

The originally proposed model displayed in Figure 2.2 was therefore elaborated and adapted to accommodate these two satisfaction factors and to reflect the eight talent management competencies. Figure 2.3 illustrates the final elaborated Oehley (2007) structural model.

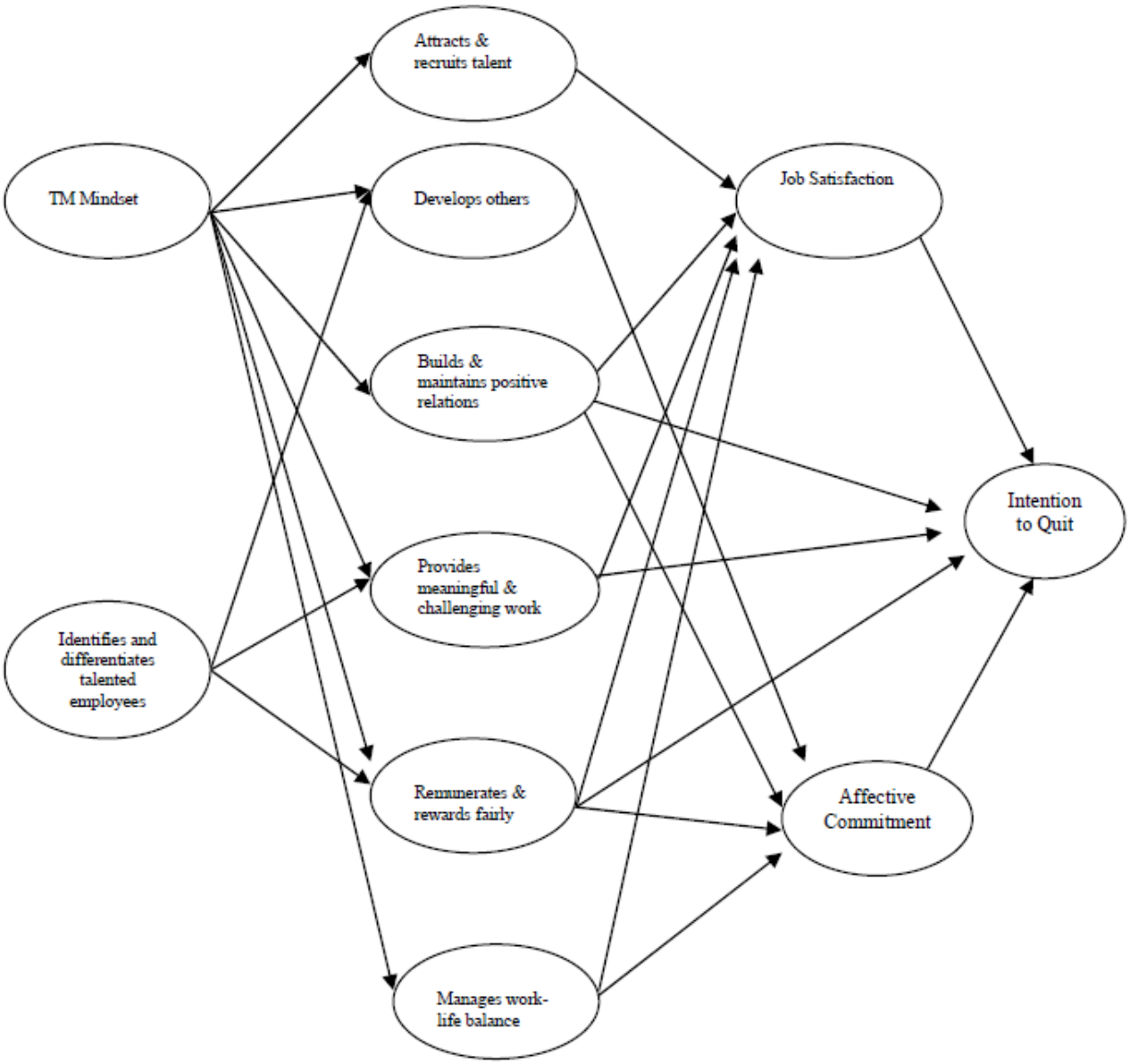

Figure 2.2. Initial expanded partial talent management competency model proposed by Oehley. *The development and evaluation of a partial talent management competency model*, by A. Oehley, 2007, p. 51. Unpublished master's thesis, University of Stellenbosch.

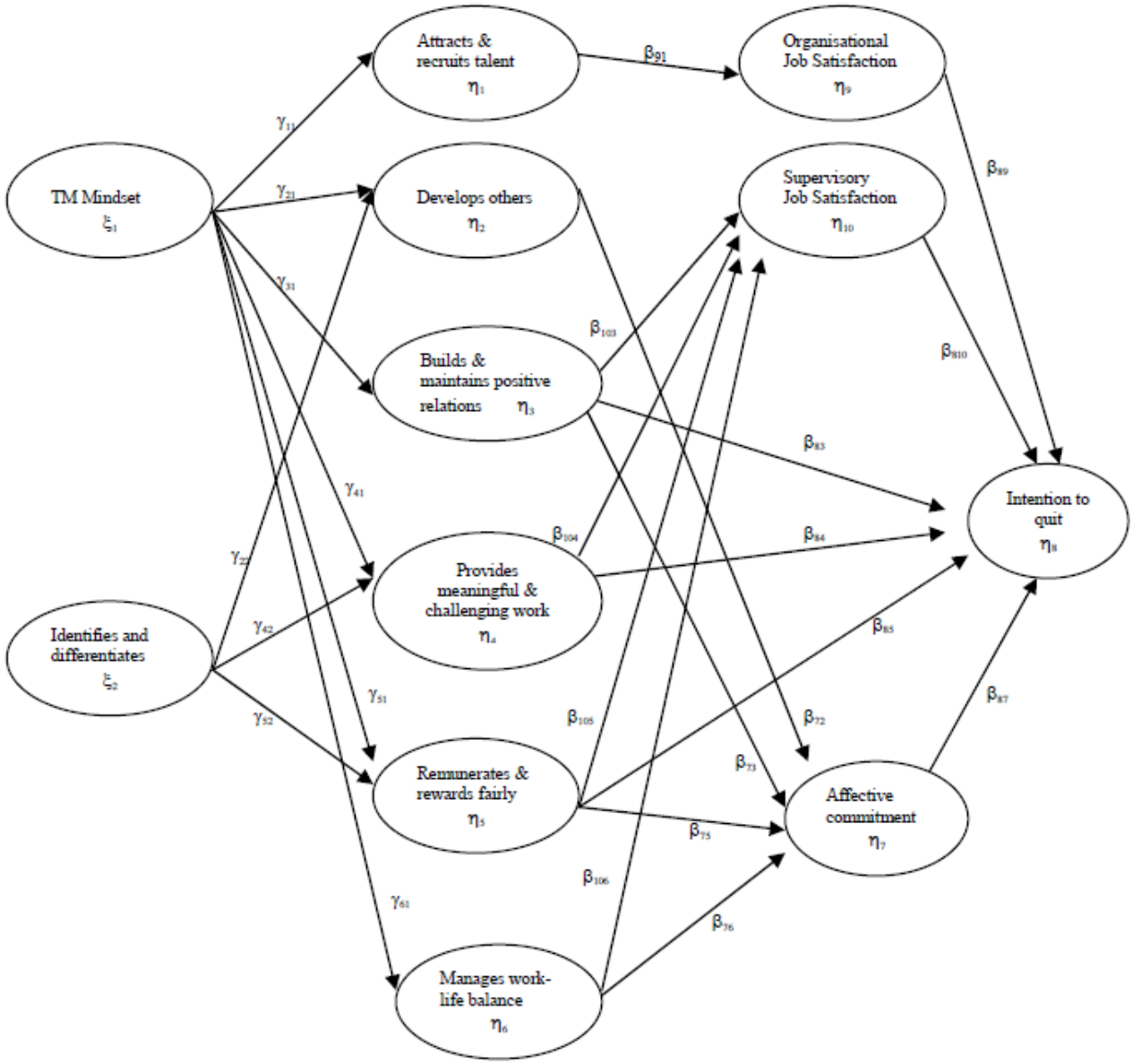

Figure 2.3. Final expanded partial talent management competency model proposed by Oehley. *The development and evaluation of a partial talent management competency model*, by A. Oehley, 2007, p. 51. Unpublished master's thesis, University of Stellenbosch.

Table 2.1 defines each of Oehley's (2007) eight talent management competencies.

Table 2.1

Definitions of the core talent management competencies

Displays a Talent Management Mindset: Persistently and continuously displays a belief that having better talent at all levels provides the means to outperform other organisations. Regularly emphasises this view to others. **Attracts and Recruits Talent:** Attracts and recruits competent and committed employees. Ensures that employees have the correct technical expertise and are achievement orientated and motivated. **Identifies and Differentiates Talented Employees:** Identifies and differentiates different levels of employees according to performance, with the purpose of adjusting management decisions and actions according to this evaluation.

Table 2.1

Definitions of the core talent management competencies (continued)

Develops Others:
Accurately assesses people's developmental needs, provides opportunities and ensures that needs are met in order to fully develop the potential of all employees.
Builds and Maintains Relationships:
Understands the importance of interpersonal awareness and has the ability to establish and maintain relationships with employees.
Provides Meaningful and Challenging Work:
Ensures that subordinates are able to link their individual contribution to organisational and divisional strategic direction. Actively creates opportunities for employees to be engaged in work that is challenging.
Remunerates and Rewards Fairly:
Recognises the achievements of employees and provides rewards and recognition accordingly.
Manages Work-Life Balance:
Controls work factors which might have a negative impact on the employee's personal of family life.

(Oehley, 2007, p. 59)

The talent management outcome latent variables were defined as follows;

- Affective Commitment – "An employee's emotional attachment to, identification with, and involvement in the organisation" (Allen & Meyer in Oehley, 2007, p. 40).
- Job Satisfaction – "A pleasurable or positive emotional state resulting from the appraisal of one's job or job experience" (Locke in Oehley, 2007, p. 44).
- Intention to Quit – "A conscious and deliberate wilfulness to leave the organisation" (Tett & Meyer in Oehley, 2007, p. 47).

2.3 FITTING THE OEHLEY (2007) STRUCTURIAL MODEL

2.3.1 Oehley (2007) Measurement Model Fit

Oehley (2007) performed confirmatory factor analysis using LISREL 8.54 (Jöreskog & Sörbom, 1996a) on the Talent Management Competency Questionnaire (TMCQ) by fitting the TMCQ measurement model in which the latent dimensions were operationalised by composite indicator variables. The objective was to determine how validly the item parcels reflected the latent talent management competencies comprising the talent management structural model they were designed to represent. The exceedance probability associated with the sample RMSEA value under the close fit null hypothesis was sufficiently large not to reject H_0 ($p>.05$). All composite indicators had statistically significant ($p<.05$) factor loadings on their designated latent variables. Each latent variable explained in excess of 50% of the variance ($.56 \leq R^2 \leq .84$) in the composite indicators that represented it. A more detailed discussion of the evaluation of the measurement model fit is provided in Oehley (2007).

2.3.2 Oehley (2007) Structural Model Fit

Diamantopoulos and Siguaw (2000, p. 92) make it clear that the objective of evaluating the fit of a structural model is to "determine whether the theoretical relationships specified at the conceptualisation stage are indeed supported by the data". The structural model constitutes an on the process that caused the observed variables to co-vary as they do in the observed variance-covariance matrix. Furthermore, it is important to note that not rejecting the close fit null hypothesis does not mean that the structural linkages that had been hypothesised necessarily must be correct. What is does mean is that the model as it was fitted presents one plausible portrayal of the psychological process that brought about the level of employees' turnover intention (Diamantopoulos & Siguaw, 2000).

The goodness of fit statistics reported by Oehley's (2007) for her elaborated talent management competency model (Figure 2.3) showed a reasonable-good fit (RMSEA = .059). Although she had to reject the exact fit null hypothesis (H_{01}: RMSEA = 0) ($p<.05$), the close fit null hypothesis, (H_{02}: RMSEA ≤ .05) needed not to be rejected ($p>.05$) (Table 2.2).Therefore, it was permissible for Oehley's (2007) to conclude that her model showed reasonable fit in the sample but close fit in the parameter as the deviation of the fitted covariance matrix from the observed covariance matrix could be attributed solely to sampling error under the close fit null hypothesis. The close fit finding warranted the interpretation of the path coefficient estimates and the path hypotheses in the structural model.

Table 2.2

Goodness of fit statistics for the Oehley (2007) structural model fit

Degrees of freedom	274
Satorra-Bentler Scaled Chi-Square	375.48 (p = .00)
Root Mean Square Error of Approximation (RMSEA)	.059
90 Percent Confidence Interval for RMSEA	(.043; .073)
P-value for Test of Close Fit (RMSEA < .05)	.16

(Oehley, 2007, p. 101)

To test the path-specific null hypotheses the completely standardised parameters estimates for $\mathbf{B}$ and Γ, together with their standard error and z-values were interpreted (Oehley, 2007)[1].

[1] The results shown in Table 2.2 represents the combination of the standard errors and test statistic values obtained from the unstandardised Γ matrix and the γ_{ij} estimates obtained from the completely standardised Γ matrix.

2.3.2.1 Gamma Matrix

Γ provides the partial regression coefficients when regressing the endogenous latent variables on the exogenous latent variables and when controlling for other latent variables linked to the specific endogenous latent variable. The higher the partial regression coefficient the steeper the slope the more pronounce (i.e., stronger) the effect that ξ_j has on η_i when controlling for other ξ_k and η_j linked to η_i. Γ is used to test the statistical significance of the γ_{ij} estimates obtained for the path-specific hypotheses on the structural linkages between the exogenous and endogenous latent variables (Oehley, 2007). The completely standardised Γ matrix estimates are depicted in Table 2.2 and indicate that most of the γ_{ij} estimates were statistically significant ($z \geq |1.6449|$ at $p = .05$)[2], with the exception of the path coefficients associated with the causal effect of *identifies and differentiates talent* on *provides meaningful and challenging work* and its effect on *remunerates and rewards fairly*.

Re-interpretation of Oehley's (2007) Γ results, taking into account that all H_a hypotheses were formulated as directional hypotheses, indicates that support exists for all six of the relationship she hypothesised between a *talent management mindset* and:

- *attracts and recruits talent,*
- *develops others,*
- *builds and maintains positive relations,*
- *provides meaningful and challenging work,*
- *remunerates and rewards fairly, and*
- *manages work-life balance*.

The only hypothesis that was not supported, in Oehley's (2007) original interpretation of Γ, because she applied a two-sided statistical test to test the statistical significance of the γ_{ij} estimates, was the hypothesised effect of *talent management mindset* on *develops others*. These results therefore affirm the hypothesised pivotal role that the *talent management mindset* competency plays in affecting the majority of the remaining talent management

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[2] Oehley (2007) evaluated the statistical significance estimates obtained for the freed parameters utilising a critical test statistic value of 1.96. At a 5% significance level this means a two-tailed test of the null hypothesis H_0: $\gamma_{ij} = 0$. She, however, formulated directional alternative hypotheses for all paths hypothesised between exogenous and endogenous latent variables. In the current study this mistake is corrected and in the interpretation of the statistical significance of the γ_{ij} estimates the more appropriate critical test statistic value of 1.6449 is used, given a significance level of .05. As a consequence the hypothesised effect of *talent management mindset* on *develops others* was evaluated as statistically significant in the current study in contrast to the original verdict reached by Oehley (2007) in the original study.

competencies. Oehley (2007, p. 62) conseptualised *talent management mindset* as the extent to which the immediate superior of an employee "persistently and continuously displays a belief that having better talent at all levels provides the means to outperform other organisations and regularly emphasises this view to others".

Oehley's (2007) hypotheses on the pivotal role that the *talent management mindset* competency plays in affecting the majority of the remaining talent management competencies were based on the findings of various researchers stating the pivotal role that displaying a talent management mindset plays. One of the strongest arguments that she focussed on in her hypotheses were put forward by McKinsey and Company (2000) (as cited in Michaels, Handfield-Jones, & Axelrood, 2001) through the results obtained in their "War for Talent Survey". Their research showed that the development of talent was identified in 49% of high performing organisations as one of their top three strategic foci. In contrast only 30% of organisations that were classified as average performing listed talent management as a strategic focus (Oehley, 2007, p. 20). She in addition referred to Antonucci's study (as cited in Oehley, 2007, p. 20) which "found a direct negative link between the level of executive commitment to talent management and the incidence of significant leadership shortages within organisations". This brought Oehley (2007) to the conclusion that the development of a *talent management mindset* amongst the top and middle managers of the organisation was a critical prerequisite for talent management interventions to be initiated and for them to succeed.

Furthermore, the magnitude of completely standardised path coefficients in which the *talent management mindset i*s involved provides empirical evidence of the importance of having line managers display this competency (Oehley, 2007). The completely standardised γ_{i1} estimates in Table 2.2 reflect the average increase (or decrease) in η_i expressed in a standard deviation metric brought about by one standard deviation increase in ξ_1 (*talent management mindset*). The magnitude of the completely standardised γ-coefficient (γ=.75) for *attracts and recruits talent* is quite large, reflecting the fact that the effect of a *talent management mindset* on *attracts and recruits talent* is quite pronounced. Furthermore, *talent management mindset* has a significant, positive and quite powerful effect on *builds and maintains relationships*, with a completely standardised γ-coefficient size of γ=.84, on *provides meaningful and challenging work*, with a completely standardised γ-coefficient size of γ=.95, on *remunerates and rewards fairly*, with a completely standardised γ-coefficient size of (γ=.83), and on *manages work-life balance*, with a completely standardised γ-coefficient size of (γ=.86).

Table 2.3

Completely standardised gamma matrix for the coefficient paths of the structural model, (Oehley & Theron, 2010)

	Mindset	Identify
Recruit	**.75**	
	(.11)	
	6.99*	
Develop	**.34**	**.56**
	(.20)	(.21)
	1.72*	2.64*
Relation	**.84**	
	(.11)	
	7.76*	
Challan	**.95**	**.00**
	(.17)	(.17)
	5.51*	.02
Reward	**.83**	**-.01**
	(.21)	(.22)
	3.96*	-.02
Worklife	**.86**	
	(.10)	
	8.91*	
Commit		
Intent		
Orgsatis		
Supsatis		

*Note: Completely standardised path coefficients in **bold type**; standard error estimates in brackets; t-values ≥ |1,6449| indicate statistically significant (p<.05) parameter estimates**

2.3.2.2 Beta Matrix

B describes the strength of the structural relationship(s) that have been hypothesised to exist between η_i on η_j. More specifically **B** depicts the partial regression coefficients when regressing η_i on η_j and controlling for other ξ_j and η_k linked to η_i. The completely standardised **B** estimates are depicted in Table 2.4.

The results presented in Table 2.4 provide support for the hypothesis that *attracts and recruits talent* statistically significantly (p<.05) positively affects *organisational job satisfaction*. *Remunerates and rewards fairly* statistically significantly (p<.05) affects *supervisory job satisfaction*. Furthermore, *organisational job satisfaction* statistically significantly (p<.05), negatively but moderately affects *intention to quit* and *affective commitment* statistically significantly (p<.05), negatively affects *intention to quit* (Oehley & Theron, 2010). In her original interpretation of the **B** matric Oehley (2007) interpreted the effect of *remunerates and rewards fairly* on *affective commitment* as statistically insignificant. This, however, again was due to an inappropriate test of the null hypothesis via a two-sided test. When utilising a one-sided test that acknowledges that the *remunerates and rewards fairly* talent management competency has been hypothesised (under H_a) to

positively affect *affective commitment,* the obtained β_{75} estimate is statistically significant (p<.05).

Table 2.4

Completely standardised beta matrix for the coefficient paths of the structural model, (Oehley & Theron, 2010)

	Recruit	Develop	Relation	Challan	Reward	Worklife	Commit	Intent	Orgsatis	Supsatis
Recruit										
Develop										
Relation										
Challan										
Reward										
Worklife										
Commit		**.06**	**.04**		**.32**	**.20**				
		(.17)	(.20)		(.18)	(.19)				
		.37	.22		1.74*	1.04				
Intent			**.17**	**-.02**	**-.20**		**-.39**		**-.42**	**-.05**
			(.17)	(.21)	(.23)		(.11)		(.18)	(.14)
			1.01	-.11	-.85)		3.56*		-2.38*	-.34
Orgsatis	**.63**									
	(.16)									
	4.03*									
Supsatis			**-.03**	**.35**	**.47**	**-.15**				
			(.19)	(.24)	(.24)	(.18)				
			-.16	1.45	1.98*	-.84				

*Note: Completely standardised path coefficients in **bold type**; standard error estimates in brackets; t-values ≥ |1,6449| indicate significant parameter estimates**

Figure 2.4 provides a summary of Oehley's (2007) findings. Black paths represent statistically significant path coefficients (p<.05) and blue paths represent statistically insignificant path coefficients (p>.05).

2.4 SMUTS' (2011) ELABORATION AND MODIFICATION OF THE OEHLEY (2007) MODEL

According to Smuts (2011), it first needed to be considered whether the effect of the talent management competence of the line managers on the *intention to quit* of their followers was only mediated by the (talent management) outcomes of *affective commitment* and *job satisfaction*. Smuts (2011) argued that the Oehley's model as shown in Figure 2.2, left out important intervening variables. She argued that competence on the line manager talent competencies could not directly cause *job satisfaction* and *organisational commitment*. The latter two constructs represent psychological states that develop from an employee's view and appraisal of the conditions under which they work. Competence on the line manager talent management competencies therefore have to affect aspects of the employees work environment that are perceived/registered by employees and that are positively appraised.

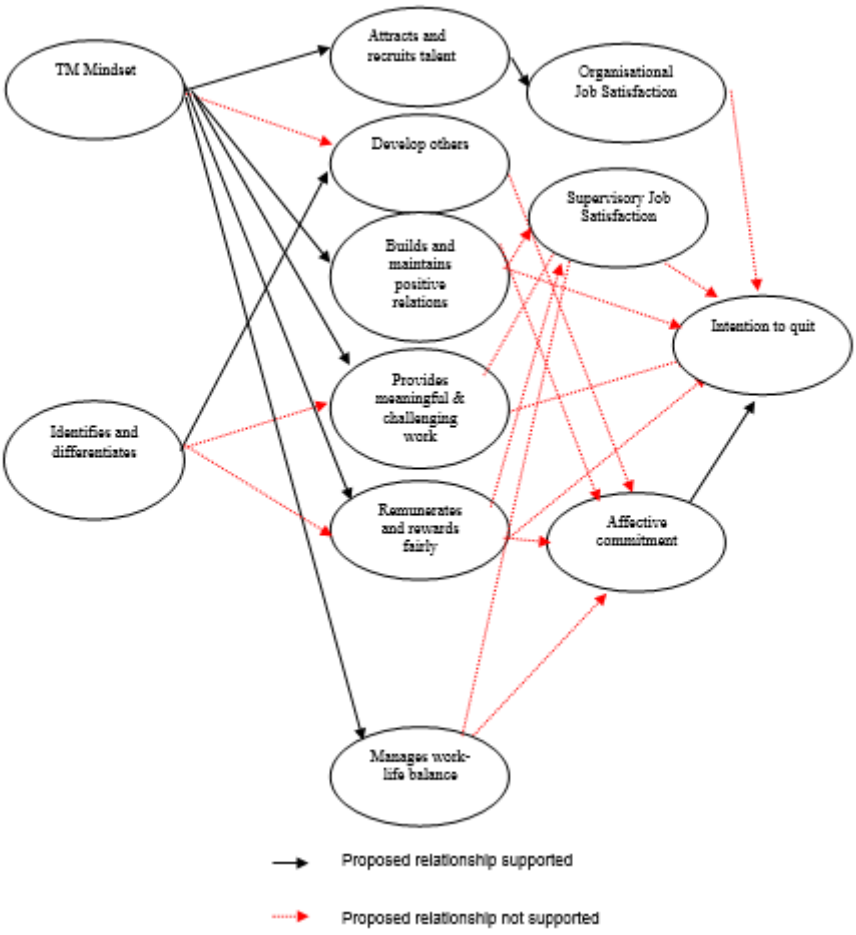

Figure 2.4. Expanded partial talent management competency model illustrating the findings of Oehley (2007). *The elaboration and empirical evaluation of a partial talent management competency model in the nursing profession* by N. Smuts, 2011, p. 16. Unpublished master's thesis, University of Stellenbosch.

2.4 SMUTS' (2011) ELABORATION AND MODIFICATION OF THE OEHLEY (2007) MODEL

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Therefore, she suggested that *job characteristics* and *perceived developmental opportunities* should be added to the model as mediator variables through which talent management competence operates on *job satisfaction* and *commitment*. She in addition argued that the impact of that *job characteristics* and *perceived developmental opportunities on job satisfaction* and *commitment* is not direct but that rather mediated by *psychological empowerment.* Smuts (2011) therefore argued that talent management competence affect employees' *organisational satisfaction*, and *commitment* and *turnover intention* via their effect on *job characteristics* and *perceived developmental opportunities* and the effect of these on *psychological empowerment*. Empowerment is considered as an important psychological state because it not only has the potential to exert both positive and negative influence on the employee but also the larger organisation (Liden & Tewksbury as cited in Liden, Wayne & Sparrowe, 2000). Smuts (2011) also argues that through including this mediating variable, together with the inclusion of its antecedents, she will be able to explain the psychological mechanism through which the talent management competence of the immediate superiors of employees affect the *intention to quit* of their subordinates (Smuts, 2011).

2.4.1 Psychological Empowerment

Thomas and Velthouse (in Smuts, 2011, p. 28) defines *psychological empowerment* as the "psychological state that employees experience when managerial empowerment interventions are successful. It is a multifaceted construct which reflects an individual's orientation to his/her work role". Furthermore, *psychological empowerment* can also be explained as a motivational construct, which consists of four dimensions, namely; *meaning*, *competence*, *self-determination* and *impact* (Spreitzer, 1995).

The four cognitions of psychological empowerment were defined as follows;

- *Meaning* – is "the value that a work goal or purpose has for an individual in relation to his/her own ideals or standards" (Thomas & Velthouse in Smuts, 2011, p. 28). Furthermore, as defined by Spreitzer (in Smuts, 2011, p. 28) "it involves a fit between the requirements of a work role and the individual's beliefs, values, and behaviours". *Meaning* – is "the value of a work goal or purpose, judged in relation to an individual's own ideals or standards" (Thomas & Velthouse, 1990, in Spreitzer, 1995, p. 1443). Furthermore, meaning "involves a fit between requirements of a work role and beliefs, values, and behaviors" (Brief & Nord, 1990; Hackman & Oldman, 1980, in Spreitzer, 1995, p. 1443).

- *Competence* – "relates to self-efficacy, is an individual's belief in his/her capacity to perform activities with the required skill" (Spreitzer in Smuts, 2011, p. 29). *Competence* – or otherwise known as "self-efficacy, is an individual's belief in his or her capability to perform activities with skill" (Gist, 1987, in Spreitzer, 1995, p. 1443). It is also "analogous to agency beliefs, personal mastery, or effort-performance expectancy" (Bandura, 1989, in Spreitzer 1995, p. 1443).
- *Self-determination* – refers to an individual's "sense of having a choice in initiating and regulating actions", as well as "autonomy in the initiation and continuation of work behaviours and processes" (Spreitzer in Smuts, 2011, p. 29). *Self-determination* – refers to an "individual's sense of having choice in initiating and regulating actions" (Deci, Connell, & Ryan, 1989, in Spreitzer, 1995, p. 1443).
- *Impact* – is the "degree to which an individual can influence strategic, administrative, or operating outcomes at work" and is influenced by the work context (Spreitzer in Smuts, 2011, p. 29). *Impact* – is the "degree to which an individual can influence strategic, administrative, or operating outcomes at work" (Ashforth, 1989, in Spreitzer, 1995, p. 1444).

In the conceptualisation of *psychological empowerment,* it is important to stress a number of key characteristics of the construct. Firstly, according to Smuts (2011), the way in which employees perceive the relationship between their work and themselves can change. Secondly, according to Spreitzer (1995) and Spreitzer, Kizilos and Nason (1997), empowerment should not be seen as a dichotomous variable where the employee is either empowered or not empowered but rather as a continuous variable where the employee is to some degree empowered. Lastly, Smuts (2011, p. 29) stated that "empowerment relates specifically to the work domain and not to different life situations and roles".

2.4.2 Antecedents of Psychological Empowerment

To clarify how *psychological empowerment* as a psychological component fits into the psychological mechanism that regulates the level of the *intention to quit* of employees, the direct and indirect way in which the talent management competence of immediate superiors affects the psychological empowerment of their followers and the manner in which this in turn affects their *turnover intention* need to be described. This then leads to a discussion on the question how line managers can facilitate working conditions that employees will perceive as empowering and to a discussion of the question whether this influence is direct or whether it works through other malleable employee characteristics (Smuts, 2011). According to Liden et al. (2000, p. 407) "perceptions of psychological empowerment may be

based in part on external factors that surround individuals". Smuts (2011) argues that there are many factors in the work environment that contribute to whether an individual sees him-/herself as being empowered. Not only is empowerment a consequence of an employee's assessment of his/her work tasks, but the perceived contributions made by their supervisors/managers also play a big part in whether employees perceive themselves as being psychologically empowered (Patrick & Laschinger, 2006; Seibert, Silver & Randolph, 2004; Thomas & Velthouse as cited in Liden, et al., 2000). Moreover, the explanation that empowerment can be seen as an integrated collection of perceptions that is formed by the manner in which the employee experiences their job and the manner in which it is embedded in the larger organisation, also point toward management influencing psychological empowerment perceptions through their influence on specific features of the work environment (Thomas & Velthouse, as cited in Liden, et al., 2000).

According to Smuts (2011) the working conditions under which employees work can be created/developed by the competencies that manifest themselves in the specific behaviour that shape the working conditions. Again, it is critical to stress the point that employees can only feel empowered if they perceive a work environment that is empowering (Smuts, 2011). Smuts (2011) went on explaining that the possibility exists that line managers could create that ideal work environment (through their talent management competence), but that employees do not notice the behaviour that creates the ideal work environment or employees just do not experience this ideal work environment. It is also stated by Bandura (1989) that people actively perceive the environments that they operate in to possess specific characteristics and that it is these perceived characteristics rather than the objective features of that specific environment that determine the manner in which they respond to the environmental situation. Therefore, Smuts (2011, p. 30) explained that "people are influenced by their own perceptions, rather than some objective reality".

This can be linked to Thomas and Velthouse's (1990) suggestion that the judgement of an individual is shaped by his/ her interpretations, which go beyond verifiable reality about the observable organisational conditions. Moreover, the argument suggests that the actions taken by line managers as such itself will not lead to *satisfaction* and *commitment*. Smuts (2011) argued that the actions of the immediate superior of followers have to result in something visible and tangible that they value.

Smuts (2007) in addition conceded that, apart from psychologically interpreting the work environment that arises as a consequence of line manager's talent management competence, it is possible that *job satisfaction* and *commitmen*t might also flow from the fact

that employees psychologically interpret the (benevolent) intention underpinning the talent management behaviours of their managers.

As explained by Smuts (2011, p. 31) the “objective reality” does not exert a direct effect on employee behaviour. Rather it is the perception that the employee holds of the objective work conditions that affects employee behaviour. Employees’ perception of the objective work environment is in turn created by their supervisors’ talent management competence. For the talent management competencies to affect the perceptual reality experienced by employees the supervisors’ talent management competence has to be consciously and concretely experience and has to be positively evaluated by employees before they will experience satisfaction in/ with their jobs and commitment to their organisation. As the end-result, a reduction in the intention to leave the organisation should be seen. Smuts (2011) felt to include *psychological empowerment* as a mediating variable in her model to assist in explaining the relationship between the line managers’ talent management competence and the individual and organisational outcomes. She felt that by including *psychological empowerment*, it might allow her to describe how the psychological constructs that directly and indirectly affect employees’ *intention to quit* link up in the psychological mechanism to affect *turnover intention*, and specifically the effect that the talent management competence of line managers has, via a number of mediating variables on the *turnover intentions*/behaviour (Smuts, 2011, p. 31).

Smuts (2011) theorised that it seems implausible that *remunerates and rewards fairly* would affect *intention to quit* directly. A more plausible position is that *remunerates and rewards fairly* has an indirect impact on *intention to quit* via two mediating variables, namely organisational *commitment* and *psychological empowerment* where the former affects the latter. Furthermore, she explains that the competency *develop others* is defined as “accurately assessing people’s development needs”, providing the chances to fulfil these development needs and thereby seeing to it that their development needs are satisfied so that their potential is realised (Smuts, 2011, p. 34). Thus, it is argued that an employee will only be empowered by the line manager’s behaviour, if an employee really first-hand perceives the development opportunities provided by the manager. Therefore, *perceived development opportunities* is hypothesised to not directly affect *psychological empowerment*, but it is hypothesised that *perceived development opportunities* mediates the influence that *develops others* has on *psychological empowerment*.

A sense of meaning and purpose is developed when an employee understands his/her role in the organisation according to Spreitzer (Bordin, Bartram & Casimir, 2007). Moreover, they

will also understand their own role more clearly when they understand the mission of the organisation (Smuts, 2011). A sense of mission was defined as "understanding the bigger picture and how work outputs contribute to the achievement of department/unit goals" (Smuts, 2011, p. 35). An employee has a high standing on this construct when they have clarity on the vision of the organisation and how they contribute to it (Conger & Kanungo, 1988). According to Spreitzer (1996), the feeling of empowerment develops when an employee feels that he/ she understands their work units and what are required of them to contribute to the achievement of the bigger goal. Therefore, the extent to which employees are provided with strategic information can also be seen as one of the psychological empowerment's antecedents (Bhatnagar, 2005). This seems to form part of *provides meaningful and challenging work* that is defined as "ensuring that subordinates are able to link their individual contribution to organisational and divisional strategic direction" (Smuts, 2011, p. 35). Smuts (2011) consequently hypothesised that the competency *provides meaningful and challenging work* positively influences the latent variable *a sense of mission*. Furthermore, she hypothesised that *a sense of mission* positively influences *psychological empowerment.*

The job that an employee occupies is characterised by specific attributes. These attributes powerfully shape the employee's psychological world of work (Smuts, 2011). According to Hackman and Oldman (1975) the manner in which employees psychological react to their work is determined by five pivotal characteristics of their jobs. Table 2.5 explains the meaning of each of the five job characteristics.

Table 2.5

Constitutive definition of the five job characteristic dimensions

Job characteristic dimension	**Definition**
Skill variety	"The degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the employee."
Autonomy	"The degree to which the job provides substantial freedom, independence, and discretion to the employee in scheduling the work and in determining the procedures to be used in carrying it out."
Feedback	The degree in which carrying out the work activities required by the job results in the employee obtaining direct and clear information about the effectiveness of his or her performance."
Task identity	"The degree to which the job requires completion of a "whole" and identifiable piece of work – that is, doing a job from beginning to end with a visible outcome."
Task significance	"The degree to which the job has a substantial impact on the lives or work of other people – whether in the immediate organisation or in the external environment."

(Hackman & Oldham, 1975, pp.161-162.)

Smuts (2011) hypothesised that *provides meaningful and challenging work* exerts a positive influence on *perceived job characteristics*. Smuts (2011) then went on to argue that the degree to which a job is perceived to possess the five pivotal characteristics of *skill variety, autonomy, feedback, task identity* and *task significance* depends not only on the manner in which the job is designed, but also on the psychological make-up of the employee. Smuts (2011) therefore argued that different employees could come to different conclusions on the extent to which the same job possesses the five critical job characteristics. She expected that the psychological make-up of the employee would affect *task significance* and, albeit somewhat less so, *task identity*. Smuts (2011) acknowledged that her argument begs the question which specific employee attributes or psychological states would allow employees to see their jobs as having a significant impact on others and as requiring them doing a job from start to finish, she never ventured a stance on the identity of these employee characteristics or the way in which they are hypothesised to structurally link to the *perceived job characteristics* (i.e. as main effect or in interaction with the competency *provides meaningful and challenging work*). Her argument was triggered by the concern that those that are responsible for the management of nurses really have little freedom to enrich the job characteristics of nursing jobs because the nature of the job that nurses have to perform are to a significant extent prescribed by official governing bodies like the South African Nursing Council. Her concern was therefore that there would be no variance in perceived job characteristics. In addition to her position that individual employee differences cause variance in *perceived job characteristics* she in addition argued that nursing managers to a limited degree can affect at least a few of the job characteristics (e.g. the extent to which patients, family of patients and/or doctors provide direct feedback to nurses) despite the fact that they have relatively little discretion in how nurses' jobs are structured. She thus argued that, *perceived job characteristics* could be hypothesised to have a positive influence on *psychological empowerment*.

2.4.3 Outcomes of Psychological Empowerment

2.4.3.1 Organisational Commitment

According to Kuokkanen, Leino-Kilpi and Katajisto (2003) *organisational commitmen*t has been shown to be an important outcome of *psychological empowerment*. Furthermore, Kanter, as cited in Laschinger, Finegan, Shamian and Wilk (2001) also holds the position that *psychological empowerment* affects *organisational commitmen*t. He motivates this position by arguing that a work environment which provides employees with information, resources, support and learning and development opportunities should induce employees

to reciprocate with commitment (Smuts, 2011). Social exchange theory (Blau, 1964) suggests that employees that experience *psychological empowerment* because they have been given the opportunity by their organisation (via their manager) to psychologically invest themselves in a job high on the job characteristics, would feel obliged to reciprocate by remaining loyal to the organisation (Herselman, 2013). Smuts (2011) argues that an employee's psychological state constitutes a reaction to a situation in which the employee finds him-/herself. Thus, she postulated that *psychological empowermen*t should exert a positive influence on *organisational commitment*.

2.4.3.2 Job Satisfaction

The opportunity to engage in meaningful work is a prerequisite for an employee to be intrinsically satisfied with what they do at work, according to Spreitzer, as cited in Bordin (2007). Liden et al. in Bordin et al. (2007) likewise hypothesised that an employee is likely to feel more involved and also feel that they gain a sense of satisfaction from their job, when an employee feels that their outputs have an influence on specific outcomes of the organisation. Bordin et al. (2007) further argue that the probability of employees feeling a high degree of satisfaction with their jobs increases as they feel more and more competent in performing their jobs. These as aspects form part of the competence dimension of *psychological empowerment*. Jun and Lee (as cited in Hechanova, Alampay, & Franco, 2006) reported that four of the five dimensions of *psychological empowerment* significantly ($p<.05$) explained unique variance in *job satisfaction*. Moreover, Hechanova et al. (2006), using the Minnesota Satisfaction Questionnaire and the Spreitzer scale to measure the two constructs, reported a moderate positive correlation between *psychological empowerment* and *job satisfaction*. This finding is in line with a hypothesised causal relationship between these two constructs but not sufficient evidence to indicate it.

The aim of Smuts' (2011) research was to refine and extend the model developed by Oehley (2007) by adding psychological constructs that act as mediators between the line manager talent management competencies and *intention to quit*. She argued that *perceived job characteristics*, *perceived development opportunities*, *sense of mission* and *psychological empowerment* should act as psychological constructs that act as mediators between the level of talent management competence that line managers achieve and the level of the *intention to quit* of their followers. Smuts (2011) summarised her argument as described above in the form of an extended talent management competency model, which is displayed in Figure 2.5.

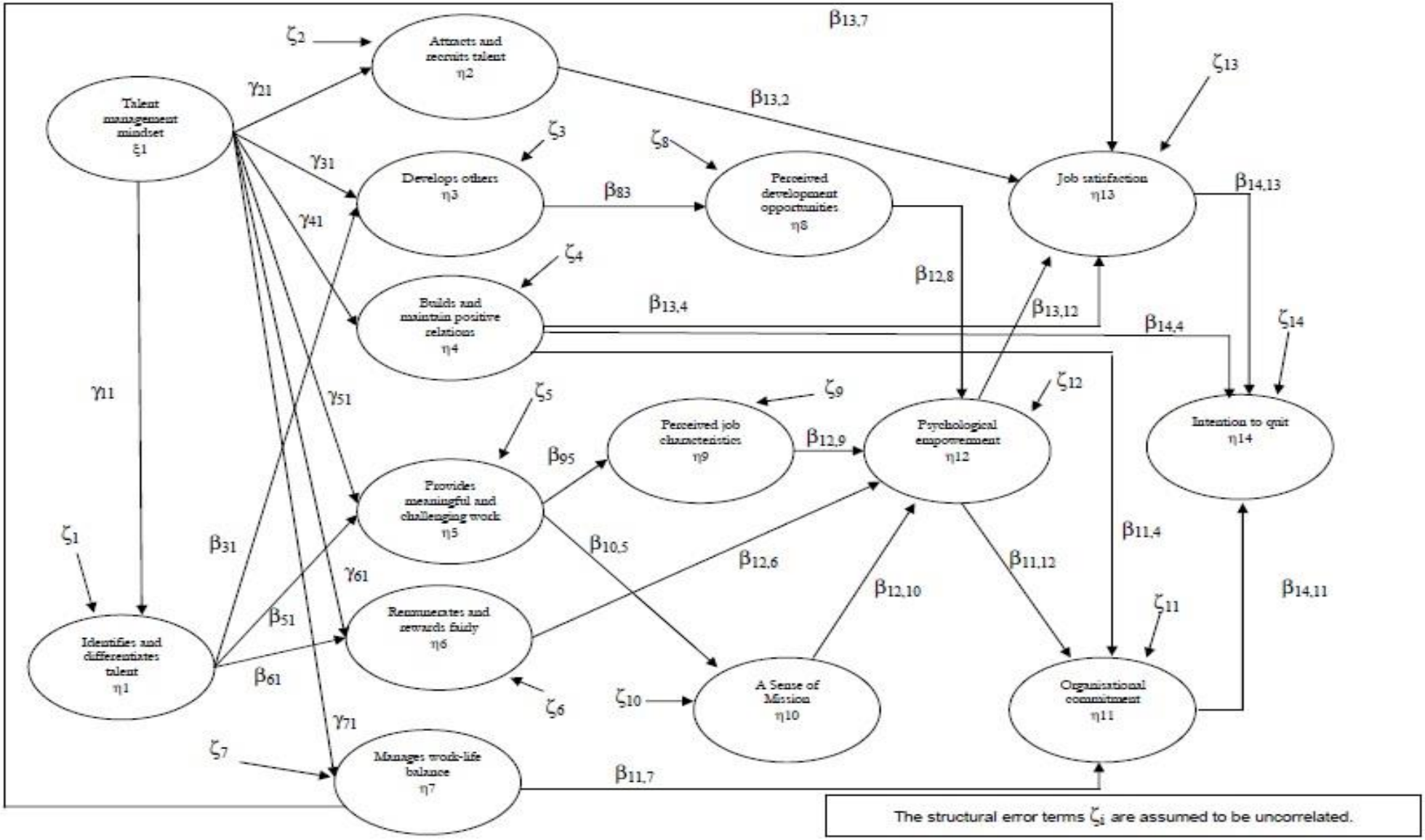

Figure 2.5. Proposed extended talent management competency model. *The elaboration and empirical evaluation of a partial talent management competency model in the nursing profession,* by N. Smuts, 2011, p. 41. Unpublished master's thesis, University of Stellenbosch.

2.4.4 Fitting the reduced Smuts (2011) intention to quit structural model

As a precursor to fitting the extended talent management competency model Smuts (2011) evaluated the validity with which the constructs included the model had been measured by fitting the measurement models of the talent management competencies and the talent management outcomes separately. She found that the former measurement model showed poor fit. Table 2.6 shows the full array of goodness fit statistics. The exact and close fit null hypotheses were both rejected (p<.05). The sample RMSEA estimate (.178) fell above the RMSEA value that is regarded as indicative of mediocre fit (.08) (Browne & Cudeck, 1993).

Table 2.6

Fit statistics for the talent management competencies measurement model

Degrees of freedom	78
Satorra-Bentler Scaled Chi-Square	413.842 (p = .00)
Root Mean Square Error of Approximation (RMSEA)	.178
90 Percent Confidence Interval for RMSEA	(.161; .195)
P-value for Test of Close Fit (RMSEA < .05)	0

(Smuts, 2011, p. 117)

The lack of fit of the talent management competency measurement model meant that Smuts' (2011) attempt to obtain valid and reliable measures of the talent management competencies failed in her study despite the fact that she used the same questionnaire that was utilised by Oehley (2007) and for which she found good fit in a similar analysis.

Her inability to obtain valid and reliable measures of the talent management competencies prevented the testing of the full structural model illustrated in Figure 2.2. Consequently, she then reduced the originally hypothesised model by deleting all the talent management competencies from the structural model. This resultant reduced model is depicted in Figure 2.6.

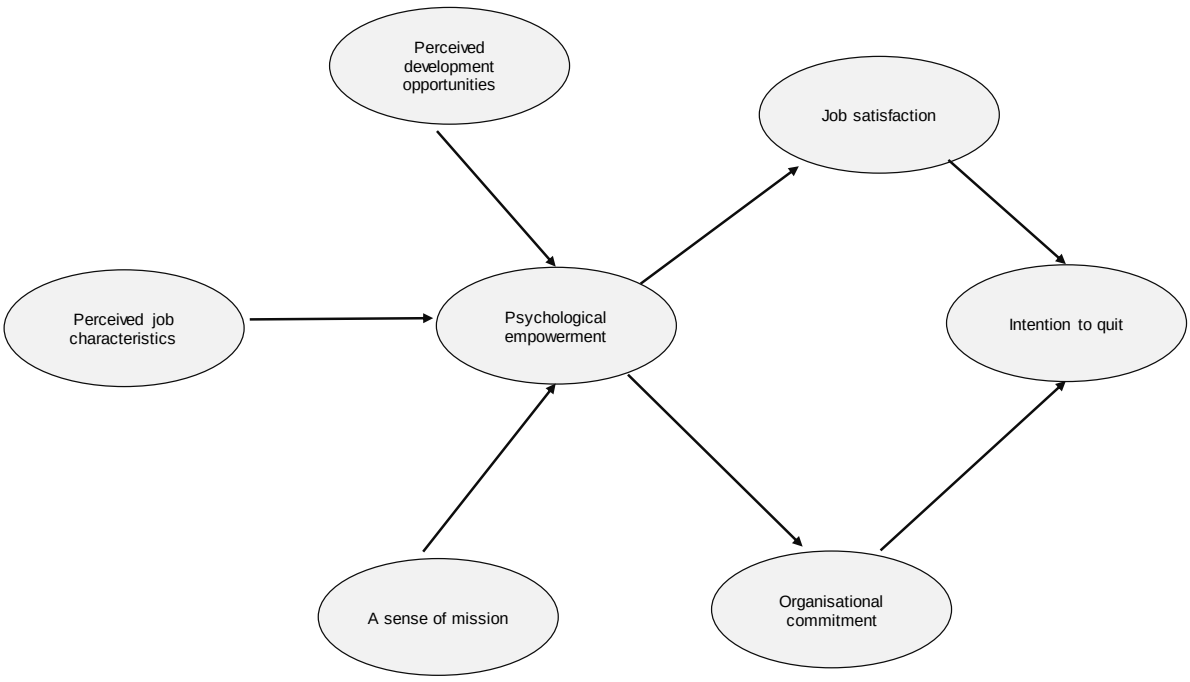

Figure 2.6. Reduced intention to quit structural model. *The elaboration and empirical evaluation of a partial talent management competency model in the nursing profession,* by N. Smuts, 2011, p. 124. Unpublished master's thesis, University of Stellenbosch.

This forced her to restate her initial overarching substantive research hypothesis that the model portrayed in Figure 2.6 provides a valid description of the psychological mechanism that regulates employees' turnover intention. The revised overarching substantive research hypothesis was subsequently separated into seven path-specific substantive research hypotheses. Smuts (2011) kept the original numbers of the path-specific hypotheses. The following hypotheses, as illustrated in Figure 2.2 and in Figure 2.6, were consequently tested (Smuts, 2011, pp. 121-122):

- Hypothesis 17: *Perceived job characteristics* (η_9) has a positive linear effect on *psychological empowerment* (η_{12}).
- Hypothesis 18: Psychological empowerment (η_{12}) has a positive linear effect on the outcome of organisational commitment (η_{11}).
- Hypothesis 20: *A sense of mission* (η_{10}) has a positive linear effect on the outcome of *psychological empowerment* (η_{12}).
- Hypothesis 21: *Psychological empowerment* (η_{12}) has a positive linear effect on the outcome of *job satisfaction* (η_{13}).
- Hypothesis 22: *Perceived development opportunities* (η_8) has a positive linear effect on *psychological empowerment* (η_{12}).

- Hypothesis 26: An employee's level of *job satisfaction* (η_{13}) has a negative linear effect on the outcome *intention to quit* (η_{14}).
- Hypothesis 27: An employee's level of *organisational commitment* (η_{11}) has a negative linear effect on the *intention to quit* (η_{14}).

The revised overarching substantive research hypothesis as before translated into the following exact and close fit null hypotheses:

$$H_{01}: \text{RMSEA} = 0$$

$$H_{a1}: \text{RMSEA} > 0$$

$$H_{02}: \text{RMSEA} \leq .05$$

$$H_{a2}: \text{RMSEA} > .05$$

Smuts (2011) then tested the assumption that the observed variables adhere to a multivariate normal distribution in PRELIS (Jöreskog & Sörbom, 1996a). She subsequently used LISREL 8.80 (Jöreskog & Sörbom, 1996b) to fit the competency model shown in Figure 2.6. She analysed the covariance matrix because the item parcels were considered to be continuous variables. Since the assumption that the observed variables follow a multivariate normal distribution was not met, robust maximum likelihood (RML) estimation was used.

The reduced structural model shown in Figure 2.6 converged in 21 iterations. This model however showed a poor fit. The goodness of fit statistics are displayed in Table 2.7.

Table 2.7

Fit statistics for the reduced Smuts (2011) structural model

Degrees of freedom	67
Satorra-Bentler Scaled Chi-Square	158.738 (p = .00)
Root Mean Square Error of Approximation (RMSEA)	.104
90 Percent Confidence Interval for RMSEA	(.0834; .125)
P-value for Test of Close Fit (RMSEA < 0.05)	0

(Smuts, 2011, p. 125)

The small exceedance probability associated with the *Satorra-Bentler scaled chi-square* = 158.738 (p = .00) shown in Table 2.7 meant that H_{01}: RMSEA = 0 had to be rejected (p<.05). The significant χ^2 implied that the observed variance-covariance matrix and the fitted covariance matrix deviated more than can be accounted for by sampling error under the exact fit hypothesis. Rejection of the null hypothesis indicated the rejection of the model, because of an imperfect model fit (Kelloway, 1998). The sample RMSEA estimate of .104 indicated a very poor fitting model. H_{02}: RMSEA < .05 was also rejected (p<.05). The inevitable conclusion consequently was that the fitted model failed to reproduce the

observed covariance matrix with sufficient accuracy to allow the parameter estimates to be regarded as valid and credible. The structural model parameter estimates consequently could not be interpreted.

The modification indices calculated through LISREL were subsequently reviewed to identify possible options of improving the fit of the model. Only the statistically significant ($p<.01$) modification index values in Γ and $\mathbf{B}$ were taken into account to identify possible data-driven suggestions on how the model illustrated in Figure 2.6 should be modified to improve model fit. The modification indices for Γ and $\mathbf{B}$ showed that β_{14} had the highest value. This therefore, suggested that an additional path from *job satisfaction* to *commitment* would statistically significantly ($p<.01$) enhance the fit of the structural model. The suggested path was considered theoretically justifiable. If an employee experiences job satisfaction at work, it could be expected that this positive evaluation of the job could broaden (or generalise) to an affective connection to the organisation in which the job is situated (Smuts, 2011). Table 2.8 shows the modification index values calculated for $\mathbf{B}$. All the modification index values calculated for $\mathbf{B}$ were statistically significant ($p<.01$) as illustrated in Table 2.8.

Table 2.8

*Modification Indices for **B***

	Commitment	Intention to Quit	Psychological Empowerment	Satisfaction
Commitment		35.772		53.402
Intention to Quit			11.712	
Psychological Empowerment	14.566	27.476		9.379
Satisfaction	**51.032**	34.709		

(Smuts, 2011, p. 128)

Further analysis of the unstandardised Γ (see Table 2.9), moreover indicated that the path from *mission* to *psychological empowerment* (t-value = 1.174) should be deleted, as well as the path from *development opportunities* to *psychological empowerment* (t-value = .162) as both coefficients were statistically insignificant ($p>.05$). Smuts (2011) subsequently removed the two aforementioned insignificant paths[3] and inserted the paths from *job satisfaction* to *commitment* and fitted the revised model (Model 1) again.

[3] Whether the deletion of the two insignificant paths was an appropriate decision could be questioned due to the fact that the parameter estimates did not warrant interpretation due to the poor model fit.

Table 2.9

Γ matrix for the reduced structural model

	Sense of Mission	Development Opportunities	Job Characteristics
Commitment			
Intention to Quit			
Psychological	**.191**	**.028**	.335
Empowerment	**(-.162)**	**(-.172)**	(-.137)
	1.174	**.0162**	2.444*
Satisfaction			

* (p<.05)

(Smuts, 2011, p. 128)

2.4.5 Further Modification to the Reduced Structural Model

2.4.5.1 Modified Reduced Structural Model 1

Based on the goodness of fit statistics (table not shown) of the revised model 1, H_{01}: RMSEA=0 was again rejected (p<.05), as indicated by the *Satorra-Bentler scaled chi-square* = 96.814 (p = .0124). The RMSEA value of .0580 indicated a good fit. H_{02}: RMSEA≤.05 could not be rejected (p = .296).

Moreover, the $\mathbf{B}$ matrix (table not shown) showed that the new path that was inserted from *satisfaction* to *commitment* was statistically significant (p<.05), but that the effect of *psychological empowerment* on *commitment* that was statistically significant in the original model became statistically insignificant (p>.05) in the revised Model 1. All the remaining original β-estimates stayed statistically significant (p<.05). Lastly, the effect of *perceived job characteristics* on *psychological empowerment* remained statistically significant (Γ not shown).

The analysis of the modification indices for Γ (table not shown) in addition, showed that model fit would be significantly (p<.01) further improved if *development opportunities* would be allowed to affect *job satisfaction*. This stands in contrast to the originally hypothesised path from *development opportunities* to *psychological empowerment* but for which the β-estimate that was found to be statistically insignificant (p>.05). This proposed path taken in conjunction with the statistically insignificant path from *development opportunities* to *psychological empowerment* seems to suggest that the mere perceived availability of developmental opportunities is not enough to produce *psychological engagement*. *Psychological engagemen*t probably will result only if the opportunity for development is successfully utilised and that which is gained by the development results in a discernable

improvement in performance in a job that is high on the job characteristics. Nonetheless, the proposed path from *development opportunities* to *job satisfaction* made substantive theoretical sense, as employees are expected to experience job satisfaction when they evaluate their present work environment as one that offers prospects for development and growth (Gardulf, Orton, Eriksson, Unde, Arnetz, Kajermo, & Nordström, 2008).

2.4.5.2 Modified Reduced Structural Model 2

Model 2 was obtained by allowing *development opportunities* to directly affect *job satisfaction* and by deleting the direct influence of *psychological empowerment* on *commitment*. Model 2 was subsequently fitted again. Smuts (2011) found that the Model 2 fitted quite well (table not shown). The *Satorra-Bentler scaled chi-square* = 82.643 (p = .109), indicated that H_{01}: RMSEA=0 should not be rejected (p>.05). The *RMSEA* value of .0413 indicated good fit and that Model 2 provided a better explanation of the observed variance-covariance matrix than Model 1. H_{02}: RMSEA≤.05 was necessarily also not rejected (p>.05), and consequently the structural model showed excellent fit.

Furthermore, Γ calculated for Model 2 showed that both γ-coefficients (Γ not shown) were statistically significant (p<.05). The effect of *perceived job characteristics* and the effect of *perceived development opportunities* on *job satisfaction* were therefore both statistically significant (p<.05). In $\mathbf{B}$ all the path coefficients were statistically significant except for, rather surprisingly, the effect of *satisfaction* on *intention to quit* (Smuts, 2011, p. 132). The hypothesised path from *satisfaction* to *intention to quit* was strongly supported by a large body of research evidence, and it was therefore decided not to remove the path.

After a thorough evaluation of the model and further analysis of the modification indices calculated for $\mathbf{B}$, it was indicated that the model could be significantly improved (p<.01) by allowing *psychological empowerment* to affect *intention to quit.* The standardised path coefficient expected for this path was, however, positive (β_{23} = .222). Such a positive path coefficient would mean that an improvement in *psychological empowerment* would intensify employees' *intention to quit.* Theoretically the converse would be expected. The suggested path was therefore not added in the model. Allowing *psychological empowerment* to exert a positive effect on *intention to quit* in the psychological mechanism would bring into question the whole reasoning underlying job enrichment as a technique of enhancing the psychological empowerment experienced by employees (Smuts, 2011).

The second highest modification index value indicated that *sense of mission* should be allowed to affect *commitment*. Such a path could be theoretically justified. Employees should

tend to develop an attachment to their organisation to the extent that they perceive they are pursuing something meaningful in their organisation (Weng, Huang, Tsai, Chang, Lin, & Lee, 2010). Smuts (2011) therefore proposed a path between these two latent variables.

2.4.5.3 Modified Reduced Structural Model 3

Table 2.10 shows the fit statistics for Model 3.

Table 2.10

Goodness of fit statistics for modified reduced structural Model 3

Degrees of freedom	67
Satorra-Bentler Scaled Chi-Square	76.641 (p = 0.197)
Root Mean Square Error of Approximation (RMSEA)	0.0338
90 Percent Confidence Interval for RMSEA	(0.0; 0.0648)
P-value for Test of Close Fit (RMSEA < 0.05)	0.775

(Smuts, 2011, p. 135)

The *Satorra-Bentler* scaled chi-square = 76.641 (p = .197) indicated that H_{01}: RMSEA=0 was not rejected (p>.05). Therefore, there is not a statistically significant difference between the fitted and the observed covariance matrices. The sample RMSEA value of .0338 showed that Model 3 fitted the data very well and substantially better than the previous model (.0413). H_{02}: RMSEA≤.05 necessarily also could not be rejected (p>.05)**.**

According to Kelloway (1998) perfect fit can be eventually achieved simply by adding more and more paths to a model. The aim when developing an hypothesis on the psychological mechanism regulating a phenomenon like turnover intention is, however, to find the most parsimonious model that shows good fit (Jöreskog & Sörbom, 1993). According to Jöreskog and Sörbom (1993) the gain in improved fit needs to be considered against the loss in degrees of freedom. The indices of parsimonious fit evaluate model fit from this perspective.

The fitted structural model obtained a more parsimonious fit than the independence model (2135.871) as well as the saturated model (613.640) as indicated by the fact that it had the smallest value for the consistent Aiken information criterion (CAIC = 298.720). The expected cross-validation index (ECVI) likewise indicated that the chance of fitted model (1.211) being replicated in a cross-validation sample was better than that of the independence model (16.524) and that of the saturated model (1.667). Moreover, and quite unusually so, this trend was also found reflected in the Aiken information criterion and the consistent Aiken information criterion results. Model 3 therefore was not too elaborate in in the manner in which it described the psychological mechanism regulating nurses' *intention to quit*. At the same time Model 3 did not provide a too scant description of the psychological mechanism.

Combining the basket of evidence provided by the fit statistics depicted in Table 2.10 suggests a well-fitting model that evidently provides a more convincing description of the psychological mechanism regulating nurses' *intention to quit* than the independence model. It also seems to adequately acknowledge the complexity of the psychological mechanism regulating nurses' *intention to quit.*

2.4.5.4 Interpretation of the Modified Reduced Structural Model 3 Parameters Estimates

The completely standardised solution for Model 3 is shown in Figure 2.7.

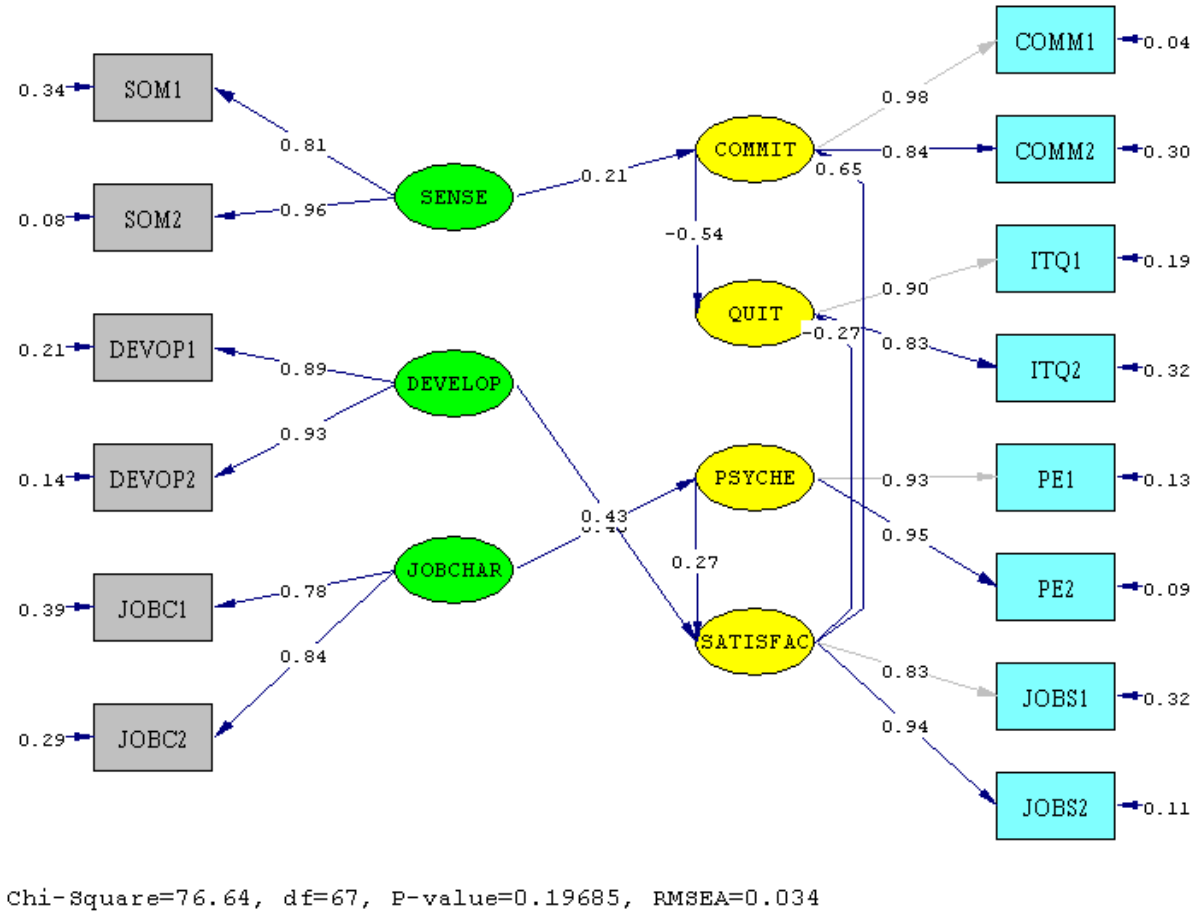

Figure 2.7. Modified reduced structural Model 3 (completely standardised solution) *The elaboration and empirical evaluation of a partial talent management competency model in the nursing profession,* by N. Smuts, 2011, p. 140. Unpublished master's thesis, University of Stellenbosch.

All the path coefficients were statistically significant ($p<.05$). The sign of all the freed structural model parameter estimates corresponded to the values hypothesised under H_{ai} in the modified reduced structural Model 3. The decision to retain the path from *job satisfaction* to *intention to quit* was therefore vindicated. The completely standardised β-coefficient estimates, together with their standard errors and the corresponding t-values are indicated

in Table 2.11. The same information is indicated in Table 2.12 for the completely standardised γ-coefficient estimates. It should, however be acknowledged that the completely standardised β- and γ-coefficient estimates, together with their standard errors and the corresponding t-values indicated in Table 2.11 and Table 2.12 cannot strictly speaking be interpreted in relation to the specific substantive research hypotheses formulated in paragraph 2.4.4 (or in paragraph 5.7.1 in Smuts (2011). These research hypotheses all hypothesised specific causal paths between specific latent variables embedded in a specific larger model. The original reduced model has, however, been modified by both removing existing paths and adding other paths. Because the paths that the hypotheses referred to originally, and the paths in Model 3, are embedded in different models they strictly represent different hypotheses.

Table 2.11

Completely standardised beta path coefficient matrix for the modified reduced structural Model 3

	Commitment	Intention to Quit	Psychological Empowerment	Job Satisfaction
Commitment				**.646**
				(.073)
				8.819*
Intention to Quit	**-.542**			**-.271**
	(.160)			(.136)
	-3.382*			-1.993*
Psychological Empowerment				
Job Satisfaction			**.267**	
			(.084)	
			3.169*	

*(p<.05)

(Smuts, 2011, p. 141)

The β_{ij} -estimates are partial regression slope coefficients. Therefore in the completely standardised solution β_{ij} describes in a standard deviation metric how much on average η_i will increase/decrease when η_j increases with a single standard deviation and when statistically controlling for the other effects structurally linked to η_i. Table 2.11 indicates that the influence of *job satisfaction* on *commitment* was reasonably distinct and that *commitment* has a reasonably prominent negative effect on *intention to quit*. Furthermore, Table 2.11 also shows that *psychological empowerment* had a rather modest influence on *job satisfaction*, although nonetheless statistically significant (p<.05). The negative influence

of *job satisfaction* on *intention to quit* is also statistically significant (p<.05), although fairly small (Smuts, 2011).

Table 2.12

Completely standardised gamma path coefficient matrix for the modified reduced structural Model 3

	Sense of Mission	Perceived Development Opportunities	Perceived Job Characteristics
Commitment	**.213**		
	(.082)		
	2.600*		
Intention to Quit			
Psychological Empowerment			**.453**
			(.112)
			4.030*
Job Satisfaction		**.430**	
		(.102)	
		4.192*	

* (p<.05)

(Smuts, 2011, p. 142)

The γ-estimates are interpreted similarly to the β-coefficients. In the completely standardised solution γ_{ij} consequently describes in a standard deviation metric how much on average η_i increases/decreases when increasing ξ_j with 1 standard deviation and statistically controlling for the other effects that are structurally linked to η_i. Table 2.12 indicates that *sense of mission* has a moderate positive and statistically significant (p<.05) influence on *commitment when* holding the effect of *job satisfaction* constant, perceived development opportunities has a moderate positive and statistically significant (p<.05) influence on *job satisfaction* when controlling for the effect of *psychological empowerment* and *perceived job characteristics* has a moderate positive and statistically significant (p<.05) influence on *psychological empowerment*.

Figure 2.8 summarises the manner in which the reduced intention to quit structural model had been modified through three iterations.

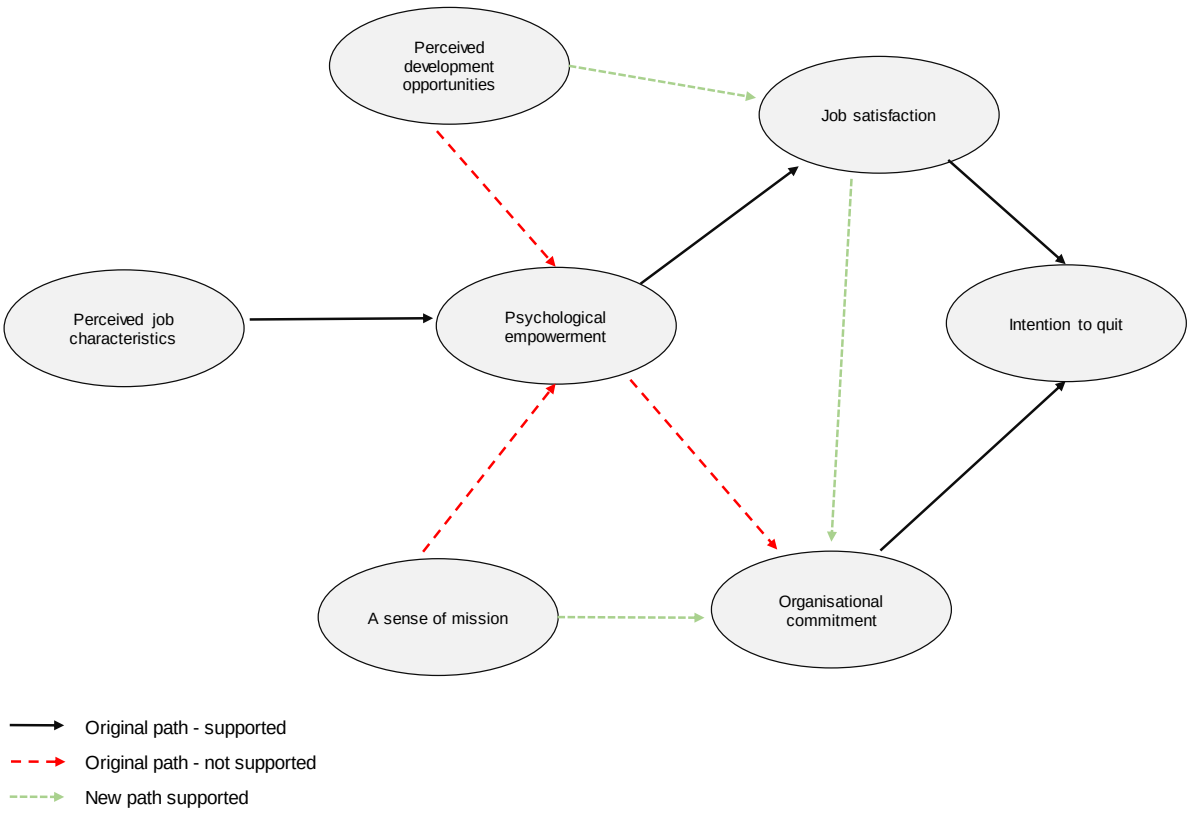

Figure 2.8. Modified reduced structural Model 3 indicating supported, not supported and new paths. *The elaboration and empirical evaluation of a partial talent management competency model in the nursing profession,* by N. Smuts, 2011, p. 143. Unpublished master's thesis, University of Stellenbosch.

2.4.5.5 Variance Explained in the Endogenous Latent Variables

In Table 2.13 the completely standardised structural error variances are shown.

Table 2.13

Structural error variances for the endogenous latent variables in the modified reduced structural Model 3

Commitment	Intention to Quit	Psychological Empowerment	Job Satisfaction
.438	.420	.795	.693
(.095)	(.100)	(.140)	(.106)
4.595	4.197	5.683	6.564

(Smuts, 2011, p. 144)

All of the structural error variance estimates were found to be statistically significant ($p<.05$). A statistically significant portion of the variance in the four endogenous latent variables in Model 3 is therefore caused by other systematic sources of variance currently not formally

identified by the model. Model 3 especially failed to explain variance in *psychological empowerment* and *job satisfaction* (Smuts, 2011).

Table 2.14 shows the proportion of the variance that Model 3 explained in each of the four endogenous latent variables.

Table 2.14

Squared multiple correlations for the structural equations in the modified reduced structural Model 3

Commitment	Intention to Quit	Psychological Empowerment	Job Satisfaction
.562	.580	.205	.307

(Smuts, 2011, p. 144)

The results shown in Table 2.14 echo the results depicted in Table 2.13. The structural model explained quite large proportions of the variance in *commitment* and *intention to quit*. Furthermore, the structural model also explains some variance in *job satisfaction* and *psychological empowerment*, but only to a modest degree (Smuts, 2011).

2.5 REITZ'S MODIFICATION AND/OR ELABORATION OF THE MODIFIED REDUCED SMUTS (2011) STRUCTURAL MODEL 3.

The behaviour of working man is complexly determined. Intention to quit is therefore complexly determined. The nomological net of latent variables that regulate the level of employees' turnover intention therefore comprises a large number of richly interconnected person-centred and situational latent variables, interaction-effects and feedback loops Cilliers, (1998). When evaluated against these criteria the current modified reduced Smuts (2011) structural Model 3 clearly does not as yet provide a satisfactory description of the psychological mechanism that regulates the level of employee turnnover[4].

In an attempt to move the current modified reduced Smuts (2011) structural Model 3 closer to a model that more adequately meets the complexity criteria, the current study firstly

[4] This raises the question how such a claim could be made given the fact that the claim that model shows close fit in the parameter was found to be tenable. The finding of exact fit means that the parameter estimates found for the freed measurement and structural model parameters are permissible in as far as they were able to reproduce the variance in and covariance between the set of indicator variables used to operationalise the set of latent variables comprising the current model in the sample to a degree of accuracy that can be explained in terms of sampling error only. The degree of model fit does not comment on the extent to which relevant latent effects (i.e. paths and/or latent variables) have been omitted from the current model. The magnitude of the estimates obtained for the freed elements of Ψ should be seen to comment on this aspect.

focusses on the question whether any of the paths currently included in the model should be deleted.

2.5.1 Deletion of Paths from the Modified Reduced Smuts (2011) Structural Model 3

All the paths in the modified reduced Smuts (2011) structural Model 3 have been justified by sufficiently persuasive theoretical arguments and supported by empirical evidence to retain them in the current study. The following path-specific substantive hypotheses are therefore retained for inclusion in the proposed Oehley – Smuts – Bezuidenhout – Reitz Talent Management structural model:

Hypothesis 2

Job satisfaction has a reasonably pronounced positive effect on *commitment*

Hypothesis 3

Commitment has a reasonably marked negative effect on *intention to quit*

Hypothesis 4

Psychological empowerment has a modest positive effect on *job satisfaction*.

Hypothesis 5

Job satisfaction has a small negative effect on intention to quit.

Hypothesis 6

Sense of mission has a moderate positive and statistically significant influence on *commitment* when holding the effect of *job satisfaction* constant

Hypothesis 7

Perceived development opportunities has a moderate positive influence on *job satisfaction* when controlling the effect of *psychological empowerment*

Hypothesis 8

Perceived job characteristics has a moderate positive influence on *psychological empowerment*

In an attempt to move the current modified reduced Smuts (2011) structural Model 3 closer to a model that more adequately meets the complexity criteria, the current study secondly focusses on data-driven suggestions for model modification derived from Smuts' (2011) Model 3.

2.5.2 Data-driven Suggestions for Modification of the Modified Reduced Smuts (2011) Structural Model 3

All the modification index values Smuts (2011) obtained for Γ for model 3 were statistically insignificant (p>.01). According to the Smuts (2011) data adding paths from *perceived job characteristics*, *sense of mission* or *perceived developed opportunity* to any of the endogenous latent variables to which it is not currently directly linked will not result in a statistically significant (p>.01) improvement in the fit of Model 3. Smuts (2011), moreover, found that the data still indicated that allowing *psychological empowerment* to affect *intention to quit* will significantly (p<.01) enhance the fit of Model 3 (p<.01). The expected path coefficient in the completely standardised solution was predicted to be positive (b_{23}=0.177). The positive sign associated with the path coefficient did not make theoretical sense to Smuts (2011). LISREL's persistence[5] that *psychological empowerment* should be allowed to exert a positive influence on *intention to quit* forces one to reconsider Smuts' (2011) response[6] was that such a positive influence cannot be theoretically justified. One of the dimensions that constitute p*sychological empowerment* is *competence*, which, according to Spreitzer (1995), refers to the employee's belief in their capacity to competently perform their job. A high standing on *psychological empowerment* would therefore suggest a modest to high standing on *competence*. When viewed from this perspective the position that *psychological empowerment* exerts a positive effect on *intention to quit* seems somewhat more compelling. It does not seem unreasonable to argue that as individuals become more impressed by their competence that they could develop a stronger intention to search for alternative employment. The question, however, is whether this influence on turnover intention will be direct?

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[5] The term *persistence* was used here to reflect the fact that in more than one study the path had been pointed out by LISREL as a path that would statistically significantly improve the fit of the model in question. It is acknowledged that modification index values calculated are not able to dictate paths that should be included in a model.

[6] The current study confesses that its initial reaction agrees with that of Smuts (2011) that *psychological empowerment* exerting a positive influence on *intention to qu*it does not make substantive theoretical sense.

In an attempt to move the current modified reduced Smuts (2011) structural Model 3 closer to a model that more adequately meets the complexity criteria, the current study secondly focusses on theory-driven suggestions for the elaboration and modification of the model.

2.5.3 Theory-driven Suggestions for Modification of the Modified Reduced Smuts (2011) Structural Model 3

The psychological mechanism that regulates employees' level of *intention to quit* is complex in the sense that it consists of many person-centered and situational or environmental constructs that are structurally interlinked. A distinction should in addition be made between situational latent variables characterising the work environment inside the organisation and latent variables characterising the employment environment outside the organisation. In her talent management study, Oehley's (2007) focused solely on internal antecedents of an employee's turnover intention. Furthermore, according to Bezuidenhout (2013, p. 41), both Oehley (2007) and Smuts (2011) concentrated their research on the influence of "social context on perceptions of the work environment, attitudes and employee needs", and the linkage between the two. According to Thatcher, Stepina and Boyle (2002), research in organisational behaviours suggests that to gain a truly penetrating understanding of the turnover behaviour of employees, explanatory models should acknowledge that employee behaviour does not only depend on conditions internal to the organisation but also conditions outside the organisation. Therefore, it is important to also place some focus on the possible influence of external environmental factors on the perceptions and attitudes of employees.

According to Bezuidenhout (2013, p. 41) "a cornerstone of this conceptual literature has been the central role played by perceived alternatives in shaping intentions to stay or leave". Bezuidenhout's (2013) study mainly focused on the influence of variables that characterise the (perceived) conditions outside the organisation, such as *perceived alternative employment opportunities*, in an attempt to more comprehensively describe the psychological mechanism that regulates intention to quit decisions. More specifically, *perceived alternative employment opportunities* could potentially play a pivotal role in explicating the psychological mechanism through which *perceived psychological empowerment* affects *intention to quit*.

The perception that an employee has of the availability of *alternative job opportunities* has been put forward as an influential determinant of turnover intention in the research literature (Bezuidenhout, 2013; Griffeth & Hom, 1988; Khatri, Fern & Budhwar, 2001; Steel & Griffeth, 1989). Bezuidenhout (2013 nonetheless reports that despite the persuasiveness of the

theoretical arguments offered in support of this construct's role in turnover intention, empirical research has generally found that the perception of *alternative job opportunities* only has a weak and inconsistent effect on *turnover intention*. Bezuidenhout (2013) attributes this to lack of consensus on the manner in which the construct should be conceptualised. Bezuidenhout (2013) seems to argue that in the past the construct has been conseptualised too broadly in the sense that it really encapsulated three distinct latent variables. The lack of clear and consistent findings is then attributed to the failure to explicate the various causal influences that occur between these different facets of the broad construct referring to the perception whether there are alternative position worthwhile pursuing if one would resign (Bezuidenhout, 2013). In its narrower interpretation *perceived alternative job opportunities* is defined as "an individual's perception of the availability of alternative employment" (Bezuidenhout, 2013, p. 41). According to Khatri et al. (2001) it is not necessary that an employee should perceive a substantial subjective probability for a specific job alternative to develop turnover intentions, instead the possibility of an alternative job in general only needs to be perceived as highly likely. The extent to which an employee sees alternative opportunities is a variable that by and large lies beyond the control of the organisation and the employee. Rather the perception of *alternative job opportunities* is determined by the *de facto* availability of jobs, which in turn is affected by supply of and demand for labour and the condition of economy. An organisation does not really have the ability to affect the conditions prevailing in either the economy or the labour market (Khatri et al., 2001). Despite this *perceived alternative job opportunities* seem to be an important environmental latent variable that would be difficult to exclude from the psychological mechanism regulating employees' level of turnover intention. Bezuidenhout (2013, p. 42) agrees and sees it as the "gateway for behaviours and intentions related to turnover". Furthermore, according to De Cuyper, Mauno, Kinnunen and Mäkikangas (2011) the extent to which an employee perceives *alternative opportunities* can be seen as the initial consideration that triggers thinking about leaving the organisation and ultimately actually leaving, as this can be seen as a reason that motivate employees to consider other options. According to Mano-Negrin and Tzafrir (2004) an employee is more likely to be employed when the skills and abilities they can offer agree with the requirements of an available opportunity. Moreover, an employee is likely to go through a rational thought process before putting anything in motion, and therefore a decision will only be made when it is perceived that the results anticipated from quitting would result in greater benefits (i.e., more attractive) than staying in the current organisation (Bezuidenhout, 2013). "An increase in the amount

of available opportunities will make the possibility of finding a more attractive job, compared to the current one, more likely" (Bezuidenhout, 2013, p. 45).

Perceived utility of movement and *perceived human capital* are the other two facets that have been identified in the broad construct referring to perception whether there are alternative position worthwhile pursuing if one would resign (De Cuyper, Mauno, Kinnunen & Mäkikangas, 2011). *Perceived utility of movement*, refers to an employee's assessment of the valence of the outcomes associated with an alternative opportunity *viz-a-viz* the valence of the outcome associated with one's current job (De Cuyper et al., 2011). *Perceived human capital* in turn refers to an employee's normative perception (i.e. relative to other employees) of the extent to which they possess the competency potential (i.e. the knowledge, skills, abilities and other attributes required to succeed in jobs in a specific domain) and therefore are serious contenders for vacant jobs in that domain (Direnzo & Greenhaus, 2011). Furthermore, Becker, Murphy and Tamura (1994) emphasise that training and education constitute a critical investment made in an individual employee's intellectual capital. Judge, Cable, Boudreau and Bretz (1995) suggest that an individual employee's intellectual capital increases over time through the combined effect of work experience, formal education and competence development.

Three distinct facets comprising the broad construct referring to perception whether there are alternative positions worthwhile pursuing if one would resign are therefore:

- *Perceived alternative opportunities*: the perception of the extent to which applicable job offerings exist in the employment market (i.e. is there an abundance of jobs that one could apply for if one resigns or a paucity of jobs);
- *Perceived human capital*: the perception of the extent to which one possesses the requisite job competency potential to outperform competitors (i.e. it affects the extent to which one is employable);
- *Perceived utility of movement*: the perceived valence of the outcomes that are anticipated to result from attaining the alternative job opportunity *viz-a-viz* the value attached to the outcomes associated with one's current job (i.e. the gain in benefits).

This line of reasoning would suggest that an employee's intention to quit would be lowered, all other variables held constant, if:

- No (or very few) alternatives exist, and/or
- The employee perceives him-/herself to be poorly qualified and therefore unlikely to outperform competing applicants; and/or
- Very little gain in benefits would be attained by relocating to a new job.

The critical question is how these latent variables characterising the (perceived) external employment environment structurally combine with the latent variables currently included in the current modified reduced Smuts (2011) structural Model 3 that all describe the (perceived) internal organisational environment. Although, Bezuidenhout (2013) hypothesised a direct influence of *perceived psychological empowerment* on *perceived alternative job opportunities*, this hypothesised path was, however, not motivated through any logical argument. The current study questions the position that the prevalence of jobs in the employment market is influenced by perceptions that employees hold of their competence. By his own admission (Bezuidenhout, 2013) *perceived alternative job opportunities* is to a large extent a factor that lies beyond the control of the organisation and the employee. The influence of *perceived psychological empowerment* on *perceived alternative job opportunities* was moreover insignificant (p>.05) (Bezuidenhout, 2013).

Bezuidenhout (2013), however, also hypothesised that *perceived human capital* mediates the effect of *perceived psychological empowerment* on *perceived alternative job opportunities.* The current study agrees with Bezuidenhout that *perceived psychological empowerment* positively affects *perceived human capital.* The hypothesised affect is assumed to work primarily through the *competence* dimension of *perceived psychological empowerment*. The argument here is therefore essentially that which had been considered in response to the data-driven suggestion made by LISREL that *perceived psychological empowerment* should be modelled to positively affect *intention to quit*, albeit then indirectly. Bezuidenhout (2013) found the influence of *perceived psychological empowerment* on *perceived human capital* to be statistically significant (p<.05). The current study consequently hypothesises that *perceived psychological empowerment* positively affects *perceived human capital.*

Hypothesis 9

Perceived psychological empowerment positively affects *perceived human capital*

The current study, however, questions the hypothesis that *perceived human capital* affects *perceived alternative job opportunities* for the same reason that it questioned the preceding hypothesis. *Perceived alternative job opportunities* is to a large extent a factor that lies beyond the control of the organisation and the employee. Bezuidenhout (2013), however found support for the hypothesised path. The influence of *perceived human capital* on *perceived alternative job opportunities* was significant (p<.05). This finding seems to puncture a hole in the preceding theoretical objection against such a path. Inspection of the

items that Bezuidenhout (2013) used to operationalise *perceived alternative job opportunities* seem to hold the key to explain the apparent paradox. The current study would argue that the scale used by Bezuidenhout (2013) measures perceived *employability* rather than *perceived alternative job opportunities*. Examples of the items are "if I quit my current job, the chances that I would find another job which is as good, or better than my present one is high" and "if I have to leave this job, I would have another job as good as this one within a month." The items do not merely reflect the extent to which job opportunities are perceived to exist in the employment market. Rather it measures the subjective probability of acquiring a new job if resigning from one's present job. The latent variable *perceived employability* is used in the current study to refer to this subjective probability.

The current study hypothesises that *perceived employability* is determined by the extent to which job opportunities exist in the employment market combined with the extent to which one possesses the job competency potential to outperform competing applicants. The current study therefore hypothesises that *perceived employability* is determined by *perceived alternative job opportunities* and *perceived human capital*. The latter hypothesis is supported by the finding of Bezuidenhout (2013) that the influence of *perceived human capital* on *perceived alternative job opportunities* was significant ($p<.05$). Consequently, the current study hypothesises that p*erceived alternative job opportunities* positively affects *perceived employability.*

Hypothesis 10

Perceived alternative job opportunities positively affects *perceived employability*

In addition, it is hypothesised that p*erceived human capital* also positively affects *perceived employability.*

According to Bezuidenhout (2013), by making the employees more employable through development and experience organisations in effect decrease the insecurity that employees experience when they consider the prospects of finding a new job. If an employee's job had to end unexpectedly, employability provides the assurance that an employee will have the requisite knowledge, abilities and skills to find a new job with relatively little difficulty (Benson, 2006).

Hypothesis 11

P*erceived human capital* positively affects *perceived employability*

According to Direnzo and Greenhaus (2011), the level of employability of an individual is the result of the number of years of formal of education that they had, their cognitive ability and exposure to specialised on-the-job training that they may have had. Employability is determined by the extent to which the individual perceives themselves as having the requisite knowledge, abilities and skills to gain and hold employment, the perceived ability to further hone their intellectual capital through sustained employment and being prepared for career opportunities. Thus, as defined by Direnzo and Greenhaus (2011), employability is the (perceived) ability to exert control over the employment choices one has by creating (or identifying) career opportunities and to grasp these opportunities. Moreover, an employee more likely would hold a high intention to quit if he/she anticipate that they stand a good chance of being successful in their application for a new job. It is therefore hypothesised that *intention to quit* will increase as the subjective probability of acquiring a new job, if resigning from one's present job, increases. Human Capital Theory suggests that when employees develop knowledge skills and abilities that other organisations also value, they well perceive themselves as more employable and will therefore be more likely to market their skills outside their current organisations.

Hypothesis 12

Perceived employability positively affects *intention to quit*

Employees' *intention to quit* is, however, not only shaped by the odds that an application for another job will be successful. Turnover intention is also shaped by the value they attach to the salient outcomes associated with successfully applying for an alternative job. More specifically the question is how much of value will be gained by successfully applying for an alternative job. This is captured by the p*erceived utility of movement* latent variable as it was previously defined. The higher the perceived valence of the outcomes that are anticipated to result from attaining the alternative job opportunity *viz-a-viz* the value attached to the outcomes associated with one's current job (i.e. the higher the gain in benefits the higher the intention to quit). The current study hypothesises a p*erceived utility of movement* main effect on *intention to quit* in which it combines additively with the effect of *perceived employability.*

Hypothesis 13

P*erceived utility of movement* positively affects *intention to quit*

The question should, however also be considered whether p*erceived utility of movement* moderates the effect of *perceived employability* on *intention to quit*? It does not seem unreasonable to argue that the perception that one stands a good chance of beating competing applicants in securing an alternative position will more aggressively affect an employee's *intention to quit* if large gains in benefits are perceived to be associated with switching positions. Interplay between present work experience and organisational or structural characteristics shape an individual's preferences. The attractiveness of a specific organisation will depend on the perceived nature of the actual job that an employee will occupy and the perceived characteristics of the work environment. Thus, the *intention to quit* one's current job will increase when the work environment and job characteristics associated with an alternative job opportunity in the labour market are perceived to be more attractive.

Hence a *perceived utility of movement* x *perceived employability* interaction effect on intention to quit seems warranted.

Hypothesis 14

The effect of *perceived employability* on *intention to quit* is moderated by p*erceived utility of movement; the slope of the regression of intention to quit on perceived employability* increases as the p*erceived utility of movement* increases

A question that has generally been neglected or avoided in turnover intention research is the role that the *perceived satisfactoriness of performance* plays in regulating the turnover intention of employees. The Theory of Work adjustment proposed by Dawis and Lofquist (1984) made provision for a latent variable satisfactoriness that was conceptualised by Dawis and Lofquist (1984) as the extent to which the employee, in the eyes of the organisation, meets the performance expectations of the organisation. The current study would contend that, although the organisation's evaluation is of importance, the perception of the employee of the organisation's evaluation is of greater importance in shaping the level of an employee's turnover intention. In addition, the employee's own evaluation of his/her performance also seems to be of importance as a factor that determines, albeit indirectly, turnover intention. The current study conceptualises *perceived satisfactoriness of performance* as a two-dimensional construct that represents the employee's perception of the organisation's evaluation of his/her performance and the employee's own evaluation of his/her performance. Holding the belief that one is failing, or conversely, holding the belief that one is exceptionally successful at one's work based on one's own assessment and one's perception of the manner in which the organisation evaluates one, seems to nominate

itself as an influential determinant of turnover intention when introspectively reflecting on possible reasons why one would consider resigning from one's job. The effect of *perceived satisfactoriness of performance* on *intention to quit* is, however, probably not direct. The current study would argue that there are two paths through which *perceived satisfactoriness of performance* indirectly affects *intention to quit*. The current study hypothesises that the effect of *perceived satisfactoriness of performance* on *intention to quit* is firstly mediated by *perceived human capital* and *perceived employability.* Holding the belief that one is failing, or conversely, holding the belief that one is exceptionally successful at one's work based on one's own assessment and one's perception of the manner in which the organisation evaluates one should firstly positively influence the subjective probability of acquiring a new job if resigning from one's present job.

Hypothesis 15

Perceived satisfactoriness of performance positively influences *perceived human capital*

The influence of *perceived satisfactoriness of performance* on *intention to quit* is secondly hypothesised to be mediated by *job satisfaction.* Holding the belief that one is failing, or conversely, holding the belief that one is exceptionally successful at one's work based on one's own assessment and one's perception of the manner in which the organisation evaluates one should secondly positively affect the extent to which one experiences the work as satisfactory.

Hypothesis 16

Perceived satisfactoriness of performance positively influences job satisfaction

According to Thatcher et al. (2002) employees have a tendency to display less *organisational commitment*, when they perceive abundant external opportunities. Conversely, when employees perceive opportunities to be limited, they will have a tendency to display more commitment towards their current organisation and their intention to leave will be lower. Bezuidenhout (2013) consequently argued that the level of *continuance* commitment towards one's current organisation will depend on the *perceived alternative opportunities* in the external labour market. This position is supported by Thau, Bennett, Stahlberg and Werner (2004) that also argue that *organisational commitment* mediates the impact of *perceived alternative opportunities* on *intention to quit.* These researchers therefore argue that when employees hold the perception that many alternative employment opportunities exist in the labour market, employees will experience higher level of *intention*

to quit but that the effect of the former on the latter is mediated by *organisational commitment.* The current study, however, differs from this position. The mere perception that many alternative job opportunities exist is not enough to affect the level of continuance commitment. Continuance commitment represents the costs that employees perceive they will incur when leaving the organisation (Allen & Meyer, 1990; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). The perceived costs of leaving one's current position without any real prospects of finding an alternative position are high. The latent variable that best reflects the prospects of finding an alternative position is *perceived employability*. The current study holds the position that the effect of *perceived alternative opportunities* on commitment is mediated by *perceived employability.*

Hypothesis 17

P*erceived employability* negatively influences *organisational commitment*

In terms of this hypothesis it would then follow that organisations can negatively impact on the commitment of their employees if they focus their interventions on enhancing the employability of their employees instead of enhancing their job security. By having employees not focusing on the organisation but rather on the development of their personal careers, the organisation is in effect bringing about a decline in job security (Direnzo & Greenhaus, 2011). Organisations constantly have employees that are afforded the opportunity to benefit from training and development and once an employee has improved their job-relevant knowledge, abilities and skills, they tend to experience the need for some form of formal recognition in the form of promotion or increases in remuneration arises. Unfortunately, when organisations are unable to formally recognise the increase in employees' human capital through promotion or increases in remuneration, the danger exists that employees' commitment can reduce (Bezuidenhout, 2013).

If *perceived utility of movement* is positive, it means that taking up another employment opportunity is seen to be instrumental in achieving more desirable outcomes than would be attained by remaining in the current position. It therefore follows from hypothesis 13 that such an employee will be persuaded to make the transition. It could then be argued that, as a result of this, the employee will lower their *continuous commitment* to their present employer. The attractiveness of the anticipated outcomes that an employee sees in utilising an alternative employment opportunity lowers the extent to which the employee is sees themselves to be dependent on their present job and employer and this consequently then

lowers their commitment to their present employer (Thau et al., 2004). The current study, however argues that this effect is not direct but rather mediated by *intention to quit.*

Hypotheses 18

The level of intention to quit negatively affects *organisational commitment*.

Psychological empowerment is a positive psychological state that is under Hypothesis 8 postulated to develop from *perceived job characteristics. Perceived job characteristics* in turn was originally hypothesised by Smuts (2011) to be determined by the performance level that immediate superiors achieve on the *provides meaningful and challenging work* competency. The current study reintroduces this latter hypothesis (Hypothesis 35). If a current job allows one to experience *psychological empowerment* it should lower the extent to which other potential jobs could offer more attractive outcomes. Bezuidenhout (2013) found support for the hypothesis that *psychological empowerment* negatively affects *perceived utility of movement*. The current study therefore argues that the line management competencies building *psychological empowerment* will indirectly, via *empowerment*, affect an employee's *perceived utility of movement*. It is therefore posited that *psychological empowerment* will negatively affect *perceived utility of movement*.

Hypotheses 19

The psychological empowerment negatively affects *perceived utility of movement.*

2.5.4 Grafting the Line Manager Talent Management Competencies back on the Modified Reduced Smuts (2011) Structural Model 3

Organisations that wish to recruit, develop and retain talented employees need a talent management strategy in place. Oehley (2007) posed the important question, who should take responsibility for the design, creation and execution of this strategy. Typically, the human resource function is seen to be responsible for talent management. The responsibility for the processes and structures through which the recruitment, selection, development and retention of employees occur no doubt lies with the human resource function. The execution of the talent management strategy, however to a large degree lies with line management (Dychtwald, Erickson, & Morison, 2006; Oehley, 2007). The immediate superior of an employee plays a core role in honing the talent that was acquired via the talent management strategy and retaining high-performing employees (Martel, 2002; Oehley, 2007).

Oehley (2007) proposed eight line manager talent management competencies through which supervisors and middle-level line managers create conditions that affect psychological states that affect the turnover intention of employees. Smuts (2011) initially had the eight talent management competencies incorporated in her elaboration of the Oehley (2007) model. Problems associated with the operationalisation of the talent management competencies, however, prevented her from empirically testing her full model (Smuts, 2007). The current study intends grafting the twenty talent management competencies back onto the elaborated Reitz-Smuts model in the manner hypothesised by Smuts (2011). The current study moreover endorses the theoretical arguments in terms of which Smuts (2011) justified the hypotheses. The twenty path-specific hypotheses developed by Smuts (2011) as indicated in Figure 2.5 are:

Hypothesis 20

The level of competence of line managers on the *talent management mindset* competency has a positive linear effect on the level of competence achieved on the *identifies and differentiates talent* competency

Hypothesis 21

The level of competence of line managers on the *talent management mindset* competency has a positive linear effect on the level of competence achieved on the *attracts and recruits talent* competency.

Hypothesis 22

The level of competence of line managers on the *talent management mindset* competency has a positive linear effect on the level of competence achieved on the *develop others* competency.

Hypothesis 23

The level of competence of line managers on the *talent management mindset* competency has a positive linear effect on the level of competence achieved on the *builds and maintain positive relations* competency.

Hypothesis 24

The level of competence of line managers on the *talent management mindset* competency has a positive linear effect on the level of competence achieved on the *provides meaningful and challenging work* competency.

Hypothesis 25

The level of competence of line managers on the *talent management mindset* competency has a positive linear effect on the level of competence achieved on the *remunerates and rewards fairly* competency.

Hypothesis 26

The level of competence of line managers on the talent management mindset competency has a positive linear effect on the level of competence achieved on the *manages work-life balance* competency.

Hypothesis 27

The level of competence of line managers on the *identifies and differentiates talent* competency has a positive linear effect on the level of competence achieved on the *develops others talent* management competency.

Hypothesis 28

The level of competence of line managers on the *identifies and differentiates talent* competency has a positive linear effect on the level of competence achieved on the *provides meaningful and challenging work* talent management competency.

Hypothesis 29

The level of competence of line managers on the *identifies and differentiates talent* competency has a positive linear effect on the level of competence achieved on the *remunerates and rewards fairly* talent management competency.

Hypothesis 30

The level of competence of line managers on the *attracts and recruits talent* competency a positive linear effect on the outcome of *job satisfaction*.

Hypothesis 31

The level of competence of line managers on the *develop others* competency has a positive linear effect on the outcome of *perceived development opportunities*.

Hypothesis 32

The level of competence of line managers on the *builds and maintain positive relations* competency has a positive linear effect on the outcome of *job satisfaction*.

Hypothesis 33

The level of competence of line managers on the *builds and maintain positive relations* competency has a negative linear effect on the outcome of *intention to quit*.

Hypothesis 34

The level of competence of line managers on the *builds and maintain positive relations* competency has a positive linear effect on the outcome of *organisational commitment*.

Hypothesis 35

The level of competence of line managers on the *provides meaningful and challenging work* competency has a positive linear effect on *perceived job characteristics.*

Hypothesis 36

The level of competence of line managers on the *provides meaningful and challenging work* competency has a positive linear effect on a *sense of mission*.

Hypothesis 37

The level of competence of line managers on the *remunerates and rewards fairly* competency has a positive linear effect on the outcome of *psychological empowerment*.

Hypothesis 38

The level of competence of line managers on the *manages work-life balance* competency has a positive linear effect on the outcome of *organisational commitment*.

Hypothesis 39

The level of competence of line managers on the *manages work-life balance* competency has a positive linear effect on the outcome of *job satisfaction*.

The proposed extensions to Smuts' (2011) structural Model 3 are illustrated in Figure 2.9.

Four different colours have been used to differentiate between the researchers that over time contributed to the Reitz-Smuts-Bezuidenhout intention to quit structural model. This will

help to understand the model better as a whole, and also to help to portray the expansion of the model over time.

The following colour coding system was used:

- Blue (solid lines): The latent variables and paths originally hypothesised by Oehley (2007)
- Green (round dot): The latent variables and paths hypothesised by Smuts (2011) in her elaboration of the Oehley (2007) model
- Red (long dash): The latent variables and paths hypothesised by Bezuidenhout (2013) in his elaboration of the Smuts (2011) model
- Purple (long and short dash): The latent variables and paths hypothesised by the current researcher in her elaboration of the Oehely (2007), Smuts (2011) and Bezuidenhout (2013) models.

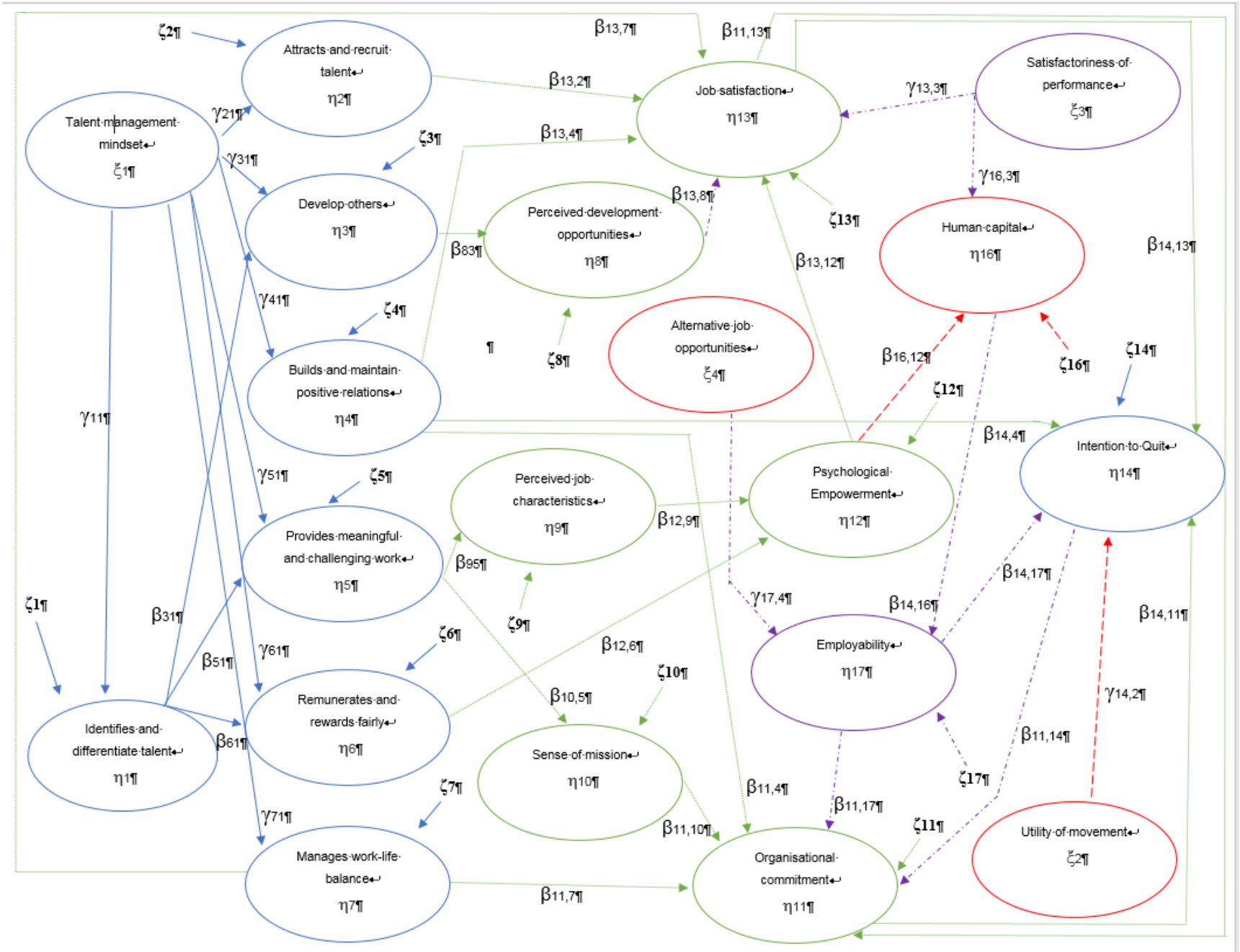

Figure 2.9. Proposed Oehley - Smuts - Bezuidenhout - Reitz partial talent management competency model.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

In order to describe the psychological mechanism that regulates the level of employees' turnover intention, theorising aimed at deriving an answer to the research-initiating question through a review of the literature suggested that the focus should fall on linking the constructs describing the conditions internal to the organisation as well as external to the organisation as perceived by the employee (Bezuidenhout, 2013). The attempts of Oehley (2007) and Smuts (2011) to develop a psychological mechanism that regulates the levels of employee turnover intention focused exclusively on latent variables that characterise the employee, that characterise the organisation and that characterise the behaviour of the line manager. Oehley (2007) and Smuts (2011) therefore focused on internal factors that determine intention to quit. Bezuidenhout (2013) expanded the talent management competency models of Oehley (2007) and Smuts (2011) by introducing the influence of the employee's perception of latent variables that characterise the environment external to the organisation. The current study further elaborated and integrated the work done by Oehley (2007), Smuts (2011) and Bezuidenhout (2013). The aim of the present study is to empirically evaluate the explanatory Oehley – Smuts – Bezuidenhout – Reitz talent management competency model as depicted in Figure 2.9.

It is important to empirically evaluate the Oehley – Smuts – Bezuidenhout – Reitz talent management competency model as shown in Figure 2.8 as an explanation for employees' desire to quit their current jobs in a manner that will result in a valid finding on the validity of the model. The core requirement could be termed the "epistemic imperative" (Babbie & Mouton, 2001, p. 8). Science therefore strives to develop valid explanations in the sense that the explanations are permissible. The scientific method serves the epistemic ideal of science. An explanation may be considered as valid (or permissible), if the explanation is compatible with empirical observations (Babbie & Mouton, 2001). According to Babbie and Mouton (2001), the research method serves the striving to develop valid explanations through its two qualities, namely objectivity and rationality. Firstly, the objectivity of science resides in an explicit, conscious focus on the reduction of error. The epistemic ideal is threatened at various critical, high-risk points throughout the scientific research process. Objectivity resides in the knowledgeable scientist that is aware of the stages at which the epistemic ideal runs a higher risk of derailing, that understands how it can derail, and understands what can be done to reduce the risk of the inquiry not coming to the appropriate

finding on the validity of the substantive hypotheses. Secondly, science is also rational in the sense that it requires colleagues that are authorities on scientific methodology to examine the methods that were used to arrive at the research findings so as to discover potential methodological flaws. The credibility and validity of the research findings depend on the thoroughness of the research method that was used (Babbie & Mouton, 2001).

Subject matter experts can, however, only determine whether a researcher made appropriate choices on how to minimise the risk of coming to incorrect conclusions if the researcher accurately described the methodology they used and explained why the specific methods were used (Smuts, 2011). Subject matter experts will only be able to identify the methodological flaws of a research study and to draw attention to the consequences of it, if a comprehensive description has been given of the methodological approach throughout the whole process (Smuts, 2011).

The methodological choices that were made, including choices regarding the research design, the statistical hypotheses, the statistical analyses, the sampling procedure and the instruments that were used to measure the latent variables, will consequently be discussed in sufficient detail in the following sections to allow scientific rationality to operate.

3.2 REDUCED TALENT MANAGEMENT COMPETENCY MODEL

The main aim of the current study was to expand (and modify if necessary) an explanatory turnover intention model. It would, however, have been a too largescale a project to empirically test the elaborated Oehley – Smuts – Bezuidenhout – Reitz model presented in Figure 2.8. According to Bezuidenhout (2013) testing such a large a structural model would confront a researcher with numerous of logistical problems. For one time could present a problem. Another important problem would be the number of observations that would be needed to ensure that the statistical power with which the exact and close fit hypotheses are tested are high enough. A very powerful computer with sufficient memory and the processing capacity would moreover be required to test the fit of such a large model.

Due to the foregoing considerations the explanatory Oehley – Smuts – Bezuidenhout – Reitz competency model needed to be reduced. Therefore, only a section of the model, as depicted in Figure 2.9 was tested in the present study. In reducing the originally proposed model the focus was on the newly added paths and the adaptations that were made to the Bezuidenhout (2013) model. Figure 3.1 depicts the abridged Oehley – Smuts – Bezuidenhout – Reitz model.

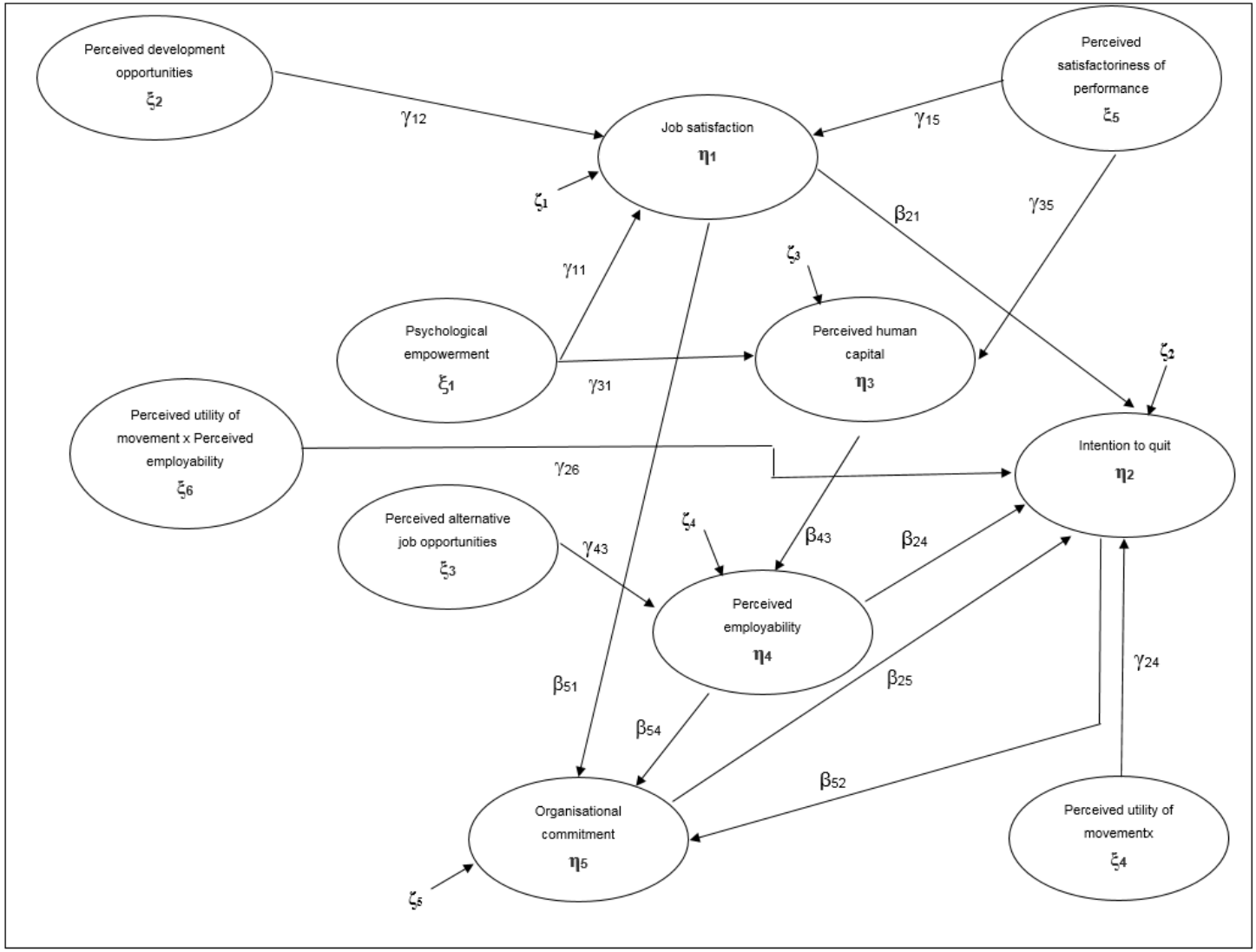

Figure 3.1 Proposed reduced Oehley – Smuts – Bezuidenhout – Reitz partial talent management competency model.

3.3 SUBSTANTIVE RESEARCH HYPOTHESES

The aim of the present study was to expand the Oehley - Smuts (2011) model. The current study again grafted the Oehley (2007) line manager talent management competencies onto the model that Smuts (2011) derived from her empirical study. The current study moreover adapted and revised the Smuts - Bezuidenhout (2013) model that emphasised the role that external factors play in shaping the level of turnover intention that employees experience. Through theorising, five new constructs (*perceived alternative opportunities*, *perceived human capital, satisfactoriness of performance, perceived employability* and *perceived utility of movement*) were grafted on to the original Oehley – Smuts (2011) model and the alteration of some of the originally proposed causal paths. The expanded turnover intention model is depicted in Figure 2.9. The expanded model was offered as an answer to the third-generation research-initiating question posed in Chapter 1. The model was reduced, due to the problems that would have been encountered if the expanded structural model had been put to test. Figure 3.1 displays the reduced Oehley – Smuts – Bezuidenhout – Reitz model.

The overarching substantive hypothesis (Hypothesis 1) of this study was that the structural model depicted in Figure 3.1 provides a valid description of the psychological mechanism that regulates the level of employees' *intention to quit*. The overarching substantive research hypothesis was separated into fifteen double-barrel path-specific substantive research hypotheses. The current study took the decision to formulate the path-specific substantive hypotheses in a manner that took an explicit stance on the magnitude of the hypothesised effect. This was done in response to criticism on of null-hypothesis refutation as a means of corroborating psychological hypotheses (Meehl, 2006). Meehl (2006, p. 438) suggests that in "almost all situations in which a significance test can be properly employed permit setting up of a confidence interval. That should come first." This in turn seems to suggest that the research should do more than commit to the rather vague position that the parameter is not zero but rather should commit to an interval of values for the non-zero parameter. This in turn points to the need in the current study for a taxonomy on the interpretation of γ and β parameter values. For the purpose of the current study the following interpretation taxonomy[7] was used:

- *Weak* will be interpreted to refer to γ and β parameter values in the range of 0-.19

[7] The taxonomy is based on the taxonomy suggested by Guilford for the interpretation on zero-order correlation coefficients (Tredoux & Durrheim, 2002). Given that γ_{ij} and β_{ij} typically refer to partial regression coefficients the proposed taxonomy might possibly be too stringent.

- *Reasonably weak* will be interpreted to refer to γ and β parameter values in the range of .20-.39;
- *Modest* will be interpreted to refer to γ and β parameter values in the range of .40-.59
- *Reasonably strong* will be interpreted to refer to γ and β parameter values in the range of .60-.79; and
- *Strong* will be interpreted to refer to refer toγ and β parameter values in the range of .80-1.

The fifteen double-barrel path-specific substantive research hypotheses.

- Hypothesis 2: *Job satisfaction* has a reasonably strong positive effect on *commitment* when holding *employability* and *intention to quit* constant.
- Hypothesis 3: *Commitment* has a reasonably strong negative effect on *intention to quit* when holding *utility of movement, employability* the interaction between *employability and utility of movement,* and *job satisfaction* constant.
- Hypothesis 4: *Psychological empowerment* has a modest positive effect on *job satisfaction* when holding *perceived development opportunities* and *satisfactoriness of performance* constant.
- Hypothesis 5: *Job satisfaction* has a reasonably strong negative effect on *intention to quit* when holding *utility of movement, employability,* the interaction between *employability and utility of movement* and *commitment* constant.
- Hypothesis 6: *Perceived development opportunities* has a moderate positive influence on *job satisfaction* when controlling for the effect of *psychological empowerment* and *satisfactoriness of performance.*
- Hypothesis 7: *Perceived psychological empowerment* modestly positively affects *perceived human capital* when controlling for the effect of *satisfactoriness of performance.*
- Hypothesis 8: *Perceived alternative job opportunities* modestly positively affects *perceived employability* when controlling for the effect of *human capital.*
- Hypothesis 9: *Perceived human capital* modestly positively affects *perceived employability* when controlling for the effect of *alternative opportunities.*
- Hypothesis 10: *Perceived employability* positively affects *intention to quit* when controlling for the effect of *job satisfaction, commitment, utility of movement* and the interaction between *employability and utility of movement*
- Hypothesis 11: *Perceived utility of movemen*t positively reasonably strongly affects *intention to quit* when controlling for the effect of *job satisfaction, commitment, employability* and the interaction between *employability and utility of movement.*

- Hypothesis 12: The effect of *perceived employability* on *intention to quit* is moderated by *perceived utility of movement* when controlling for the effect of *job satisfaction, commitment, employability* and *utility of movement.* The slope of the regression of intention to quit on perceived employability increases as the perceived utility of movement increases
- Hypothesis 13: Perceived *satisfactoriness of performance* modestly positively influences *perceived human capital* when controlling for *psychological empowerment.*
- Hypothesis 14: *Perceived satisfactoriness of performance* modestly positively influences *job satisfaction* when controlling for *perceived development opportunities.*
- Hypothesis 15: Perceived employability weakly negatively influences organisational commitment when controlling for *job satisfaction* and *intention to quit*
- Hypotheses 16: The level of intention to quit modestly negatively affects organisational commitment when controlling for *job satisfaction and employability*.

3.4 RESEARCH DESIGN

A research strategy was needed to guide the process of testing the validity of the overarching substantive hypothesis, as well as the validity of the fifteen path-specific substantive research hypotheses. This strategy determined the manner in which empirical evidence was gathered to test the hypotheses. The strategy had to be such that the empirical evidence that it generated would be unequivocal in its confirmation or disconfirmation of the hypotheses. The research design provided the strategy that guided the investigation to firstly, obtain an answer to the research problem[8] and secondly, to control variance (Kerlinger, 1973).

According to Bezuidenhout (2013, p. 63) “in order to obtain an unambiguous answer to the research initiating question the research design needs to control variance”. Whether the empirical research evidence unambiguously testifies for or against the overarching and path-specific substantive research hypotheses depends on the degree to which the chosen design succeeds in maximising systematic variance, minimising error variance and controlling extraneous variance (Kerlinger, 1973; Kerlinger & Lee, 2000).

A distinction can be made between categories of research designs according to Kerlinger (1973), namely, experimental and *ex post facto* designs. In an experimental design the induces variance in one or more exogenous latent variables by experimentally manipulating

[8] The overarching research problem is the question whether the structural model depicted in Figure 3.1 provides a valid description of the psychological mechanism that regulates the level of employee intention to quit.

one or more independent observed variables so as to observe whether the endogenous latent variable/s responds to the variance induced in the exogenous latent variable(s). An *ex post facto* design, in contrast, is a systematic empirical enquiry in which the exogenous latent variables are not manipulated[9]. Their manifestations are merely observed. These are now only be observed, along with the manifestations of the endogenous latent variables, so determine whether there is concomitant variation in the later with variation in the independent variables. The current study chose to use an *ex post facto* correlational design to test the validity of the overarching and path-specific substantive hypotheses.

The *ex post facto* correlational research design used in the current study is shown in Figure 3.2.[10]

$[X_{11}]$	..	$[X_{1,12}]$	Y_{11}	..	Y_{1i}	..	$Y_{1,10}$
$[X_{21}]$	..	$[X_{2,12}]$	Y_{21}	..	Y_{2i}	..	$Y_{2,10}$
:	..	:	:	..	:	..	:
$[X_{j1}]$	..	$[X_{j,12}]$	Y_{j1}	..	Y_{ji}	..	$Y_{j,10}$
:	..	:	:	..	:	..	:
$[X_{n1}]$	..	$[X_{n,12}]$	Y_{n1}	..	Y_{ni}	..	$Y_{n,10}$

Figure 3.2. *The ex post facto correlational design*[11]

In its most basic form, the fundamental idea underlying the *ex post facto* design is that if ξ affects η then measures of ξ and η should covary or correlate. Inferences related to the hypothesised relations existing between the exogenous and endogenous latent variables were therefore made from the covariace in the indicators of the exogenous and endogenous latent variables (Kerlinger & Lee, 2000).

The *ex post facto* correlational design as displayed in Figure 3.2 requires the calculation of the observed covariance matrix from measures obtained on the observed variables. LISREL then repetitively generates increasingly accurate estimates for the freed model parameters with the aim of finding estimates that will allow it to accurately reproduce the observed covariance matrix (Diamantopoulos & Siguaw, 2000). According to Smuts (2011), if the fitted covariance matrix (**S^**) deviates sharply from the observed covariance matrix (**S**) the

[9] This can be because the latent variable can inherently not be manipulated or because the researcher chose not to manipulate the exogenous latent variables.

[10] The original intention was to operationalise the latent main effects in the model via 2 composite indicators and the latent interaction effect in the model via 4 residualised indicator variables. Under the original intention there would have been 24 composite indicator variables. Unforeseen circumstances, however, necessitated the removal of two of the indicators of the latent interaction effect. In the fitting of the measurement and comprehensive LISREL models 22 composite indicators were used.

[11] The depiction of the ex post facto correlational design assumes that each latent variable was operationalised by two item parcels.

inevitable conclusion has to be that the proposed model does not provide a valid description of the mechanism that generated **S**.

If the present study would obtain poor fit for the proposed model it means that it does not provide a permissible description of the psychological mechanism that brings about differences in the strength of employees' *turnover intention*. A finding of good fit does, however, not hold the opposite implications. Thus, if **S^** approximates **S** it does not mean that the psychological mechanism portrayed by the structural model unavoidably must have generated **S**. It only means that the fitted model constitutes one possible description of the process that generated **S**. Therefore, if the fitted model fits well, according to Smuts (2011) it would not be appropriate to conclude that the hypothesised psychological mechanism unavoidably must have been responsible for the levels of *intention to quit* that employees experienced. If the fitted model fits well it only means that the psychological mechanism depicted in the fitted model offers a permissible and plausible explanation for differences in employees' turnover intention.

3.5 STATISTICAL HYPOTHESES

The manner in which the proposed overarching and path-specific substantive hypotheses were formulated in a statistical format was determined by the reasoning used by the research design that was chosen in conjunction with the type of statistical analyses implied by this reasoning. These hypotheses represent casual paths, posited to exist between exogenous and endogenous latent variables, and also between the endogenous latent variables in the structural model (see Figure 3.1). The notational system associated with LISREL was used in the formulation of the statistical hypotheses (Du Toit & Du Toit, 2001).

According to Diamantopoulos and Siguaw (2000) the estimation of the hypothesised model's fit reflects the extent to which the model is compatible with empirical observations. The hypothesised model's fit, was evaluated by formally testing an exact fit null hypothesis and a close fit null hypothesis (Diamantopoulos & Siguaw, 2000).

According to the overarching substantive hypothesis the structural model depicted in Figure 3.1 provides a valid description of the psychological mechanism that regulates the level of employees' *intention to quit*. The substantive research hypothesis translates into the exact fit null hypothesis shown as H_{01}, if the overarching substantive research hypothesis is be understood to mean that the structural model provides an exact, flawless description of the psychological mechanism regulating employees' *intention to quit*:

$$H_{01}: \text{RMSEA} = 0$$

$$H_{a2}: \text{RMSEA} > 0$$

Structural models are only approximations of reality and therefore the possibility of exact fit is highly unlikely. According to Diamantopoulos and Siguaw (2000) the close fit null hypothesis takes the error of approximation into account and therefore it is more realistic. Furthermore, the model is said to have a close fit, if the error, due to approximation in the population, is equal to or less than .05. Thus, the substantive research hypothesis translates into the close fit null hypothesis shown as H_{02}, if the overarching substantive research hypothesis would be understood to mean that the structural model only provides an imprecise description of the psychological mechanism regulating employees' *intention to quit*:

$$H_{02}: \text{RMSEA} \leq .05$$

$$H_{a2}: \text{RMSEA} > .05$$

The overarching substantive research hypothesis was separated into fifteen more narrow-focused, path-specific substantive research hypotheses. These fifteen path-specific substantive research hypotheses translated into the path coefficient statistical hypotheses depicted in Table 3.1.

Table 3.1.

Path coefficient statistical hypotheses

Hypothesis 2	Hypothesis 6	Hypothesis 10	Hypothesis 14
$H_{03}: \beta_{51} = 0$	$H_{07}: \gamma_{12} = 0$	$H_{011}: \beta_{24} = 0$	$H_{015}: \gamma_{15} = 0$
$H_{a3}: \beta_{51} > 0$	$H_{a7}: \gamma_{12} > 0$	$H_{a11}: \beta_{24} > 0$	$H_{a15}: \gamma_{15} > 0$
Hypothesis 3	Hypothesis 7	Hypothesis 11	Hypothesis 15
$H_{04}: \beta_{25} = 0$	$H_{08}: \gamma_{31} = 0$	$H_{012}: \gamma_{24} = 0$	$H_{016}: \beta_{54} = 0$
$H_{a4}: \beta_{25} < 0$	$H_{a8}: \gamma_{31} > 0$	$H_{a12}: \gamma_{24} > 0$	$H_{a16}: \beta_{54} < 0$
Hypothesis 4	Hypothesis 8	Hypothesis 12	Hypothesis 16
$H_{05}: \gamma_{11} = 0$	$H_{09}: \gamma_{43} = 0$	$H_{013}: \gamma_{26} = 0$	$H_{017}: \beta_{52} = 0$
$H_{a5}: \gamma_{11} > 0$	$H_{a9}: \gamma_{43} > 0$	$H_{a13}: \gamma_{26} > 0$	$H_{a17}: \beta_{52} < 0$
Hypothesis 5	Hypothesis 9	Hypothesis 13	
$H_{06}: \beta_{21} = 0$	$H_{010}: \beta_{43} = 0$	$H_{014}: \gamma_{35} = 0$	
$H_{a6}: \beta_{21} < 0$	$H_{a10}: \beta_{43} > 0$	$H_{a14}: \gamma_{35} > 0$	

When any H_{0i}; i=3 - 17 was rejected ($p<.05$) the completely standardised γ_{ij} and β_{ij} values were located in the intervals to evaluate the position taken in the double-barrel path-specific hypotheses on the magnitude path-specific effects.

The following statistical null hypotheses were in addition tested on the structural error variances associated with the endogenous latent variables in the model:

$$H_{0i}: \psi_k = 0; \ i = 18, 19..., 22; \ k = 1, 2...., 5$$

$$H_{ai}: \psi_k > 0; \ i = 18, 12..., 23; \ k = 1, 2...., 5$$

3.6 SAMPLE

The objective of the current study was to add to the understanding of the person-centered and situational latent variables that influence the turnover intention of permanent, full-time employees in South African private sector and public sector organisations. The target population for the current study is consequently permanent, full-time employees in South African private sector and public sector organisations. It will be almost impossible for the research to gain access to the target population. A sampling frame for the target population was not readily available. The sampling population was defined as permanent, full-time South African employees that are Facebook friends of the researcher. A substantial and non-ignorable sampling gap is thereby acknowledged.

A non-probability sample was selected from the target population. It was in principle possible to select a probability sample (e.g. a stratified random sample) from the sampling population. The researcher can inform these selected friends that they had been selected in a random sample but cannot force them to complete the questionnaire. The researcher can only invite selected friends to complete the research questionnaire. The eventual sample would then effectively be a non-probability sample because employees would select themselves into the sample. It therefore made more sense to rather invite all Facebook friends to participate in the research. The fact that participants selected themselves into the eventual sample further compromised the extent to which the sample could be claimed to be representative of the target population. This was acknowledged as a methodological weakness of the study.

3.6.1 Sample size

According to Kelloway (1998) a sample of 200 or more observations normally is regarded as enough for most structural equation modelling (SEM) analyses. It is, nonetheless, better to more precisely calculate how large the sample should be before commencing with the data collection as it can avoid a wastage of resources and also the correct sample size can improve the statistical power of the statistical analyses. According to Durrheim (2011) and Kerlinger and Lee (2000), the ideal size is influenced by several factors relating to aspects such as the type of research study, practical constraints and statistical criteria. There are

three relevant deciding factors that should be allowed to influence the decision on size of the sample in a study that uses SEM as analysis technique:

1. The ratio of the number of observations to the number of freed parameters in the model. As a minimum requirement the number of observations have to be larger than the number of model parameters that need to be estimated. Complex measurement and structural models contain a large number of observed and latent variables. In such models there are consequently more parameters that need to be estimated, and since the number of observations need to exceed the number of freed parameters, the testing of such models needs to be performed on larger samples. Bentler and Chou (as cited in Kelloway, 1998, p. 20) suggest that the ratio of observations to freed parameters should range between 5:1 and 10:1. Therefore, based on recommendations of Bentler and Chou (as cited in Kelloway's, 1998) a sample of 330 – 660 research participants would be appropriate to provide a credible test of the proposed comprehensive LISREL model[12]. Given that the degree of freedom for the measurement model are smaller than that of the comprehensive model a somewhat larger sample is required when viewed from the perspective of the measurement model. Based on the Bentler and Chou (1987) guideline a sample of 515 – 1030 will be required.
2. The second aspect that needed to be considered was the statistical power associated with the test of H_0: RMSEA ≤ .05 against the alternative mediocre fit hypothesis (H_a: RMSEA > .05) (Theron, 2012). Statistical power refers to the probability of rejecting H_0: RMSEA ≤ .05 when the rejection of the null hypothesis is justified (i.e., the model fit in the parameter is in reality mediocre or poor). In case of exceptionally high statistical power, it would mean that any attempt to formally empirically demonstrate that model is valid would be met without success. Therefore, even when the model only deviates marginally from close fit (i.e. RMSEA=.05) the close fit null hypothesis would still be rejected. On the other hand, with very low statistical power, even when the model shows mediocre fit in the parameter, the close fit null hypothesis would still not be rejected. Under conditions of low power, a finding of close fit will therefore not constitute compelling evidence on the validity of the model. Syntax developed by Preacher and Coffman (2006) in R was used to calculate the required sample size to ensure a statistical

[12] The comprehensive LISREL model comprises a measurement model describing the structural relationship between the latent variables and the indicator variables and a structural model describing the structural relationships between the latent variables. If it is assumed that 10 of the11 latent variables in the structural model depicted are operationalised via two composite indicator variables and one via 4 indicators then there are 66 freed parameters in the comprehensive LISREL model (14, lambda_X, estimates 10- 5=5 lambda_Y estimates, 18 theta-delta estimates, 10 theta_epsilon estimates, 8 gamma estimates, 7 beta estimates, 5 psi estimates and 14 phi estimates). In the fitted measurement model there are 103 freed model parameter (24 lambda_X estimates, 24 theta_delta estimates and 55 phi estimates].

power of .80 for the testing H_0: RMSEA ≤ .05 given an assumed effect size of .08, a significance level (α) of .05 and degrees of freedom (v) of:

$$v = \tfrac{1}{2}[(p+q][p+q+1]-t$$
$$= (25 \times 24)/2-66$$
$$= 234$$

Where:

- v refers to the degrees of freedom
- p refers to the number of exogenous latent variables
- q referes to the number of endogenous latent variables
- t refers to the number of unique variance and covariance terms in the observed variance-covariance matrix (**S**).

The Preacher and Coffman (2006) software (http://quantpsy.org/rmsea/rmsea.htm) indicated that a sample of 76 (76.36719) cases would be needed to ensure that the probability of rejecting the close fit null hypothesis is .80 given that the parametric RMSEA is.08.[13]. The change in statistical power as a function of sample size is described in Figure 3.3.

3. The third and final aspect to be taken into consideration, are feasibility and organisational considerations like cost and the availability of suitable respondents. When taking into account all three of the above considerations it was concluded that a sample of between 250 – 350 research participants was required to ensure a reasonably convincing empirical evaluation of the reduced talent management competency model.

[13] To test the close fit null hypothesis of the measurement model, given 197 degrees of freedom and the remaining specifications the same a sample of 85 (84.77) would be required.

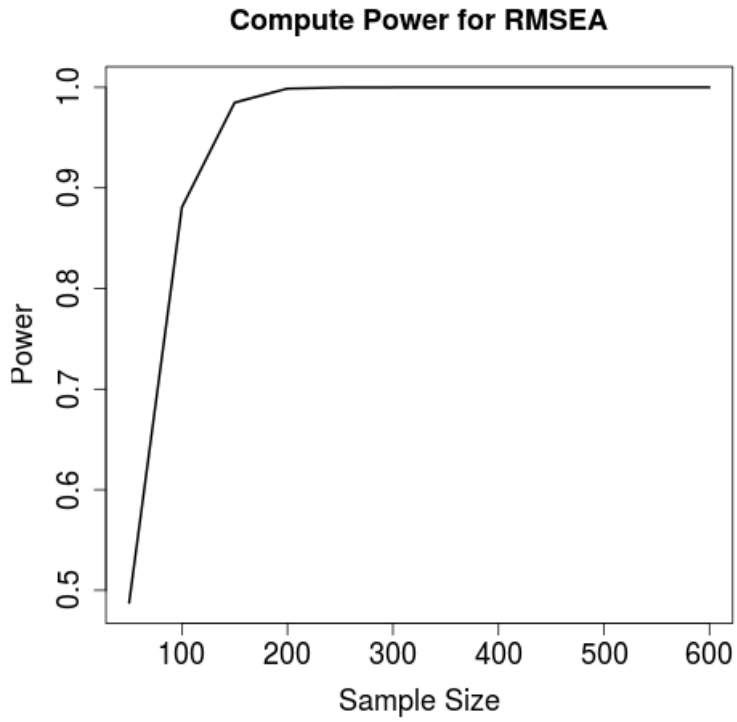

Figure 3.3. A plot of power for RMSEA in testing the close fit null hypothesis for the measurement model against a range of sample sizes.

3.7 MEASURING INSTRUMENTS

In order to empirically test the fit of the reduced Oehley – Smuts – Bezuidenhout – Reitz model the constructs included in the structural model had to be measured. In order to obtain credible empirical evidence that the proposed reduced Oehley – Smuts – Bezuidenhout – Reitz model provides a valid description of the psychological mechanism regulating employees' turnover intention, measuring instruments were needed that provide construct valid and reliable measures of the constructs comprising the model. Evidence was therefore needed to demonstrate that the observed variables used to operationalise the constructs in the model are valid and reliable indicators of the constructs they are designated to reflect.

The comprehensive LISREL model was fitted to the data and comprised the following two models;

1. a measurement model describing the hypotheses on how the indicator variables structurally relate to the constructs comprising the structural model; and
2. a structural model illustrating the structural relations existing between the constructs.

The primary interest falls on the structural model, when testing the substantive research hypotheses. If the comprehensive LISREL model fit obtains close fit, or conversely if it obtains poor fit, it cannot be unambiguously concluded that the structural model shows good

(or poor) fit, unless evidence is available that supports the hypotheses on how the indicator variables structurally relate to the constructs comprising the structural model. Evidence available in the literature on the psychometric integrity of the measuring instruments that were used in the current study will be discussed in an attempt to bolster confidence in the instruments that were chosen. In addition, exploratory factor analysis (EFA), item analysis and confirmatory factor analysis (CFA) were used to evaluate how valid and reliable the chosen measuring instruments reflected the latent variables comprising the reduced intention to quit structural model in this research study.

Item analysis was conducted in order to determine to what extent the items comprising each scale or subscale reflect a common underlying source of systematic variance, as well as the extent to which they succeed in differentiating between individuals that differ relatively little in their standing on the relevant constructs or dimensions of constructs. Items that were flagged based on the aforementioned two criteria were either deleted or reflected. EFA was performed to examine the uni-dimensionality assumption underpinning the various scales and subscales, and lastly, CFA was utilised to evaluate the extent to which the operationalisation of the constructs contained in the reduced structural model via composite indicator variables succeeded.

3.7.1 Psychological Empowerment

Psychological empowerment was operationalised by using the scale created by Spreitzer (Spreitzer, 1995), which comprises of 12-items and measures the four dimensions (meaning, competence, self-determination and impact) of *psychological empowerment*. Partisipants record their responses on a six point Likert scale with response options that range from “very strongly agree” to “very strongly disagree”. According to Smuts (2011) internal consistency reliability coefficient were obtained for the various subscales that ranged between .79 and·.85.

According to Avolio et al. (2004) all the subscales have frequently been used in previous research and have consistently obtained quite satisfactory reliability coefficients. In the previous research studies that utilised the Spreitzer *Psychological Empowerment* scale, reasonable measurement model fit had also been obtained (Spreitzer, 1995).

Two item parcels were formed by calculating the mean of the even and uneven numbered items of the *Psychological Empowerment* scale. These two composite indicator variables were used to represent the p*sychological empowerment* latent variable in the structural model.

3.7.2 Job Satisfaction

J*ob satisfaction* was measured by means of the Job in General (JIG) job satisfaction questionnaire. The JIG appraises *overall* satisfaction with the job. The JIG is a measure of overall satisfaction. Participants have to reflect on the extent to which they are satisfied with their current job in a global sense.

The JIG comprises of lists of short phrases and adjectives and participants have to indicate whether these provide accurate descriptions of their current job overall. Participants have a trichotomous choice between “Yes,” “No,” or “?” to describe the accuracy with which word or short phrase describes their current job overall. The choice of the “Yes” option indicates that the word or phrase accurately describes their current job overall, the choice of the “No” option indicates that the word or phrase does *not* accurately describe their current job overall, and “?” indicates that the respondent is uncertain whether the word or phrase applies.

The Job in General (JIG) scale, is a global scale that was designed to supplement the facet scales of the Job Descriptive Index (Ironson, Brannick, Smith, Gibson & Paul, 1989). Both traditional classical measurement theory item analysis and item response theory item analysis had been used in the development of the instrument. The research data came from three large heterogeneous samples (N = 1,149, 3,566, and 4,490). The Cronbach alpha in the Bowling Green samples was .91 to .95 for the 18-item scale. Moreover, the information function, which gives the approximate standard error of measurement at different levels of satisfaction, indicated a precise measurement across the latent trait range.

Two item parcels were calculated by taking the mean of the even and uneven numbered items of the JIG scale. These two composite indicator variables were used to represent the *job satisfaction* latent variable in the structural model.

3.7.3 Organisational Commitment

Organisational Commitment was operationalised by means of the three-component model (TCM) Employee Commitment Survey. The TCM Employee Commitment Survey measures the following three types of organisational commitment according to Meyer and Allen (2004):

- Desire based commitment (affective commitment)
- Obligation based commitment (normative commitment)
- Cost-based commitment (continuance commitment)

The survey comprises three subscales namely, the Affective Commitment Scale (ACS), the Normative Commitment Scale (NCS) and the Continuance Commitment Scale (CCS). The TCM provides a score for each of the three facets of commitment and this allows the drawing of a "commitment profile" for each employee. Employees have to respond to numerous behavioural descriptions all of which relate to their commitment to their current organisation.

According to Peart (2006) Cronbach's coefficient alpha has been used to estimate the internal consistency reliability of the ACS, CCS, and NCS. Average reliabilities of .85, .79 and .73 have been obtained for the ACS, CCS, and NCS respectively. A factor-analytic study provided support for the position that the TCM measures three factors and showed that the ACS accounted for 58.8% of the variance, the CCS for 25.8 %, and the NCS for 15.4 % (Smuts, 2011).

Three item parcels were calculated by taking the mean of the items of each subscale of the Employee Commitment Survey. These three composite indicator variables were used to represent the *organisational commitment* latent variable in the structural model.

3.7.4 Intention to Quit

the revised Arnold and Feldman (1982) *Intention to Quit* scale as modified by Oehley (2007) was used. The scale comprises 4 items, with response options running from never (1) to always (5). The items include the following;

- Wanting to leave the organisation
- Searching for another position
- Planning to leave the organisation, and
- Actually leaving the organisation within the next year (Oehley, 2007)

Item analysis performed by Oehley (2007) revealed an alpha coefficient of .85.

Two item parcels were formed by calculating the mean of the even and uneven numbered items. These two composite indicator variables were used to represent the *intention to quit* latent variable in the structural model.

3.7.5 Perceived Development Opportunities

Smuts (2011) developed a set of questions to be able to measure *Perceived Development Opportunities.* These questions were based on the denotations of *Perceived Development Opportunities* derived from the constitutive definition of the construct. Item analysis was performed to examined the extent to which the items all reflected a common source of

systematic variance and the extent to which the items all sensitively discriminated between relatively small differences in the latent variable. Poor items were considered for deletion.

Principal axis factoring performed on the scale confirmed uni-the dimensionality of the scale. Factor loadings ranged from .85 to .71. Smuts (2011) reported a Cronbach alpha reliability coefficient of .85 that exceeded the critical cut-off of .80.

Two item parcels were created by calculating the mean of the even and uneven numbered items of the *Perceived Development Opportunities* scale. These two composite indicator variables were used to reflect the *perceived development opportunities* latent variable in the structural model.

3.7.6 Perceived Alternative Opportunities

The Perceived Alternative Employment Scale (PAEO) was used to measuring the extent to which employees perceive the existence of alternative employment opportunities in the labour market. The scale comprises of six items and was derived from a number of scales developed by other researchers (Khatri et al., 2001).

An acceptable but not altogether satisfactory reliability coefficient of .76 has been obtained for the scale. Exploratory factor analysis provided support for the uni-dimensionality of the scale in as far as a single factor was extracted and the extracted factor solution succeeded in successfully reproducing the observed correlation matrix (Khatri et al., 2001).

Two item parcels were formed by calculating the mean of the even and uneven numbered items of the *PAEO* scale. These two composite indicator variables were used to represent the *perceived alternative opportunities* latent variable in the structural model.

3.7.7 Perceived Human Capital

A Perceived Human Capital (PHC) scale was developed in the current study based on the constitutive definition of the construct. The researcher generated behavioural denotations of the construct, as constitutively defined, with the assistance of literature on the construct and by introspectively immersing her in in scenarios of high and low levels on the construct.

Two item parcels were formed by calculating the mean of the even and uneven numbered items of the *PHC* scale. These two composite indicator variables were used to reflect the *perceived human capital* latent variable in the structural model.

3.7.8 Perceived Utility of Movement

The Perceived Utility of Movement scale developed by Bezuidenhout (2013) comprised 10 items.

Two item parcels were formed by calculating the mean of the even and uneven numbered items of the *Perceived Utility of Movement* scale. These two composite indicator variables were used to reflect the *Perceived Utility of Movement* latent variable in the structural model.

3.7.9 Perceived Employability

A Perceived Employability (PE) scale was developed in the current study based on the constitutive definition of the construct. The researcher generated behavioural denotations of the construct, as constitutively defined, with the assistance of literature on the construct and by introspectively immersing her in in scenarios of high and low levels on the construct.

The mean of the even and uneven numbered items of the *PE* scale were calculated to form two item parcels. These two composite indicator variables were used to represent the *perceived employability* latent variable in the structural model.

3.7.10 Perceived Satisfactoriness of Performance

A Perceived Satisfactoriness of Performance (PSP) scale was developed in the current study based on the constitutive definition of the construct. The researcher generated behavioural denotations of the construct, as constitutively defined, with the assistance of literature on the construct and by introspectively immersing her in in scenarios of high and low levels on the construct.

The mean of the even and uneven numbered items of the *PSP* scale were calculated to form two item parcels. These two composite indicator variables were used to represent the *perceived satisfactoriness of performance* latent variable in the structural model.

3.7.11 Composite Research Questionnaire

The 10 scales were combined in a composite electronic questionnaire developed on Checkbox and housed on the Stellenbosch University Survey platform. A copy of the questionnaire is shown in Appendix 1. The questionnaire tool approximately 20 to 30 minutes to complete.

3.8 MISSING VALUES

Before subjecting the data to item and dimensionality analysis and calculating the composite indicator variables, missing values provided a potential problem, the possibility of which had to be considered first. Failure to address the problem of missing values, when it exists, before calculating the composite indicator variables can result in seemingly kosher, but in reality, deficient, indicator variables.

The Stellenbosch University web-based electronic survey platform, SUrveys was used in the present study to distribute the composite survey questionnaire to the participants in the sample population. The questionnaire has been set up so that that a participant can only proceed to the next screen and eventually submit the questionnaire via SUrveys if all items have been answered. None of the subscales in the composite survey questionnaire presented participants with the possibility to respond with the option “unable to rate”. The current study therefore contained no missing values amongst those participants that completed the survey.

3.9 DATA ANALYSIS

The primary aim of the data analysis was to empirically evaluate the reduced Oehley – Smuts – Bezuidenhout – Reitz model depicted in Figure 3.1. The data obtained from the composite research questionnaire was analysed through item analysis, exploratory factor analysis (EFA), confirmatory factor analysis and structural equation modelling (SEM).

3.9.1 Item Analysis

The constructs comprising the Oehley – Smuts – Bezuidenhout – Reitz intention to quit structural model cannot be measured directly. Constructs are measured indirectly by eliciting observable behaviour in which the construct manifests itself. The various measuring instruments that were chosen or developed to measure the various constructs that comprise the structural model depicted in Figure 3.1 were therefore developed by designing stimuli to which the test takers reacted with observable behaviour that was meant to be primarily an expression of the specific underlying construct (or latent dimension of the construct) that the scale or subscale intended to measure. The aim of item analysis is to identify poor items that failed to successfully reflect the designated construct. Poor items are firstly items that fail to sensitively distinguish between relatively small differences in participants’ standing on the target construct. Poor items, moreover, are invalid items that do not reflect the common source of systematic variance that underpin the majority of the items of a scale or subscale. These items that show themselves to be insensitive and/or that show themselves to be out

of step with their item colleagues in their description of the construct that the subscale is measuring, were identified and considered for deletion (or reflection).

No individual item statistic was allowed to determine the decision to delete one or more item(s) from any scale or subscale of the composite survey questionnaire before the calculation of the composite indicator variables. The decision to delete or retain an item was rather based on a totality of evidence provided by the array of classical measurement theory item statistics. The array of classical measurement theory item statistics included, amongst others:

- The item-total correlation: An item was considered problematic if it was a clear outlier at the bottom-end of the item-total correlation distribution;
- The squared multiple correlation: An item was considered problematic if it was a clear outlier at the bottom-end of the squared multiple correlation distribution;
- The change in subscale reliability when the item would be deleted: An item was considered problematic if its deletion would result in a substantial increase in the Cronbach alpha of the scale or subscale;
- The change in subscale variance if the item would be deleted: An item was considered problematic if its deletion would result in a small decrease in the scale variance or in an increase in the scale variance;
- The inter-item correlations: An item was considered problematic if it consistently correlated lower with the remaining items of the scale or subscale;
- The item mean and the item standard deviation: An item was considered problematic if it had an extreme low or high mean and if the item was a clear outlier towards the bottom-end of the standard deviation distribution.

SPSS 25 (SPSS, 2017) was used to perform the item analyses.

3.9.2 Exploratory Factor Analysis

The scales or subscales used to measure the constructs included in the reduced *intention to quit* structural model were developed with the aim to create sets of items that were essentially uni-dimensional. In the reduced Oehley – Smuts – Bezuidenhout – Reitz model, *intention to quit*, *perceived development opportunities*, *perceived alternative opportunities*, *perceived human capital, perceived employability, perceived satisfactoriness of performance* and *perceived utility of movement* were conceptualised as uni-dimensional constructs. The instruments that were selected or developed to operationalise these

constructs comprised a number of items that were all written with the intention to reflect a single undifferentiated common underlying construct.

In contrast, *organisational commitment*, *psychological empowerment* and *job satisfaction* were conceptualised as multidimensional constructs in the model. The instruments that were chosen to measure these constructs consist of subscales of items. Each subscale was created with the intention to measure a specific (uni-dimensional) latent dimension the three multidimensional constructs (Bezuidenhout, 2013). In the case of the aforementioned three constructs the uni-dimensionality assumption therefore now applies to the subscales.

In the case of both the latent variables that were conceptualised as uni-dimensional constructs and the latent variables that were conceptualised as multidimensional constructs items were developed to act as stimuli to which participants should respond with observable behavioural responses that will reflect their standing on the uni-dimensional underlying latent variable or latent dimension of interest.

According to Burger (2012), it is important to note, that the response of test-takers to any item is always not solely an expression of the construct of interest, but also of a variety of other non-relevant influences as well as random error influences. The assumption, however, is that the only source of systematic variance that affects all the items comprising a subscale is the focal construct. This assumption implies that the inter-item correlations should approach zero, if the targeted latent variable is held constant. Smuts (2011) stated that the purpose during scale development is to achieve essential uni-dimensionality and to generate relatively pure measures of the specific underlying construct via items comprising the scale.

Exploratory factor analysis (EFA) was consequently performed to determine whether each of the scales and subscales referred to in section 3.5 did in fact measure a single underlying factor as intended and to determine whether each item provides a valid measure of the single underlying factor (i.e. that the factor loadings are all acceptably high).

Principal axis factor analysis (PAF) was chosen as the extraction technique. If, contrary to expectations, more than one factor had to be extracted (i.e., factor fission was found), the factor structure was obliquely rotated (Tabachnick & Fidell, 2001). PAF was preferred over principal component factor analysis (PCA) because PAF is a widely used and well understood technique, and because it restricts itself to the analyses of only the variance shared between the items comprising a subscale. PCA, in contrast, analyses all the variance. Oblique rotation was preferred over orthogonal rotation because the former acknowledges the possibility that, in the case of factor fission, the extracted factors could be correlated (Tabachnick & Fidell, 2001).

A composite indicator was considered to provide a valid reflection of its designated construct if λ_{ij}>.50. Hair, Black, Babin, Anderson and Tatham (2006) propose a critical cutoff factor loading in confirmatory factor analysis of .71. The current study considered the Hair et al. (2006) critical cut-off value as too stringent in the case of evaluating the loadings of individual items but acceptable when interpreting the strength of the loadings of the item parcels on the constructs they in the measurement model component of the comprehensive LISREL model

The dimension reduction procedure of SPSS 25 (SPSS, 2017) was used to perform the dimensionality analyses on the scales and subscales comprising the composite research questionnaire developed to empirically test the proposed *intention to quit* structural model.

3.9.3 Structural Equation Modelling

3.9.3.1 Variable type

The measurement level on which the indicator variables in the measurement model are measured determines the decision which matrix to analyse and which estimation technique to use to estimate the freed model parameters. Section 3.75 stipulated that two or more item parcels will be formed to represent each of the latent variables, to fit of the comprehensive reduced Oehley – Smuts – Bezuidenhout – Reitz *intention to quit* LISREL model.

The decision to use item parcels to operationalise the latent variables in the structural model had three advantages, namely:

- It reduced the number of parameters that had to be estimated in the measurement model part of the comprehensive LISREL model,
- This in turn lead to a decrease in the sample size that was required to maintain an permissible ratio of observations to freed model parameters, and
- It created more reliable indicator variables (Nunnally, 1978)

It should be conceded though that there also might be possible negative consequences related to the use of item parcels. According to Marsh, Hau, Balla and Grayson (1998) CFA models tend to show better fit when the numbers of indicator variables are increased. If individual items would have been used as indicator variables to operationalise the latent variables shown in Figure 3.1 the measurement model part of the comprehensive LISREL model would have contained a large number of freed model parameters which in turn would have required a very large sample. Therefore, it was decided for this study to use item parcels as indicator variables. The indicator variables were consequently treated as

continuous variables, measured on an interval scale level (Burger, 2012). The covariance matrix was consequently analysed, and maximum likelihood estimation was used to obtained estimates of the freed model parameters, provided that the multivariate normality assumption is met (Mels, 2003).

3.9.3.2 Multivariate Normality

When fitting measurement and/or comprehensive LISREL models to continuous data LISREL 8.8 uses maximum likelihood (ML) estimation to obtain estimates for the freed model parameters. ML estimation is based on the assumption that the indicator variables collectively follow a multivariate normal distribution (Smuts, 2010). The null hypothesis that the indicator variable distribution can be described in the parameter by a multivariate normal distribution was tested in PRELIS. If the null hypothesis was rejected, an attempt was made to normalise the data (Burger, 2012). To test the success of the attempted normalisation, the null hypothesis of multivariate normality was again tested on the normalised data to determine whether the normalisation succeeded. In case where the multivariate normality null hypothesis was again rejected, robust maximum likelihood (RML) estimation was used to fit the measurement and comprehensive LISREL models (Mels, 2003).

3.9.3.3 Confirmatory Factor Analysis

To unambiguously interpret the fit indices calculated for the comprehensive intention *to quit* LISREL model for or against the structural model component of the fitted comprehensive model it needs to be shown the measurement model component of the comprehensive model fitted closely (Diamantopoulos & Siguaw, 2000). The fit of the reduced *intention to quit* measurement model used to operationalise the structural model therefore needed to be evaluated before the fit of the comprehensive LISREL model can be evaluated. If the measurement model fits closely (i.e. H_0: RMSEA$\leq$.05 cannot be rejected [p>.05]), the estimated factor loadings are all statistically significant (p<.05), the completely standardised factor loadings are large (λ_{ij}>.71) and the measurement error variances are statistically significant (p<.05) but small and the latent variable correlations are not excessively large (i.e., ϕ_{pk}<.90), the operationalisation can be labeled as successful.

The measurement model was fitted by analysing the covariance matrix. ML estimation was used if the multivariate normality assumption was met, before or after normalisation. RML estimation was used if normalisation failed to achieve multivariate normality in the indicator variable distribution (Du Toit & Du Toit, 2001). LISREL 8.8 was used to perform the CFA.

The substantive measurement hypothesis under evaluation is that the measurement model provides a permissible explanation of the observed covariance matrix (Smuts, 2011). The ideal scenario would be if the measurement hypothesis is interpreted to mean that the measurement model provides a perfect description of the structural relations between the latent variables and the indicator variables, the measurement hypothesis can be expressed as the following exact fit null hypothesis:

$$H_{024}: \text{RMSEA} = 0$$

$$H_{a24}: \text{RMSEA} > 0$$

If the measurement model is understood to only provide an imprecise description of the structural relations between the latent variables and the indicator variables then the measurement hypothesis can be expressed as the following close fit null hypothesis:

$$H_{025}: \text{RMSEA} \leq .05$$

$$H_{a25}: \text{RMSEA} > .05$$

If the close fit null hypothesis was not rejected or if at least close measurement model fit was obtained in the sample the following 22[14] null hypotheses on the slope of the regression of composite indicator j on latent variable k (i.e. the factor loadings) were tested:

$$H_{0i}: \lambda_{jk}=0;\ i=26, 27, \ldots, 47;\ j=1, 2, \ldots, 22;\ k=1, 2, \ldots, 11$$

$$H_{ai}: \lambda_{jk}\neq 0;\ i= 28, 29, \ldots, 47;\ j=1, 2, \ldots, 22;\ k=1, 2, \ldots, 11$$

If the close fit null hypothesis was not rejected or if at least close measurement model fit was obtained in the sample the following 22 null hypotheses on the measurement error variances of the composite indicator variables were tested:

$$H_{0i}: \Theta_{\delta jj} = 0;\ i =48, 49, ..., 69;\ j=1, 2....., 22$$

$$H_{ai}: \Theta_{\delta jj} > 0;\ i = 48, 49, ..., 69;\ j=1, 2....., 22$$

If the close fit null hypothesis was not rejected or if at least close measurement model fit was obtained in the sample the following 55 null hypotheses on the inter-latent variable correlations were tested:

$$H_{0i}: \phi_{pk} = 0;\ i =70, 71, ..., 124;\ p=1, 2....,11;\ k=1, 2....,11;\ p\neq k$$

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[14] The original intention was to operationalise the latent main effects in the model via 2 composite indicators and the latent interaction effect in the model via 4 residualised indicator variables. Under the original intention there would have been 24 composite indicator variables. Unforeseen circumstances, however, necessitated the removal of two of the indicators of the latent interaction effect. In the fitting of the measurement and comprehensive LISREL models 22 composite indicators were used.

$$H_{ai}: \phi_{pk} > 0;\ i = 70, 71, ..., 124;\ p=1, 2....,11;\ k=1, 2....,11;\ p \neq k$$

3.9.3.4 Interpretation of Measurement Model Fit and Parameter Estimates

The measurement model describes the structural paths that were hypothesised to exist between the indicator variables and the constructs comprising the *intention to quit* structural model (Lee, 2016). The aim with fitting the measurement model is to evaluate the validity and reliability of the indicator variables used to measure the constructs comprising the structural model. The measurement model fit describes the extent to which the observed covariance matrix can be mathematically reproduced from the parameter estimates obtained from the fitted model (Bezuidenhout, 2013). The model fits well if the reproduced covariance matrix (**S^**) deviates very little from the observed covariance matrix (**S**) (Theron, 2014). The measurement model fit in the current study was interpreted by reviewing the full spectrum of goodness of fit indices provided by LISREL 8.8 (Diamantopoulos & Siguaw, 2000). The number of statistically significant (p<.01) standardised variance and covariance residuals and the distribution of the standardised residuals as well as the percentage of statistically significant (p<.01) model modification indices calculated for Λ^{X}, and Θ_{δ} were also interpreted to assess the quality of the model fit. Covariance residuals represent the difference between the variance and covariances in (**S**) and the values in the corresponding cells of (**S^**). Statistically significant (p<.01) modification index values indicate measurement model parameters that are currently fixed to zero that would statistically significantly improve the fit of the model if they would be freed to be estimated. Large numbers of large and statistically significant (p<.01) modification index values suggests flaws in the model in as far as numerous changes to the current model are indicated that would improve the fit of the model. The only reason for the inspection of the model modification indices calculated for the previously mentioned matrices was to obtain an additional evaluation of model fit.

If the close fit null hypothesis was not rejected or if at least close measurement model fit was obtained in the sample the measurement model estimates obtained for the freed model parameters were interpreted by testing H_{024} to H_{0124}. When the null hypotheses were rejected the magnitude of the parameter estimates were evaluated in the completely standardised solution.

3.9.3.5 Fitting the Comprehensive LISREL Model

The structural model represents the overarching *intention to quit* substantive hypothesis. The structural model moreover depicts the path-specific substantive hypotheses concerning the psychological explanation of *intention to quit*. Therefore, if a close fit of the measurement

model is obtained (i.e., H_{023} failed to be rejected), or if at least reasonable measurement model fit is obtained and H_{024} – H_{0124} were rejected and if the magnitude of completely standardised factor loading estimates were satisfactory, H_{01} and H_{02} will be examined. This will be done by fitting the comprehensive LISREL model. The comprehensive LISREL model was fitted by analysing the covariance matrix. ML estimation was used if the multivariate normality assumption was satisfied (either before or after normalisation). If normalisation failed to achieve multivariate normality in the indicator variable distribution, then RML estimation was used to obtain estimates for the freed model parameters. LISREL 8.8 (Du Toit et al., 2001) was used to perform the structural equation analysis.

3.9.3.6 Interpretation of the Structural Model Fit and Parameter Estimates

Structural model fit was interpreted by considering all the fit indices calculated by LISREL 8.8 (Diamantopoulos & Siguaw, 2000). The magnitude and distribution of the standardised covariance residuals were also evaluated, as well as the magnitude of the model modification indices calculated for Γ, $\mathbf{B}$ and Ψ. Large, statistically significant ($p<.01$) modification index values indicate currently fixed structural model parameters that, if set free, would significantly ($p<.01$) improve the fit of the model. Large numbers of large and significant modification index values imply that there are many ways of improving the ability of the current model to accurately reproduce **S**. The investigation of the model modification indices for the previously mentioned matrices here were solely used to evaluate the model fit. Inspection of the model modification indices calculated for the Γ and $\mathbf{B}$ matrices were, however, also used to indicate ways of improving the explanatory ability of the model. Additional paths were only considered if a convincing theoretical rational could be offered for such paths.

If the comprehensive LISREL model achieved close fit or at least reasonable fit, H_{03} – H_{021} were tested. The proportion of variance explained in each of the endogenous latent variables by the model was also interpreted.

In the final analysis the psychological explanation of *intention to quit* as it is captured in Figure 3.1 in the reduced Oehley – Smuts – Bezuidenhout – Reitz model was considered to be corroborated if:

- the measurement model fitted the data closely (i.e. H_{025}: RMSEA$\leq$.05 was not rejected) or at least showed reasonable fit in the sample,
- λ_{ij} were statistically significant ($p<.05$) and large and θ were statistically significant ($p<.05$) but small,

- the comprehensive LISREL model fitted the data closely (i.e. H_{02}: RMSEA≤.05) was not rejected) or at least showed reasonable fit in the sample,
- the γ_{ij} and β_{ij} estimates were statistically significant ($p<.05$), and
- the model explained a considerable proportion of the variance in each η_i (especially in the focal endogenous latent variable intention *to quit*).

3.9.3.7 Considering Possible Structural Model Modifications

The modification indices and completely standardised expected change values (Diamantopoulos & Siguaw, 2000) calculated for Γ and **B** were studied to determine whether there were any additional paths that, if grafted on to the model, would improve the fit of the model. Furthermore, modification of the model will, however, only be considered if the proposed additions are supported by a sound theoretical rational (Diamantopoulos & Siguaw, 2000). The modification indices calculated for Γ and **B**, were also used to derive data-driven recommendations for future research.

3.10 ETHICAL RISK ASSESSMENT

This section of the study looked at aspects of the study that could potentially harm or disadvantage participants or that could potentially trample basic right of participants. Aspects such as voluntary participation, informed consent, rights and confidentiality, harm and deceitfulness were considered. Additionally, a risk benefit analysis was conducted to determine whether the risks and discomforts endured by individuals participating in the study can be ethically justified.

According to Shrader-Frechette (1994, as cited in Lee, 2016) there are two broad areas that should be considered when reflecting on the danger that the research study might (inadvertently) cause harm or disadvantage to research participants. They highlight the procedures that are followed when conducting the research and the results of research and how these are disseminated and used. The current study would add a third broad aspect that should be considered, namely the purpose of the research.

The process of empirical behavioural research invariable requires people to be involved in the research. According to Shrader-Frechette (1994, as cited in Lee, 2016) the process of research can be considered unethical if potential participants are not given sufficient information on the study that they are invited to participate in to allow them to make a truly informed decision whether they wish to participate. Additionally, the process of research can be considered unethical if the participants are deceived at any point during the research process, from sample selection to results. The product of the research is argued to be

problematic, and thus unethical in nature, if the final outcome of the study contributes to conditions that are detrimental to people and/or the planet (Lee, 2016).

It is vital that, the research participant knows that he/she has the right to voluntarily decide, prior to the commencement of research, whether they wish to participate in the research and that, the research participant knows that he/she has the right to voluntarily withdraw at any stage throughout the research process, without penalty or negative repercussions. Moreover, the decision of the participant to become involved in the research study should grounded in a comprehensive and accurate understanding of the aforementioned three broad aspects as they apply to the specific study. This refers to informed consent. It is important to note here that informed consent is not only a formality of filling in a mandatory informed consent form, but also an honest attempt to afford the participant the freedom to use their own discretion whether to participate in the study or not. It is a process that must be undertaken by each and every researcher. According to Horn, Graham, Prozesky and Theron (2015), the outline this process is as follows:

- Participants must be mentally capable of giving their legal and mental consent 9i.e., they need to understand what the consent to).
- The consent should be voluntarily (i.e., participants should not be to consent to participate).
- Information should not be withheld from participants 9I.e., participants should have an accurate understanding of what they consent to and what the consequences will be).
- The information must be provided in a manner that participants can understand.

Furthermore, if the researcher is a practitioner registered under the Health Professions Act (Act no. 56 of 1974) (Republic of South Africa, 2006), the Ethical Rules of Conduct requires the psychologist to formally come to an understanding with participants on what the research will entail, how they will be involved in the research and what the responsibilities of the researcher will be. According to Annexure 12 (Republic of South Africa, 2006, p. 42) this formal understanding should satisfy the following *provisos*:

1. [89.]A psychologist shall use language that is reasonably understandable to the research participant concerned in obtaining his or her informed consent.
2. Informed consent referred to in sub rule (1) shall be appropriately documented, and in obtaining such consent the psychologist shall –

a) inform the participant of the nature of the research;
b) inform the participant that he or she is free to participate or decline to participate in or to withdraw from the research;

c) explain the foreseeable consequences of declining or withdrawing;
d) inform the participant of significant factors that may be expected to influence his or her willingness to participate (such as risks, discomfort, adverse effects or exceptions to the requirement of confidentiality);
e) explain any other matters about which the participant enquires;
f) when conducting research with a research participant such as a student or subordinate, take special care to protect such participant from the adverse consequences of declining or withdrawing from participation;
g) when research participation is a course requirement or opportunity for extra credit, give a participant the choice of equitable alternative activities; and
h) in the case of a person who is legally incapable of giving informed consent, nevertheless–
i) provide an appropriate explanation;
ii. obtain the participants assent; and
iii. obtain appropriate permission from a person legally authorized to give such permission.

An example of the participant consent formulation is shown in Appendix 1.

It is important that prior to engaging in research participants and the researcher should agree what their respective obligations, rights and responsibilities are (Kerlinger & Lee, 2000). Therefore, before the researcher starts collecting data the researcher should provide information on the research credentials of the researchers, the purpose and objectives of the research study, who will have insight in the results of the research study, how participants' anonymity will be protected and what steps will be taken to protect the confidentiality of results (Lee, 2016). Participants should know who will receive results and in what format, especially within an organisational context. When conducting research in organisations, this latter aspect important because of the potential for a conflict of interest between the researcher, the organisation and the employee. In the absence of a reassurance of confidentiality participants could also fear potential harassment from management if they provide frank assessments of situations that management might not like.

Another important consideration, outlined in legislation, when conducting research within organisational contexts is institutional permission. According to (Department of Health, 2013, p. 93) the following rules apply:

87. A psychologist shall –
a) obtain written approval from the host institution or organisation concerned prior to conducting research;

b) provide the host institution or organisation with accurate information about his or her research proposal; and
c) conduct research in accordance with the research protocol approved by the institution or organisation concerned.

In the current study data was collected via Facebook. The researcher asker her friends on Facebook to complete the questionnaire and to extend the request to their Facebook friends. Formal institutional permission was therefore not required in the current study.

The researcher should consider and attempt to remove any "undesirable consequences of participation" (Kerlinger & Lee, 2000, p. 445), as any form of research can produce a certain level of stress within participants and the researcher is therefore obligated to protect the participant from any harm.

Should a researcher wish to offer a possible incentive or reward for participation the following stipulation in the Ethical Rules of Conduct for Practitioners Registered under the Health Professions Act (Act no. 56 of 1974, p. 43) should be adhered to:

> 92. In offering professional psychological services as an inducement to gain the participation of a person in research, a psychologist shall –
> a) explain the nature of such services, as well as the risks, obligations and limitations involved; and
> b) not offer excessive or inappropriate financial or other inducements to obtain the person's participation, particularly when such inducement might tend to exert undue influence on that person to participate.

Protection extends to the area of confidentiality. All attempts must be made to safeguard the personal information of all participants as well as the host institution, if so requested. Here it is vital that the information collected not be disclosed to outside parties in any way that could leave the participants vulnerable to detection i.e. participants should not be identifiable from any data collected. The data collected from this study will be treated as confidential. The results of individual participants will not be published. The analyses will only describe characteristics of the data in its combined form. The aim of the study is not to describe participants' standing on the various constructs comprising the structural model but rather on the validity of the relationships hypothesised between the various constructs.

Academic and intellectual freedom are two non-negotiable principles underpinning research at Stellenbosch University. There should be no topic or question that researchers should not be allowed to examine provided that it is investigated in an ethical manner. Moreover, researchers have the duty to fully report their procedures and findings and not to hide any shortcomings or negative results. In addition, funders or other stakeholders should not be

permitted to sensor the publication of research findings. Where appropriate feedback should also be given to the institutions whose members participated in the research. not allow funders or other stakeholders to influence research publications. An application for ethical clearance of the proposed research study had been submitted to the Research Ethics Committee Human Research (Humanities) of Stellenbosch University.

CHAPTER 4

RESULTS: PRESENTATION OF RESEARCH RESULTS

4.1 INTRODUCTION

The aim of the present study was to expand the Oehley - Smuts (2011) talent management competency model. The current study again grafted the Oehley (2007) line manager talent management competencies onto the model that Smuts (2011) derived from her empirical study. The current study moreover adapted and revised the Smuts - Bezuidenhout (2013) model that emphasised the role that external factors play in shaping the level of turnover intention that employees experience. The theorising presented in Chapter 3, introduced five new constructs (*perceived alternative opportunities*, *perceived human capital, satisfactoriness of performance, perceived employability* and *perceived utility of movement*) to the original Oehley – Smuts (2011) model and changes to some of the paths. Figure 2.9 shows the expanded model that was developed in response to the third-generation research initiating question why employees vary in their intention to leave the employment of their current employer. The model was, however, reduced, due to practical problems associated with the empirical testing of the expanded structural model. Figure 3.1 shows the reduced Oehley – Smuts – Bezuidenhout – Reitz model.

The reduced Oehley – Smuts – Bezuidenhout – Reitz model comprises 15 direct effects. These 15 path-specific substantive hypotheses were reformulated as statistical hypotheses. The aim of Chapter 4 is to describe the findings of the statistical analyses that were performed to test these 15 null hypotheses. Chapter 4 will present a description of the demographic profile of the sample and explain the absence of missing values in the dataset. Following on this the results of the item analysis and of the dimensionality analyses and item analyses are presented.

4.2 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

A sample of 196 complete responses were obtained when the electronic survey was closed. The age distribution of the sample is shown in Table 4.1.

Table 4.1

Distribution of respondents' age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	61-70	3	1.5	1.5	1.5
	51-60	16	8.2	8.2	9.7
	41-50	17	8.7	8.7	18.4
	35-40	33	16.8	16.8	35.2
	30-34	72	36.7	36.7	71.9

Table 4.1

Distribution of respondents' age (continued)

25-29	40	20.4	20.4	92.3
20-24	14	7.1	7.1	99.5
16-19	1	.5	.5	100.0
Total	196	100.0	100.0	

Respondents mainly fell in the age category 25 to 40 with the modal category 30 to 35 years of age. The majority of respondents were female, as indicated in Table 4.2. The majority of respondents were White as shown in Table 4.3.

Table 4.2

Distribution of respondents' gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	146	74.5	74.9	74.9
	Male	49	25.0	25.1	100.0
	Total	195	99.5	100.0	
Missing	System	1	.5		
Total		196	100.0		

Table 4.3

Respondents' race distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Black	2	1.0	1.0	1.0
	Coloured	3	1.5	1.5	2.6
	White	191	97.4	97.4	100.0
	Total	196	100.0	100.0	

The majority of respondents had a post-graduate degree as shown in Table 4.4 with a diploma or bachelor degree the second most prevalent qualification category.

Table 4.4

Distribution of respondents' highest level of qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Matric	16	8.2	8.2	8.2
	Diploma or Certificate	45	23.0	23.0	31.1
	Undergraduate degree	33	16.8	16.8	48.0
	Post graduate diploma	11	5.6	5.6	53.6
	Post graduate degree	84	42.9	42.9	96.4
	Doctorate	1	.5	.5	96.9
	Other	6	3.1	3.1	100.0
	Total	196	100.0	100.0	

Table 4.5 indicates that the majority of respondents were in managerial positions with middle management as the modal job level category. The current study defined its target population as permanent, full-time employees in South African private sector and public sector organisations. The sampling population was defined as permanent, full-time employees in

South African private sector and public sector organisations known to the researcher or known to friends of the researcher. The sample characteristics as depicted in Table 4.1 to Table 4.5 reflect the sampling strategy as described in Chapter 3. Table 4.1 to Table 4.5 moreover unequivocally attest to the fact that the sample was not representative of the target population. A substantial, non-ignorable, sampling gap is therefore acknowledged as a limitation in the current study.

Table 4.5

Distribution of respondents' current job level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Entry Level	32	16.3	16.3	16.3
	Junior Management	43	21.9	21.9	38.3
	Middle Management	59	30.1	30.1	68.4
	Senior Management	38	19.4	19.4	87.8
	Specialist	24	12.2	12.2	100.0
	Total	196	100.0	100.0	

Table 4.6 indicates that the majority of the respondents were employed in the education sector, the engineering sector, the financial sector or in some other non-specified sector.

Table 4.6

Distribution of the sector in which respondents were employed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agriculture	17	8.7	8.7	8.7
	Communications - Marketing/ Advertising	8	4.1	4.1	12.8
	Construction	2	1.0	1.0	13.8
	Education	32	16.3	16.3	30.1
	Engineering	21	10.7	10.7	40.8
	Finance	23	11.7	11.7	52.6
	Government	1	.5	.5	53.1
	Health and fitness	14	7.1	7.1	60.2
	I work across industries	6	3.1	3.1	63.3
	Mining and Manufacturing	22	11.2	11.2	74.5
	Retail	3	1.5	1.5	76.0
	Telecommunications	1	.5	.5	76.5
	Tourism	4	2.0	2.0	78.6
	Sales	7	3.6	3.6	82.1
	Other	35	17.9	17.9	100.0
	Total	196	100.0	100.0	

Respondents were typically in the employment of their current employer between one and ten years with 3-5 years as the modal interval (Table 4.7).

Table 4.7

Distribution of the time period that respondents were employed by their current organisation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than one year	16	8.2	8.2	8.2
	1-2 years	41	20.9	20.9	29.1
	3-5 years	65	33.2	33.2	62.2

Table 4.7

Distribution of the time period that respondents were employed by their current organisation (continued)

	6-10 years	39	19.9	19.9	82.1
	11-15 years	11	5.6	5.6	87.8
	16-25 years	12	6.1	6.1	93.9
	More than 25 years	12	6.1	6.1	100.0
	Total	196	100.0	100.0	

Table 4.8 indicates that respondents typically occupied their current job between one and ten years with 3-5 years as the modal category.

Table 4.8

Distribution of the time period that respondents occupied their current job

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than one year	17	8.7	8.7	8.7
	1-2 years	45	23.0	23.0	31.6
	3-5 years	73	37.2	37.2	68.9
	6-10 years	34	17.3	17.3	86.2
	11-15 years	9	4.6	4.6	90.8
	16-25 years	11	5.6	5.6	96.4
	More than 25 years	7	3.6	3.6	100.0
	Total	196	100.0	100.0	

4.3 MISSING VALUES

As discussed in paragraph 3.8, the fact that none of the items in the composite research questionnaire offered respondents the option to choose an “unable to respond” option prevented the presence of any missing values on any of the items of any of the subscales of the questionnaire. The electronic questionnaire had been set up in such a manner that a participant can only proceed to the next screen and eventually submit the questionnaire via SUrveys if all items had been answered. It is acknowledged that this decision increased the risk that respondents might have responded in a manner that did not validly reflected their standing on a specific construct. Due to the nature of the constructs comprising the structural model this risk was deemed negligibly small.

4.4 ITEM ANALYSIS

The items that made up the various subscales of the composite research questionnaire were subjected to classical measurement theory item analysis. The aim of the item analysis was to identify and eliminate poor items failed to sensitively discriminate between relatively small differences in standing on the target latent variable and/or that respond out of step with their colleague items. Items were written with the intention that the manner in which participants responded to them will reflect their standing on the target construct and that participants that differed in their standing on the latent variable will differ in their response to the latent

variable. If this design intention succeeded the inter-item correlations should be consistently moderately high, the corrected item-total correlations should be consistently moderately high, the squared multiple correlation when regressing each subscale item on the weighted combination of its peers should be consistently moderately high, the coefficient of internal consistency should be high and the item standard deviations should be consistently moderately high. To the extent that the design intention failed with regards to any item of any subscale this will be reflected in the item showing itself to be an outlier towards the lower end of the corrected item-total correlation and squared multiple correlations, to increase the coefficient of internal consistency if deleted and to consistently correlate lower than the mean inter-item correlation with its peers. The item analysis was therefore motivated by the need to establish whether any of the items included in a specific subscale detracted from the internal consistency reliability or failed to show expected levels of validity. Detecting and removing problematic items from a subscale made it possible to enhance the reliability and validity of the subscale prior to the calculation of item parcels to test the structural model.[15] The presence of problematic items as reflected by unfavourable item statistics necessarily meant that the design intention that items should validly reflect participants' standing on a specific construct failed with regards to specific items. The converse was, however, not true. The absence of problematic items as reflected in favourable item statistics did not mean that the items necessarily must have validly reflected the construct that they were designated to reflect.

Item analysis was conducted separately on all the subscales used to measure the constructs included in the *Intention to Quit* model. The reliability procedure of SPSS 25 (SPSS, 2017) was used to perform the item analysis.

Table 4.9 represents a synopsis of the results of the item analyses performed separately on the subscales of the research questionnaire. The internal consistency reliability obtained for seventeen of the twenty subscales were found to be up to standard (α_i >.80). Only three of the subscales had reliability coefficients that marginally fell below the critical .80 cut-off value. All items that were flagged as problematic throughout the item analysis procedure were not included in the item parcels used to reflect constructs in the model.

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[15] Poor items are items that do not reflect the intended latent dimension and therefore do not respond in unison with other items assigned to a specific subscale and that are not sensitive to relatively small differences on the latent dimension that the subscale was designed to measure.

Table 4.9

Summary of the item analysis results

Subscale	Cronbach alpha	Scale alpha	Scale/subscale mean	Scale/subscale variance	Std. Deviation of final scale	Items flagged	Items deleted	Number of items in scale/subscale
Psychological empowerment		.942	45.44	59.15	7.691	-	-	11
Meaning	.904					Q11	-	3
Impact	.861					-	-	3
Self-determination	.853					Q12	-	3
Competence	.769					-	-	2
Intention to Quit	.911		9.11	18.599	4.313	Q22	-	4
Organisational Commitment		.873				-	-	18
Affective Commitment	.786		21.6122	26.177	5.11635	Q35, Q36, Q37	-	6
Continuance Commitment	.704		19.61	21.931	4.683	-	-	6
Normative Commitment	.852		20.0255	33.461	5.78454	Q45R	-	6
Perceived Development Opportunities	.931		14.54	17.644	4.201	Q28	-	4
Perceived Alternative Opportunities	.903		16.84	34.226	5.85	Q52	-	6
Perceived Human Capital	.922		15.18	11.823	3.438	-	-	4
Perceived Utility of Movement	.927		26.52	91.892	9.586	Q64, Q66	-	10
Perceived Employability	.888		13.7	22.415	4.734	-	-	5
Perceived Satisfactoriness of Performance	.869		25.0051	14.662	3.82904	Q77, Q78	Q77R, Q78R	6
Job Satisfaction		.919						
People that I work with	.908		32.0179	15.468	3.93289	-	-	18
Work in General	.940		33.0357	16.147	4.01839	-	-	18
Work on present job	.920		35.2015	22.053	4.69604	Q105R, Q116R, Q126R, Q127R	-	20
Pay	.879		15.2015	7.255	2.69357	-	-	9
Opportunity for promotion	.906		12.574	8.683	2.94669	Q148R	-	9
Supervision	.930		31.4235	22.52	4.7455	-	-	18

4.4.1. Item Analysis for the Psychological Empowerment Scale

Spreitzer's (Spreitzer, 1995) *Psychological Empowerment* scale consists of 11 items[16] (see Appendix 1). The scale measures the four dimensions of *psychological empowerment* (see section 3.7.1) with two to three items earmarked to reflect each dimension. Item analysis was conducted on the subscale level. The reliability of the composite *Psychological Empowerment* score was by using a formula recommended by Nunnally (1978) for the calculation of the reliability of an unweighted linear composite.

4.4.1.1 Item analysis of the Meaning subscale of the Psychological Empowerment scale

Table 4.10 presents the item statistics for the *Meaning* subscale of the *Psychological Empowerment* scale.

Table 4.10

Item statistics for the Meaning subscale of the Psychological Empowerment scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.904	.905	3

	Mean	Std. Deviation	N
Q11	4.44	.860	196
Q14	4.13	.981	196
Q19	4.22	.943	196

	Q11	Q14	Q19
Q11	1.000	.687	.759
Q14	.687	1.000	.834
Q19	.759	.834	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q11	8.35	3.397	.754	.586	.909
Q14	8.66	2.862	.814	.702	.861
Q19	8.57	2.862	.870	.761	.810

Table 4.10 reveals a highly satisfactory Cronbach alpha value (.904) that exceeded the critical cut-off value of .80. No items showed themselves to suffer from truly extreme means on a five-point scale and no items showed themselves as outliers towards the lower end of the item standard deviation distribution. No item therefore stood out as an insensitive item that failed to discriminate between relatively small differences in respondents' standing on

[16] Spreitzer's (1995) scale consists of 12 items. One item was inadvertently omitted when capturing the scale items on Checkbox.

the latent dimension of interest. Item Q11 consistently correlated lower with the remaining items of the subscale (the mean inter-item correlation was (.760) although not substantially so. Item Q11 also showed itself to be somewhat of an outlier towards the lower end of the squared multiple correlation distribution and to a somewhat lesser extent so in the corrected item-total correlation distribution. The basket of evidence suggested that the variance in Q11 to a lesser extent originated from the same source of systematic variance[17] that underpinned the remaining items of the subscale. The somewhat out-of-step nature of Q11 was also reflected in the marginal increase in the subscale Cronbach alpha if Q11 was deleted. Although Q11 was flagged as marginally problematic it was nonetheless decided not to delete the item because of the limited number of items in the subscale and because of the marginal evidence against the item.

4.4.1.2 Item analysis of the Impact subscale of the Psychological Empowerment scale

Table 4.11 presents the item statistics for the *Impact* subscale of the *Psychological Empowerment* scale. Table 4.11 indicates a satisfactory Cronbach alpha (.861) that exceeded the critical cut-off value of .80. No items showed themselves to be outliers towards the lower end of the item standard deviation distribution. Neither did any item show itself to be an outlier towards the lower end of the corrected item-total correlation distribution or the squared multiple correlation distribution.

Table 4.11

Item statistics for the Impact subscale of the Psychological Empowerment scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.861	.864	3

	Mean	Std. Deviation	N
Q13	4.27	.925	196
Q15	3.91	1.068	196
Q20	3.83	1.122	196

	Q13	Q15	Q20
Q13	1.000	.685	.657
Q15	.685	1.000	.698
Q20	.657	.698	1.000

[17] The source of systematic variance is, however, not necessarily a unidimensional latent variable nor necessarily the intended latent dimension of the Psychological Empowerment construct

Table 4.11

Item statistics for the Impact subscale of the Psychological Empowerment scale (continued)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q13	7.74	4.070	.728	.532	.821
Q15	8.10	3.477	.759	.577	.784
Q20	8.18	3.347	.739	.547	.808

None of the items consistently correlated lower than the mean inter-item correlation (.680) with the remaining items in the subscale. These findings are compatible with the position that all the items reflect a common source of systematic variance which could be the latent *Impact* dimension but not necessarily. No items were indicated as doubtful and no items were deleted from the *Impact* subscale.

4.4.1.3 Item analysis of the Self-determination subscale of the Psychological Empowerment scale

Table 4.12 presents the item statistics for the *Self-determination* subscale of the *Psychological Empowerment* scale. The Cronbach alpha shown for the *Self-determination* subscale was regarded as satisfactory (.853). No items showed themselves to be outliers towards the lower end of the item standard deviation distribution. No item therefore showed itself to be substantially less sensitive to differences in the underlying latent dimension than the remaining items of the subscale. Item Q12 did, however, consistently correlate lower than the mean inter-item correlation (.658) with the remaining items of the subscale. Item Q12 also showed itself to be somewhat of an outlier towards the lower end of the squared multiple correlation distribution and to a somewhat lesser extent so in the corrected item-total correlation distribution. The basket of evidence suggested that the variance in Q12 to a lesser extent originated from the same source of systematic variance that underpinned the remaining items of the subscale. The inability of Q12 to respond in unison with the remaining items of the subscale was also reflected in the marginal increase in the subscale Cronbach alpha if Q12 was deleted.

Table 4.12

Item statistics for the Self-determination subscale of the Psychological Empowerment scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.853	.853	3

	Mean	Std. Deviation	N
Q12	4.10	.950	196
Q16	4.03	1.062	196
Q17	3.85	1.036	196

Table 4.12

Item statistics for the Self-determination subscale of the Psychological Empowerment scale (continued)

	Q12	Q16	Q17
Q12	1.00	.582	.620
Q16	.582	1.000	.773
Q17	.620	.773	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q12	7.88	3.903	.638	.411	.872
Q16	7.95	3.197	.757	.615	.764
Q17	8.13	3.203	.788	.642	.733

Given the limited number of items in the subscale and the marginally problematic nature of Q12, Q12 was retained in the *Self-determination* subscale and no items were culled.

4.4.1.4 Item analysis of the Competence subscale of the Psychological Empowerment scale

Table 4.13 presents the item statistics for the *Competence* subscale of the *Psychological Empowerment* scale. Table 4.13 shows that the *Competence* subscale obtained a somewhat less satisfactory Cronbach alpha (.769) that fell below the .80 critical cut-off[18]. The fact that the subscale only comprised precluded any really meaningful item analysis. No items were deleted from the *Competence* subscale.

Table 4.13

Item statistics for the Competence subscale of the Psychological Empowerment scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.769	.775	2

	Mean	Std. Deviation	N
Q10	4.51	.698	196
Q18	4.15	.821	196

	Q10	Q18
Q10	1.000	.633
Q18	.633	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q10	4.15	.674	.633	.400	.
Q18	4.51	.487	.633	.400	.

[18] This outcome in part resulted from the unfortunate omission of one item from the *Competence* subscale when compiling the electronic composite research questionnaire.

4.4.1.5 Reliability of the total score on the Psychological Empowerment scale

Cronbach alpha coefficients were calculated for each of the four *Psychological Empowerment* subscales. Calculating the reliability of the *Psychological Empowerment* scale in the same manner as the subscale reliabilities would have underestimated the reliability of the scale as a function of the extent to which the subscales correlate lower with each other. To estimate the reliability of the total score, calculated as the unweighted sum of the four *Psychological Empowerment* subscale scores, the following formula proposed by Nunnally (1978, p. 248) was used:

$$rtot = 1 - \left[\frac{[\sum_{i=1}^{5} S^2 i - \sum_{i=1}^{5} rtti S^2 i]}{S^2 t}\right]$$

Where:

- r_{tot} refers to the reliability of the unweighted linear composite
- S^2_i refers to the variance of the ith subscale score
- r_{tti} refers to the internal consistency reliability of the ith subscale
- S^2_t refers to the variance of the unweighted total score.

The unweighted total score reliability for the complete *Psychological Empowerment* scale was calculated as:

$$rtot = 1 - \left[\frac{[\sum_{i=1}^{4} S^2 i - \sum_{i=1}^{4} rtti S^2 i]}{S^2 t}\right]$$

$$= 1 - [\frac{23.255 - 19.79386}{59.15}]$$

$$= 1 - [\frac{3.46114}{59.15}]$$

$$= 1 - .0585146$$

$$= .94149$$

The resultant value of .94 was considered highly satisfactory.

4.4.2 Item Analysis of the Intention to Quit scale

The *Intention to Quit* scale consists of four items (see Appendix 1). Table 4.14 illustrates the item statistics for the *Intention to Quit* scale.

Table 4.14

Item statistics for the Intention to Quit scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.911	.911	4

	Mean	Std. Deviation	N
Q21	2.49	1.121	196
Q22	2.33	1.227	196
Q23	2.31	1.240	196
Q24	1.98	1.265	196

	Q21	Q22	Q23	Q24
Q21	1.000	.638	.803	.731
Q22	.638	1.000	.678	.619
Q23	.803	.678	1.000	.848
Q24	.731	.619	.848	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q21	6.62	11.284	.805	.668	.883
Q22	6.78	11.354	.694	.488	.920
Q23	6.80	10.109	.882	.803	.853
Q24	7.13	10.348	.817	.728	.877

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.277	1.980	2.490	.510	1.258	.046	4
Item Variances	1.474	1.256	1.600	.343	1.273	.023	4
Inter-Item Correlations	.720	.619	.848	.229	1.369	.008	4

Table 4.14 indicates a highly satisfactory value for the Cronbach alpha coefficient of internal consistency (.911). Item Q22 consistently correlated lower than the mean inter-item correlation (.720) with the remaining items of the scale although not substantially so. All the corrected item-total correlations were larger than .693. Item Q22 nonetheless showed itself to be somewhat of an outlier towards the lower end of the corrected item-total correlation and more pronouncedly so in the squared multiple correlation distribution. Item Q22 therefore to a lesser degree reflected the systematic source of variance that underpinned the remaining items of the scale. Moreover, the increase in the Cronbach alpha if item Q22 was deleted corroborated the difficulty experienced by Q22 to respond in unison with the other items to the same degree that the remaining items did. Although item Q22 was flagged as marginally problematic, the length of the *Intention to Quit* scale, the already high internal consistency reliability and the somewhat marginal evidence against Q22 swayed the decision against the deletion of any of the items. All the items were consequently kept.

4.4.3 Item Analysis of the Organisational Commitment scale

Organisational Commitment was measured using the three-component model (TCM) Employee Commitment Survey (Meyer et al., 2002). This survey makes use of three validated subscales namely, the *Affective Commitment* Scale (ACS), the *Normative Commitment* Scale (NCS) and the *Continuance Commitment* Scale (CCS). Each of these subscales contain six items designed to reflect a specific dimension of *Organisational Commitment.* Furthermore, each of these subscales are scored separately and therefore a separate item analysis was performed on each of the four subscales.

4.4.3.1 Item analysis of the Affective Commitment subscale of the Organisational Commitment scale

The item analysis results for the *Affective Commitment* subscale are shown in Table 4.15. Items Q35, Q36 and Q37 were negatively phrased in the *Organisational Commitment* scale (see Appendix 1). These three items were consequently reflected prior to the item analysis.

Table 4.15

Item statistics for the Affective Commitment subscale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.786	.787	6

	Mean	Std. Deviation	N
Q33	3.3878	1.30587	196
Q34	3.4694	1.17411	196
Q35R	3.6582	1.22390	196
Q36R	3.5408	1.26222	196
Q37R	3.7500	1.24190	196
Q38	3.8061	1.14272	196

	Q33	Q34	Q35R	Q36R	Q37R	Q38
Q33	1.000	.269	.228	.317	.307	.611
Q34	.269	1.000	.194	.392	.299	.382
Q35R	.228	.194	1.000	.419	.487	.308
Q36R	.317	.392	.419	1.000	.640	.429
Q37R	.307	.299	.487	.640	1.000	.439
Q38	.611	.382	.308	.429	.439	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q33	18.2245	19.057	.475	.378	.770
Q34	18.1429	20.359	.419	.210	.781
Q35R	17.9541	19.757	.452	.263	.774
Q36R	18.0714	17.841	.632	.476	.729
Q37R	17.8622	18.037	.625	.489	.732
Q38	17.8061	18.680	.627	.478	.734

Table 4.15

Item statistics for the Affective Commitment subscale (continued)

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.602	3.388	3.806	.418	1.123	.027	6
Item Variances	1.504	1.306	1.705	.399	1.306	.021	6
Inter-Item Correlations	.381	.194	.640	.445	3.291	.016	6

The Cronbach coefficient of internal consistency for the *Affective Commitment* subscale (.786) fell only slightly below the critical cut-off value of .80. None of the items showed themselves as outliers in the item standard deviation distribution. None of the items consistently correlated lower than the mean inter-item correlation with the remaining items of the subscale. In contrast, as can be seen in Table 4.15 item Q34 and, to a somewhat lesser degree, Q35R showed themselves as outliers in the squared multiple correlation (SMC) distribution with values smaller than .30. Nonetheless, the item statistics section of Table 4.15 indicated that for none of the items an increase in the value of the Cronbach alpha was predicted if the item would be deleted and therefore all items were kept.

4.4.3.2 Item analysis of the Continuance Commitment subscale of the Organisational Commitment scale

The item analysis results for the *Continuance Commitment* subscale are shown in Table 4.16.

Table 4.16

Item statistics for the Continuance Commitment subscale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.704	.702	6

	Mean	Std. Deviation	N
Q39	3.73	1.195	196
Q40	3.63	1.301	196
Q41	3.57	1.269	196
Q42	2.93	1.213	196
Q43	2.53	1.178	196
Q44	3.23	1.212	196

	Q39	Q40	Q41	Q42	Q43	Q44
Q39	1.000	.456	.372	.146	.150	.004
Q40	.456	1.000	.601	.263	.243	.133
Q41	.372	.601	1.000	.369	.247	.128
Q42	.146	.263	.369	1.000	.303	.513
Q43	.150	.243	.247	.303	1.000	.295
Q44	.004	.133	.128	.513	.295	1.000

Table 4.16

Item statistics for the Continuance Commitment subscale (continued)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q39	15.88	17.099	.344	.230	.692
Q40	15.98	14.846	.538	.433	.629
Q41	16.05	14.936	.549	.427	.626
Q42	16.68	15.694	.496	.366	.645
Q43	17.08	16.927	.373	.155	.683
Q44	16.38	17.284	.315	.299	.701

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.269	2.531	3.730	1.199	1.474	.218	6
Item Variances	1.510	1.389	1.691	.303	1.218	.013	6
Inter-Item Correlations	.281	.004	.601	.597	145.307	.025	6

The Cronbach coefficient of internal consistency for the *Continuance Commitment* subscale (.704) fell below the critical cut-off value of .80. None of the items showed themselves as outliers in the item standard deviation distribution. None of the items consistently correlated below the mean inter-item correlation with the remaining items of the subscale. Item Q43 showed itself as a possible outlier in the squared multiple correlation distribution. Q43 was, however, not pointed out as a questionable item by any of the other item statistics. Moreover, the item statistics table indicated that for none of the items an increase in the value of the Cronbach alpha was predicted if the item would be deleted and therefore all items were kept.

4.4.3.3 Item analysis of the Normative Commitment subscale of the Organisational Commitment scale

The item analysis results for the *Normative Commitment* subscale are shown in Table 4.17. Items Q45 was negatively phrased in the *Organisational Commitment* scale (see Appendix 1). This item was consequently reflected prior to the item analysis.

Table 4.17

Item statistics for the Normative Commitment subscale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.852	.854	6

	Mean	Std. Deviation	N
Q45R	3.2296	1.33334	196
Q46	3.0612	1.32678	196
Q47	3.3163	1.34810	196
Q48	3.6020	1.22988	196
Q49	3.4439	1.16879	196
Q50	3.3724	1.21489	196

Table 4.17

Item statistics for the Normative Commitment subscale (continued)

	Q45R	Q46	Q47	Q48	Q49	Q50
Q45R	1.000	.334	.404	.463	.471	.406
Q46	.334	1.000	.634	.442	.564	.409
Q47	.404	.634	1.000	.457	.597	.482
Q48	.463	.442	.457	1.000	.559	.570
Q49	.471	.564	.597	.559	1.000	.616
Q50	.406	.409	.482	.570	.616	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q45R	16.7959	24.748	.523	.295	.849
Q46	16.9643	23.737	.616	.464	.831
Q47	16.7092	22.946	.673	.508	.820
Q48	16.4235	24.163	.644	.441	.826
Q49	16.5816	23.639	.744	.564	.809
Q50	16.6531	24.320	.640	.465	.827

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.338	3.061	3.602	.541	1.177	.034	6
Item Variances	1.618	1.366	1.817	.451	1.330	.036	6
Inter-Item Correlations	.494	.334	.634	.300	1.898	.008	6

The Cronbach coefficient of internal consistency for the *Normative Commitment* scale (.852) indicated a satisfactory value that surpassed the critical cut-off value of .80. None of the items showed themselves as outliers in the item standard deviation distribution. None of the items consistently correlated lower than the mean inter-item correlation (.494) with the remaining items of the subscale. Q45R showed itself as a possible outlier in the distribution of squared multiple correlations. Q45R status as a problematic item was, however, not supported by any of the other item statistics. No items were therefore deleted from the *Normative Commitment* subscale.

4.4.3.4 Reliability of the total score on the Organisational Commitment scale

Cronbach alpha coefficients were calculated for each of the three *organisational Commitment* subscales. The reliability of the *Organisational Commitment* total score, calculated as the unweighted sum of the three subscale scores, was estimated using the formula proposed by Nunnally (1978, p. 248).

The unweighted total score reliability for the complete *Organisational Commitment* scale was calculated as:

$$rtot = 1 - \left[\frac{[\sum_{i=1}^{3} S^2 i - \sum_{i=1}^{3} rtti S^2 i]}{S^2 t}\right]$$

$$= 1 - [\frac{81.569 - 62.37610976}{150.835}]$$

$$= 1 - [\frac{19.19289024}{150.835}]$$

$$= 1 - .127244275$$

$$= .8727557$$

The resultant value of .87 was considered satisfactory.

4.4.4 Item Analysis of the Perceived Development Opportunities scale

This scale consisted of four items (see Appendix 1). Table 4.18 presents the item statistics that were obtained for this scale. The Cronbach coefficient of internal consistency for the scale (.931) exceeded the critical cut-off value of .80. No items showed themselves as insensitive items that fell as outliers towards the lower end of the item standard deviation distribution. Item Q28 dependably correlated below the mean inter-item correlation (.773) with the remaining items of the scale although not substantially so.

Table 4.18

Item statistics for the Perceived Development Opportunities scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.931	.932	4

	Mean	Std. Deviation	N
Q25	3.59	1.214	196
Q26	3.67	1.117	196
Q27	3.61	1.138	196
Q28	3.67	1.144	196

	Q25	Q26	Q27	Q28
Q25	1.000	.802	.800	.681
Q26	.802	1.000	.903	.697
Q27	.800	.903	1.000	.753
Q28	.681	.697	.753	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q25	10.95	9.890	.822	.686	.916
Q26	10.87	10.143	.879	.832	.897
Q27	10.93	9.882	.904	.851	.888
Q28	10.87	10.700	.753	.585	.937

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.635	3.587	3.673	.087	1.024	.002	4
Item Variances	1.332	1.248	1.474	.226	1.181	.010	4
Inter-Item Correlations	.773	.681	.903	.221	1.325	.006	4

Item Q28 also showed itself somewhat of an outlier in the squared multiple correlation distribution as well as the corrected item-total correlation distribution. These findings suggest

that the responses to Q28 originated to a somewhat lesser degree from the systematic source of variance (not invariably unidimensional though and not necessarily the targeted latent variable) that underpinned the remaining items of the scale. This caused Q28 to respond a little bit out of unison with the remaining items so that a marginal increase in the Cronbach alpha occurred when Q28 was deleted. The results of the item analysis of the *Perceived Development Opportunities* scale did not raise sufficient apprehension to cull item Q28 and consequently no items were discarded.

4.4.5 Item Analysis of the Perceived Alternative Opportunities scale

The *Perceived Alternative Opportunities* scale consisted of 6 items (see Appendix 1). The results for the item analysis for this scale are depicted in Table 4.19.

Table 4.19

Item statistics for the Perceived Alternative Opportunities scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.903	.903	6

	Mean	Std. Deviation	N
Q51	2.99	1.257	196
Q52	2.46	1.129	196
Q53	2.91	1.270	196
Q54	2.82	1.158	196
Q55	2.83	1.155	196
Q56	2.84	1.150	196

	Q51	Q52	Q53	Q54	Q55	Q56
Q51	1.000	.488	.764	.771	.575	.712
Q52	.488	1.000	.416	.559	.411	.479
Q53	.764	.416	1.000	.658	.556	.682
Q54	.771	.559	.658	1.000	.601	.756
Q55	.575	.411	.556	.601	1.000	.686
Q56	.712	.479	.682	.756	.686	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q51	13.85	22.855	.815	.718	.873
Q52	14.38	26.596	.546	.327	.912
Q53	13.93	23.426	.748	.626	.884
Q54	14.03	23.625	.823	.706	.873
Q55	14.02	25.092	.674	.497	.895
Q56	14.00	23.774	.814	.690	.875

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.807	2.459	2.990	.531	1.216	.033	6
Item Variances	1.411	1.275	1.612	.337	1.264	.021	6
Inter-Item Correlations	.607	.411	.771	.359	1.873	.015	6

The reliability statistics indicated a highly pleasing Cronbach's alpha of .903. No items showed themselves as insensitive items that fell as outliers towards the lower end of the item standard deviation distribution. Item Q52 dependably correlated below the mean inter-

item correlation (.607) with the other items of the scale although only marginally so. Item Q52 also showed itself as an outlier in the squared multiple correlation and corrected item-total correlation distributions. These findings suggest that the responses to Q52 were not to the same degree underpinned by the systematic source of variance (not necessarily unidimensional though and not necessarily the focal construct of interest) that underpinned the remaining items of the scale. This caused Q52 to respond a little bit out of step with the remaining items so that a marginal increase in the Cronbach alpha occurred when Q52 was deleted. Although Q52 showed itself as a marginally problematic item, the satisfactory value of the current coefficient alpha combined with the weak evidence against Q52 swayed the decision towards retaining this item and therefore no items were removed.

4.4.6 Item Analysis of the Perceived Human Capital scale

The *Perceived Human Capital* scale comprised 4 items (see Appendix 1). The item analysis findings for this scale are depicted in Table 4.20.

Table 4.20

Item statistics for the Perceived Human Capital scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.922	.923	4

	Mean	Std. Deviation	N
Q29	3.61	.999	196
Q30	3.84	.961	196
Q31	3.91	.904	196
Q32	3.82	.954	196

	Q29	Q30	Q31	Q32
Q29	1.000	.716	.740	.722
Q30	.716	1.000	.804	.740
Q31	.740	.804	1.000	.772
Q32	.722	.740	.772	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q29	11.57	6.738	.788	.622	.910
Q30	11.34	6.770	.826	.697	.896
Q31	11.27	6.937	.854	.736	.888
Q32	11.37	6.849	.814	.665	.900

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.796	3.612	3.913	.301	1.083	.017	4
Item Variances	.912	.818	.998	.180	1.219	.005	4
Inter-Item Correlations	.749	.716	.804	.088	1.123	.001	4

The reliability statistics indicated a highly pleasing Cronbach's alpha of .922. No items showed themselves as outliers in the item standard deviation distribution. Item Q29 dependably correlated below the mean inter-item correlation (.749) with the other items of

the scale but only very marginally so. All the corrected item-total correlations were larger than .787 and all SMC values were larger than .621. No items showed themselves as true outliers in the corrected item-total correlation distribution or the squared multiple correlation distribution. No items were earmarked as providing reason for concern and all items were consequently kept.

4.4.7 Item Analysis of the Perceived Utility of Movement scale

The *Perceived Utility of Movement* scale consisted of 10 items (see Appendix 1). The item analysis findings for this scale are depicted in Table 4.21.

Table 4.21

Item statistics for the Perceived Utility of Movement scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.927	.928	10

	Mean	Std. Deviation	N
Q57	2.62	1.321	196
Q58	2.45	1.182	196
Q59	2.53	1.187	196
Q60	2.65	1.225	196
Q61	3.12	1.278	196
Q62	2.47	1.209	196
Q63	2.59	1.193	196
Q64	2.87	1.306	196
Q65	2.62	1.207	196
Q66	2.60	1.214	196

	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64	Q65	Q66
Q57	1.000	.725	.691	.562	.628	.671	.633	.340	.494	.436
Q58	.725	1.000	.726	.665	.644	.643	.617	.478	.647	.443
Q59	.691	.726	1.000	.663	.659	.676	.637	.373	.615	.491
Q60	.562	.665	.663	1.000	.678	.686	.561	.369	.576	.437
Q61	.628	.644	.659	.678	1.000	.655	.628	.418	.584	.434
Q62	.671	.643	.676	.686	.655	1.000	.701	.303	.581	.574
Q63	.633	.617	.637	.561	.628	.701	1.000	.465	.659	.490
Q64	.340	.478	.373	.369	.418	.303	.465	1.000	.625	.319
Q65	.494	.647	.615	.576	.584	.581	.659	.625	1.000	.479
Q66	.436	.443	.491	.437	.434	.574	.490	.319	.479	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q57	23.89	73.501	.735	.646	.919
Q58	24.06	74.150	.803	.696	.916
Q59	23.98	74.272	.792	.666	.916
Q60	23.86	74.745	.739	.616	.919
Q61	23.40	73.595	.760	.605	.918
Q62	24.05	74.106	.785	.698	.916
Q63	23.93	74.590	.771	.632	.917
Q64	23.65	78.424	.509	.438	.931
Q65	23.90	74.779	.750	.645	.918
Q66	23.92	78.178	.570	.373	.927

Table 4.21

Item statistics for the Perceived Utility of Movement scale (continued)

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.652	2.454	3.117	.663	1.270	.040	10
Item Variances	1.520	1.398	1.744	.346	1.248	.016	10
Inter-Item Correlations	.564	.303	.726	.423	2.398	.014	10

The *Perceived Utility of Movement* scale obtained a highly gratifying Cronbach's alpha of .927. No items showed themselves as insensitive items that fell as outliers towards the lower end of the item standard deviation distribution. Item Q64 unfailingly correlated below the mean inter-item correlation (.564) with the remaining items of the scale. Item Q64 and item Q66, showed themselves as an outliers in the squared multiple correlation distribution and to a lesser degree also in the corrected item-total correlation distribution. These findings suggest that the responses to Q64 and Q66 were not to the same degree underpinned by the systematic source of variance (not invariably unidimensional though and not necessarily the targeted construct) that underpinned the remaining items of the scale. This caused Q64 and Q66 to respond a little bit out of step with the remaining items. However only the deletion of Q64 resulted in a marginal increase in the Cronbach alpha when Q64 was deleted. Although Q64 and Q66 showed themselves as marginally problematic items, the highly satisfactory value of the current coefficient alpha combined with the weak evidence against these two items swayed the decision to not delete these two items and to retain all the items of the scale.

4.4.8 Item Analysis of the Perceived Employability scale

This scale consisted of four items (see Appendix 1). Table 4.22 shows the item statistics obtained for the *Perceived Employability* scale. Table 4.422 reflects a gratifying Cronbach coefficient of internal consistency for the scale (.888) that convincingly surpassed the critical cut-off value of .80.

Table 4.22

Item statistics for the Perceived Employability scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.888	.889	5

	Mean	Std. Deviation	N
Q67	2.60	1.192	196
Q68	2.37	1.046	196
Q69	2.98	1.200	196
Q70	3.01	1.109	196
Q71	2.74	1.140	196

Table 4.22

Item statistics for the Perceived Employability scale (continued)

	Q67	Q68	Q69	Q70	Q71
Q67	1.000	.711	.616	.585	.584
Q68	.711	1.000	.613	.536	.672
Q69	.616	.613	1.000	.597	.559
Q70	.585	.536	.597	1.000	.692
Q71	.584	.672	.559	.692	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q67	11.11	14.322	.739	.584	.862
Q68	11.34	15.158	.756	.626	.859
Q69	10.72	14.552	.701	.502	.871
Q70	10.69	15.055	.712	.563	.868
Q71	10.96	14.644	.742	.607	.861

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.741	2.367	3.010	.643	1.272	.073	5
Item Variances	1.297	1.095	1.441	.346	1.316	.020	5
Inter-Item Correlations	.617	.536	.711	.176	1.328	.003	5

None of the items showed themselves as outliers in the item standard deviation distribution. Item Q69 dependably correlated below the mean inter-item correlation (.617) with the other items of the scale albeit only marginally so. Item 62 did not, however, truly show itself as an outlier in the corrected item-total or squared multiple correlation distributions. Neither did the removal of item Q69 bring about a gain in the scale Cronbach alpha. Although item Q69 to a limited degree shares less systematic variance with the remaining items of the scale it did not substantially negatively affect the contribution it made to the scale. The results of the item analysis of the *Perceived Employability* scale therefore did not point out any problematic items and therefore no items were culled.

4.4.9 Item Analysis of the Perceived Satisfactoriness of Performance scale

The *Perceived Satisfactoriness of Performance* scale, developed by the researcher, consisted of 10 items (see Appendix 1). The findings the item analysis for this scale are displayed in Table 4.23. Items Q77 and Q78 were negatively phrases items and were consequently reflected prior to the item analysis.

Table 4.23

Item statistics for the Perceived Satisfactoriness of Performance scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.836	.853	7

Table 4.23

Item statistics for the Perceived Satisfactoriness of Performance scale (continued)

	Mean	Std. Deviation	N
Q72	4.0918	.71736	196
Q73	4.0969	.66084	196
Q74	4.3061	.70759	196
Q75	4.1786	.84959	196
Q76	4.1786	.85560	196
Q77R	4.4847	.99988	196
Q78R	4.1531	1.06556	196

	Q72	Q73	Q74	Q75	Q76	Q77R	Q78R
Q72	1.000	.717	.571	.562	.642	.224	.525
Q73	.717	1.000	.605	.499	.577	.107	.394
Q74	.571	.605	1.000	.548	.646	.166	.400
Q75	.562	.499	.548	1.000	.570	.115	.491
Q76	.642	.577	.646	.570	1.000	.144	.544
Q77R	.224	.107	.166	.115	.144	1.000	.459
Q78R	.525	.394	.400	.491	.544	.459	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q72	25.3980	13.410	.734	.632	.795
Q73	25.3929	14.188	.634	.578	.811
Q74	25.1837	13.853	.650	.528	.807
Q75	25.3112	13.241	.617	.453	.809
Q76	25.3112	12.759	.702	.587	.795
Q77R	25.0051	14.662	.277	.250	.869
Q78R	25.3367	11.824	.658	.500	.804

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.213	4.092	4.485	.393	1.096	.019	7
Item Variances	.720	.437	1.135	.699	2.600	.070	7
Inter-Item Correlations	.453	.107	.717	.610	6.696	.035	7

The Cronbach alpha value for the *Perceived Satisfactoriness of Performance* scale was a pleasing .836. None of the items showed themselves as outliers in the item standard deviation distribution. Item Q77R dependably correlated substantially below the mean inter-item correlation (.453) with the other items of the scale. Item Q77R also showed itself as a clear outlier in both the corrected item-total correlation distribution and the squared multiple correlation distribution. Item Q77R therefore clearly did not respond to the same source of systematic variance that governed the responses to the remaining items in the scale. This caused item Q77R to respond out of step with the remaining items. Item Q77R's failure to act in unison with the remaining items is also reflected in the fact that the Cronbach's alpha substantially increases to .869 when Q77R was removed. Therefore, based on this portfolio of item statistics, it was decided to delete item Q77R from the *Perceived Satisfactoriness of Performance* scale.

The item analysis was subsequently rerun to determine whether the removal of item Q77R caused any other items in the scale to step forward as problematic. The results are indicated in Table 4.24.

Table 4.24

Item statistics for the Satisfactoriness of Performance scale after reflecting Q77 and Q78 and also deleting item Q77R

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.869	.881	6

	Mean	Std. Deviation	N
Q72	4.0918	.71736	196
Q73	4.0969	.66084	196
Q74	4.3061	.70759	196
Q75	4.1786	.84959	196
Q76	4.1786	.85560	196
Q78R	4.1531	1.06556	196

	Q72	Q73	Q74	Q75	Q76	Q78R
Q72	1.000	.717	.571	.562	.642	.525
Q73	.717	1.000	.605	.499	.577	.394
Q74	.571	.605	1.000	.548	.646	.400
Q75	.562	.499	.548	1.000	.570	.491
Q76	.642	.577	.646	.570	1.000	.544
Q78R	.525	.394	.400	.491	.544	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q72	20.9133	10.613	.756	.628	.835
Q73	20.9082	11.212	.681	.576	.848
Q74	20.6990	10.970	.681	.523	.847
Q75	20.8265	10.318	.663	.445	.848
Q76	20.8265	9.888	.751	.579	.832
Q78R	20.8520	9.686	.579	.376	.875

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.168	4.092	4.306	.214	1.052	.006	6
Item Variances	.674	.437	1.135	.699	2.600	.066	6
Inter-Item Correlations	.553	.394	.717	.323	1.819	.007	6

Item Q78R now presented itself as a problematic item. Q78R's problematic status revealed itself in the fact that it dependably correlated below the mean inter-item correlation (.553) with the other items in the reduced scale, its outlier status in the corrected item-total correlation and squared multiple correlation distributions and the non-ignorable gain in the Cronbach alpha when Q78R was deleted. Item Q78R was therefore also deleted from the *Satisfactoriness of Performance* scale[19]. The Cronbach alpha of the reduced

[19] It is acknowledged that the two deleted items Q77R and Q78R most likely would have loaded on a method factor (a negatively keyed factor). If the scale contained a larger number negatively keyed items it probably would have been more appropriate to formally acknowledge factor fission.

Satisfactoriness of Performance scale increased to .875. No additional problem items appeared when the item analysis was rerun without Q77R and Q78R.

4.4.10 Item Analysis of the Job Satisfaction Scale

For the purpose of measuring the construct *job satisfaction*, it was decided to make use of the Job in General (JIG) job satisfaction questionnaire. The JIG scale measures *overall* satisfaction with the job. The JIG is a measure of global or overall satisfaction in the sense that participants are asked to think about how satisfied they are with their job in a broad, overall sense. The JIG comprises of short lists of phrases and adjectives that describe the job overall.

The construction of a Job in General (JIG) scale, can be describe as a global scale to accompany the facet scales of the Job Descriptive Index (Ironson, Brannick, Smith, Gibson & Paul, 1989). They applied both traditional and item response theory procedures for the item analysis, and their data came from three large heterogeneous samples (N = 1,149, 3,566, and 4,490). Prior to the item analysis the responses to the positive items were recoded so that a “no” response was coded 1, a “maybe” response 1.5 and a “yes” response was coded 2[20]. In contrast the responses to the negative items were recoded so that a “maybe” response was coded 1.5 whilst the code for a “yes” response remained 1 and that of a “no” response remained 2[21]. Item analysis was performed on the subscale level.

4.4.10.1 Item Analysis of the Coworker Subscale of the Job Satisfaction Scale

Table 4.25 displays the item statistics for the *Coworker* subscale of the *Job Satisfaction* scale. Table 4.25 returned a highly gratifying Cronbach alpha (.908) that convincingly surpassed the critical cut-off of .80. None of the items showed themselves as outliers in the item standard deviation distribution. None of the items dependably correlated below the mean inter-item correlation (.357) with the remaining items of the subscale. None of the items showed themselves as outliers in the corrected item total correlation distribution. All items, if deleted, resulted in a lowering of the current Cronbach alpha.

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[20] The SPSS syntax specified for the first item in the *People on your Present Job* subscale (Q79 Stimulating): RECODE Q79 (2=1) (1=2) (3=1.5) INTO Q79R. EXECUTE.
[21] The SPSS syntax specified for the second item in the *People on your Present Job* subscale (Q79 Stimulating):: RECODE Q80 (1=1) (2=2) (3=1.5) INTO Q80R. EXECUTE.

Table 4.25

Item statistics for the Job Satisfaction subscale (People that I work with)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.908	.909	18

	Mean	Std. Deviation	N
Q79R	1.7551	.37720	196
Q80R	1.8240	.34846	196
Q81R	1.6964	.39992	196
Q82R	1.8138	.35412	196
Q83R	1.9107	.23411	196
Q84R	1.8087	.33646	196
Q85R	1.8878	.24317	196
Q86R	1.8673	.27317	196
Q87R	1.7219	.39933	196
Q88R	1.8112	.32828	196
Q89R	1.8750	.28363	196
Q90R	1.7398	.35970	196
Q91R	1.8418	.31294	196
Q92R	1.8036	.33349	196
Q93R	1.7577	.37030	196
Q94R	1.6633	.41618	196
Q95R	1.6301	.41715	196
Q96R	1.6097	.43200	196

	Q79R	Q80R	Q81R	Q82R	Q83R	Q84R	Q85R	Q86R	Q87R	Q88R	Q89R	Q90R	Q91R	Q92R	Q93R	Q94R	Q95R	Q96R
Q79R	1.000	.568	.295	.463	.172	.407	.244	.380	.278	.277	.312	.237	.344	.472	.482	.468	.391	.292
Q80R	.568	1.000	.305	.325	.309	.236	.265	.373	.301	.224	.256	.246	.296	.253	.343	.420	.379	.333
Q81R	.295	.305	1.000	.305	.257	.414	.188	.263	.191	.118	.319	.428	.270	.243	.349	.415	.515	.246
Q82R	.463	.325	.305	1.000	.293	.571	.471	.539	.357	.446	.482	.393	.415	.557	.563	.434	.391	.344
Q83R	.172	.309	.257	.293	1.000	.319	.296	.295	.350	.297	.294	.271	.261	.168	.119	.269	.395	.313
Q84R	.407	.236	.414	.571	.319	1.000	.394	.545	.356	.275	.393	.445	.417	.509	.449	.536	.498	.419
Q85R	.244	.265	.188	.471	.296	.394	1.000	.470	.297	.392	.316	.265	.456	.359	.394	.309	.296	.264
Q86R	.380	.373	.263	.539	.295	.545	.470	1.000	.295	.305	.579	.391	.338	.360	.340	.451	.377	.287
Q87R	.278	.301	.191	.357	.350	.356	.297	.295	1.000	.487	.133	.243	.385	.377	.227	.413	.503	.445
Q88R	.277	.224	.118	.446	.297	.275	.392	.305	.487	1.000	.213	.298	.556	.304	.212	.283	.424	.418
Q89R	.312	.256	.319	.482	.294	.393	.316	.579	.133	.213	1.000	.258	.253	.254	.320	.250	.268	.238
Q90R	.237	.246	.428	.393	.271	.445	.265	.391	.243	.298	.258	1.000	.361	.298	.439	.491	.543	.383
Q91R	.344	.296	.270	.415	.261	.417	.456	.338	.385	.556	.253	.361	1.000	.315	.320	.308	.502	.423

Table 4.25

Item statistics for the Job Satisfaction subscale (People that I work with) (continued)

	Q79R	Q80R	Q81R	Q82R	Q83R	Q84R	Q85R	Q86R	Q87R	Q88R	Q89R	Q90R	Q91R	Q92R	Q93R	Q94R	Q95R	Q96R
Q92R	.472	.253	.243	.557	.168	.509	.359	.360	.377	.304	.254	.298	.315	1.000	.537	.463	.397	.364
Q93R	.482	.343	.349	.563	.119	.449	.394	.340	.227	.212	.320	.439	.320	.537	1.000	.483	.305	.295
Q94R	.468	.420	.415	.434	.269	.536	.309	.451	.413	.283	.250	.491	.308	.463	.483	1.000	.534	.392
Q95R	.391	.379	.515	.391	.395	.498	.296	.377	.503	.424	.268	.543	.502	.397	.305	.534	1.000	.610
Q96R	.292	.333	.246	.344	.313	.419	.264	.287	.445	.418	.238	.383	.423	.364	.295	.392	.610	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared[22] Multiple Correlation	Cronbach's Alpha if Item Deleted
Q79R	30.2628	13.724	.573	.	.903
Q80R	30.1939	14.019	.509	.	.904
Q81R	30.3214	13.876	.481	.	.906
Q82R	30.2041	13.561	.683	.	.899
Q83R	30.1071	14.640	.432	.	.906
Q84R	30.2092	13.669	.678	.	.900
Q85R	30.1301	14.453	.517	.	.905
Q86R	30.1505	14.148	.606	.	.902
Q87R	30.2959	13.745	.528	.	.904
Q88R	30.2066	14.099	.511	.	.904
Q89R	30.1429	14.390	.464	.	.905
Q90R	30.2781	13.821	.567	.	.903
Q91R	30.1760	14.009	.581	.	.902
Q92R	30.2143	13.890	.590	.	.902
Q93R	30.2602	13.737	.581	.	.902
Q94R	30.3546	13.288	.661	.	.900
Q95R	30.3878	13.159	.705	.	.898
Q96R	30.4082	13.463	.573	.	.903

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.779	1.610	1.911	.301	1.187	.008	18
Item Variances	.123	.055	.187	.132	3.405	.002	18
Inter-Item Correlations	.357	.118	.610	.493	5.179	.011	18

[22] The determinant of the covariance matrix is zero or approximately zero. Statistics based on its inverse matrix cannot be computed and they are displayed as system missing values.

All 18 items comprising the *Coworker* subscale therefore to a satisfactory degree reflected a common source of systematic variance although not inevitably a unidimensional source nor inevitably the targeted *Job Satisfaction* facet. Therefore, no items were deleted.

4.4.10.2 Item Analysis of the Work in General Subscale of the Job Satisfaction Scale

Table 4.26 displays the item statistics for the *Work in General* subscale of the *Job Satisfaction* scale. Table 4.26 returned a highly pleasing Cronbach alpha (.940) that clearly surpassed the critical cut-off of .80. None of the items showed themselves as outliers in the item standard deviation distribution. None of the items dependably correlated below the mean inter-item correlation (.486) with the other items of the subscale. None of the items showed themselves as outliers in the corrected item-total correlation distribution. All items, if removed, resulted in a lowering of the current Cronbach alpha. All 18 items comprising the *Work in General* subscale therefore to a satisfactory degree reflected a common source of systematic variance although not invariably a unidimensional source nor necessarily the targeted *Job Satisfaction* facet. No items were therefore culled from the subscale.

Table 4.26

Item statistics for the Job Satisfaction subscale (Work in general)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.940	.945	18

	Mean	Std. Deviation	N
Q97R	1.8571	.30382	196
Q98R	1.9107	.26494	196
Q99R	1.7168	.39571	196
Q100R	1.9209	.24832	196
Q101R	1.9209	.25343	196
Q102R	1.8546	.32507	196
Q103R	1.8444	.32427	196
Q104R	1.9286	.22646	196
Q105R	1.9362	.23153	196
Q106R	1.5816	.43379	196
Q107R	1.7883	.36839	196
Q108R	1.8342	.32708	196
Q109R	1.6913	.40240	196
Q110R	1.8546	.30471	196
Q111R	1.7168	.38918	196
Q112R	1.9260	.22845	196
Q113R	1.8520	.30558	196
Q114R	1.9005	.26612	196

	Q97R	Q98R	Q99R	Q100R	Q101R	Q102R	Q103R	Q104R	Q105R	Q106R	Q107R	Q108R	Q109R	Q110R	Q111R	Q112R	Q113R	Q114R
Q97R	1.000	.589	.632	.546	.668	.490	.567	.354	.526	.429	.393	.354	.508	.508	.643	.475	.738	.600
Q98R	.589	1.000	.467	.574	.677	.712	.524	.427	.576	.343	.502	.509	.450	.585	.512	.653	.707	.801
Q99R	.632	.467	1.000	.397	.530	.496	.684	.317	.376	.651	.519	.349	.543	.433	.850	.349	.564	.413
Q100R	.546	.574	.397	1.000	.471	.619	.499	.469	.536	.322	.363	.453	.357	.593	.417	.461	.605	.521
Q101R	.668	.677	.530	.471	1.000	.529	.520	.326	.569	.351	.396	.305	.413	.465	.513	.541	.577	.662
Q102R	.490	.712	.496	.619	.529	1.000	.563	.503	.506	.394	.437	.520	.410	.704	.575	.545	.673	.647
Q103R	.567	.524	.684	.499	.520	.563	1.000	.337	.414	.501	.506	.432	.573	.561	.675	.415	.607	.503
Q104R	.354	.427	.317	.469	.326	.503	.337	1.000	.475	.242	.371	.272	.221	.443	.337	.591	.365	.456
Q105R	.526	.576	.376	.536	.569	.506	.414	.475	1.000	.307	.412	.300	.311	.449	.382	.492	.518	.604

Table 4.26

Item statistics for the Job Satisfaction subscale (Work in general) (continued)

	Q97R	Q98R	Q99R	Q100R	Q101R	Q102R	Q103R	Q104R	Q105R	Q106R	Q107R	Q108R	Q109R	Q110R	Q111R	Q112R	Q113R	Q114R
Q106R	.429	.343	.651	.322	.351	.394	.501	.242	.307	1.000	.470	.222	.454	.372	.692	.229	.469	.282
Q107R	.393	.502	.519	.363	.396	.437	.506	.371	.412	.470	1.000	.218	.387	.455	.545	.346	.540	.412
Q108R	.354	.509	.349	.453	.305	.520	.432	.272	.300	.222	.218	1.000	.349	.426	.385	.401	.382	.487
Q109R	.508	.450	.543	.357	.413	.410	.573	.221	.311	.454	.387	.349	1.000	.448	.585	.336	.523	.418
Q110R	.508	.585	.433	.593	.465	.704	.561	.443	.449	.372	.455	.426	.448	1.000	.538	.563	.621	.627
Q111R	.643	.512	.850	.417	.513	.575	.675	.337	.382	.692	.545	.385	.585	.538	1.000	.398	.627	.457
Q112R	.475	.653	.349	.461	.541	.545	.415	.591	.492	.229	.346	.401	.336	.563	.398	1.000	.504	.722
Q113R	.738	.707	.564	.605	.577	.673	.607	.365	.518	.469	.540	.382	.523	.621	.627	.504	1.000	.622
Q114R	.600	.801	.413	.521	.662	.647	.503	.456	.604	.282	.412	.487	.418	.627	.457	.722	.622	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple[23] Correlation	Cronbach's Alpha if Item Deleted
Q97R	31.1786	14.350	.741	.	.935
Q98R	31.1250	14.516	.773	.	.935
Q99R	31.3189	13.838	.731	.	.935
Q100R	31.1148	14.832	.656	.	.937
Q101R	31.1148	14.747	.686	.	.936
Q102R	31.1811	14.194	.754	.	.935
Q103R	31.1913	14.216	.747	.	.935
Q104R	31.1071	15.199	.508	.	.939
Q105R	31.0995	14.996	.612	.	.938
Q106R	31.4541	14.098	.571	.	.940
Q107R	31.2474	14.340	.599	.	.938
Q108R	31.2015	14.768	.506	.	.940
Q109R	31.3444	14.144	.609	.	.938
Q110R	31.1811	14.407	.712	.	.936
Q111R	31.3189	13.738	.783	.	.934
Q112R	31.1097	14.984	.628	.	.938
Q113R	31.1837	14.220	.796	.	.934
Q114R	31.1352	14.588	.732	.	.936

[23] The determinant of the covariance matrix is zero or approximately zero. Statistics based on its inverse matrix cannot be computed and they are displayed as system missing values.

Table 4.26

Item statistics for the Job Satisfaction subscale (Work in general) (continued)

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.835	1.582	1.936	.355	1.224	.010	18
Item Variances	.101	.051	.188	.137	3.669	.002	18
Inter-Item Correlations	.486	.218	.850	.632	3.903	.015	18

4.4.10.3 Item Analysis of the Work on Present Job Subscale of the Job Satisfaction Scale

Table 4.27 displays the item statistics for the *Work on Present Job* subscale of the *Job Satisfaction* scale.

Table 4.27

Item statistics for the Job Satisfaction subscale (Work on present job)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.920	.923	20

	Q105R	Q106R	Q115R	Q116R	Q117R	Q118R	Q119R	Q120R	Q121R	Q122R	Q123R	Q124R	Q125R	Q126R	Q127R	Q128R	Q129R	Q130R	Q131R	Q132R
Q105R	1.000	.307	.274	.010	.371	.208	.442	.351	.286	.225	.321	.152	.161	.032	.100	.135	.260	.253	.231	.183
Q106R	.307	1.000	.475	.141	.505	.300	.392	.450	.467	.506	.492	.269	.372	.110	.182	.398	.286	.307	.276	.436
Q115R	.274	.475	1.000	.313	.674	.514	.466	.486	.506	.721	.581	.333	.402	.214	.272	.482	.423	.450	.362	.382
Q116R	.010	.141	.313	1.000	.241	.269	.147	.162	.199	.317	.238	.148	.154	.243	.656	.337	.306	.238	.077	.133
Q117R	.371	.505	.674	.241	1.000	.585	.698	.658	.575	.679	.708	.338	.363	.147	.245	.459	.526	.524	.452	.487
Q118R	.208	.300	.514	.269	.585	1.000	.442	.466	.431	.534	.534	.292	.349	.325	.276	.367	.728	.633	.314	.264
Q119R	.442	.392	.466	.147	.698	.442	1.000	.618	.590	.532	.651	.494	.321	.132	.177	.346	.438	.489	.499	.456
Q120R	.351	.450	.486	.162	.658	.466	.618	1.000	.639	.646	.682	.392	.353	.135	.222	.509	.506	.436	.500	.548
Q121R	.286	.467	.506	.199	.575	.431	.590	.639	1.000	.640	.632	.484	.425	.139	.212	.519	.491	.475	.393	.462
Q122R	.225	.506	.721	.317	.679	.534	.532	.646	.640	1.000	.659	.373	.560	.208	.277	.623	.509	.513	.430	.492
Q123R	.321	.492	.581	.238	.708	.534	.651	.682	.632	.659	1.000	.488	.431	.141	.245	.513	.427	.491	.553	.444
Q124R	.152	.269	.333	.148	.338	.292	.494	.392	.484	.373	.488	1.000	.422	.212	.180	.307	.299	.333	.427	.301
Q125R	.161	.372	.402	.154	.363	.349	.321	.353	.425	.560	.431	.422	1.000	.341	.070	.445	.334	.397	.298	.331
Q126R	.032	.110	.214	.243	.147	.325	.132	.135	.139	.208	.141	.212	.341	1.000	.362	.278	.316	.256	.131	.145
Q127R	.100	.182	.272	.656	.245	.276	.177	.222	.212	.277	.245	.180	.070	.362	1.000	.281	.289	.242	.169	.201
Q128R	.135	.398	.482	.337	.459	.367	.346	.509	.519	.623	.513	.307	.445	.278	.281	1.000	.377	.338	.340	.395
Q129R	.260	.286	.423	.306	.526	.728	.438	.506	.491	.509	.427	.299	.334	.316	.289	.377	1.000	.569	.309	.365
Q130R	.253	.307	.450	.238	.524	.633	.489	.436	.475	.513	.491	.333	.397	.256	.242	.338	.569	1.000	.311	.392
Q131R	.231	.276	.362	.077	.452	.314	.499	.500	.393	.430	.553	.427	.298	.131	.169	.340	.309	.311	1.000	.374
Q132R	.183	.436	.382	.133	.487	.264	.456	.548	.462	.492	.444	.301	.331	.145	.201	.395	.365	.392	.374	1.000

Table 4.27

Item statistics for the Job Satisfaction subscale (Work on present job) (continued)

	Mean	Std. Deviation	N
Q105R	1.9362	.23153	196
Q106R	1.5816	.43379	196
Q107R	1.7883	.36839	196
Q108R	1.8342	.32708	196
Q109R	1.6913	.40240	196
Q110R	1.8546	.30471	196
Q111R	1.7168	.38918	196
Q112R	1.9260	.22845	196
Q113R	1.8520	.30558	196
Q114R	1.9005	.26612	196
Q105R	1.9362	.23153	196
Q106R	1.5816	.43379	196
Q115R	1.6811	.42559	196
Q116R	1.3571	.46410	196
Q117R	1.8138	.36831	196
Q118R	1.8265	.35520	196
Q119R	1.8903	.29432	196
Q120R	1.8291	.35463	196
Q121R	1.8265	.35520	196
Q122R	1.7321	.40942	196
Q123R	1.7474	.40350	196
Q124R	1.8852	.30100	196
Q125R	1.8520	.32980	196
Q126R	1.7474	.40667	196
Q127R	1.4235	.45207	196
Q128R	1.6607	.45114	196
Q129R	1.8291	.35100	196
Q130R	1.8520	.34126	196
Q131R	1.8648	.31758	196
Q132R	1.8648	.30940	196

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared[24] Multiple Correlation	Cronbach's Alpha if Item Deleted
Q105R	33.2653	21.273	.340	.	.920
Q106R	33.6199	19.769	.543	.	.917
Q115R	33.5204	19.266	.697	.	.913
Q116R	33.8444	20.282	.372	.	.922
Q117R	33.3878	19.431	.766	.	.912
Q118R	33.3750	19.868	.650	.	.915
Q119R	33.3112	20.185	.674	.	.915
Q120R	33.3724	19.666	.719	.	.913
Q121R	33.3750	19.701	.706	.	.913
Q122R	33.4694	19.040	.796	.	.911
Q123R	33.4541	19.193	.763	.	.912
Q124R	33.3163	20.584	.505	.	.918
Q125R	33.3495	20.348	.537	.	.917
Q126R	33.4541	20.703	.320	.	.922
Q127R	33.7781	20.239	.396	.	.921
Q128R	33.5408	19.368	.625	.	.915
Q129R	33.3724	19.925	.640	.	.915
Q130R	33.3495	20.022	.627	.	.915
Q131R	33.3367	20.463	.518	.	.917
Q132R	33.3367	20.404	.556	.	.917

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.760	1.357	1.936	.579	1.427	.024	20
Item Variances	.139	.054	.215	.162	4.018	.002	20
Inter-Item Correlations	.375	.010	.728	.717	71.144	.025	20

[24] The determinant of the covariance matrix is zero or approximately zero. Statistics based on its inverse matrix cannot be computed and they are displayed as system missing values.

This subscale consisted of 20 items and according to the reliability statistics shown in Table 4.27, a very satisfactory Cronbach alpha value of .920 is indicated. None of the items showed themselves as outliers in the item standard deviation distribution. Items Q105R and Q126R dependably correlated below the mean inter-item correlation (.375) with the other items of the subscale although not substantially so. Item Q126R showed itself as an outlier in the corrected item-total correlation distribution. To a lesser degree Q105R and Q116R also showed themselves as outliers in the corrected item-total correlation distribution. Q116R, Q126R and Q127R, if deleted, brought about a marginal gain in the current Cronbach alpha. The evidence against items Q105R, Q116R, Q126R and Q127R was, however not sufficiently strong to seriously question these items. No items were therefore removed.

4.4.10.4 Item Analysis of the Pay Subscale of the Job Satisfaction Scale

Table 4.28 shows the item statistics for the *Pay* subscale of the *Job Satisfaction* scale.

Table 4.28

Item statistics for the Job Satisfaction subscale (Pay)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.879	.879	9

	Mean	Std. Deviation	N
Q133R	1.7653	.39681	196
Q134R	1.6913	.44188	196
Q135R	1.7832	.39246	196
Q136R	1.8265	.35157	196
Q137R	1.6990	.43110	196
Q138R	1.5230	.46214	196
Q139R	1.5281	.45907	196
Q140R	1.7577	.40344	196
Q141R	1.6276	.43152	196

	Q133R	Q134R	Q135R	Q136R	Q137R	Q138R	Q139R	Q140R	Q141R
Q133R	1.000	.331	.445	.405	.537	.344	.466	.452	.453
Q134R	.331	1.000	.366	.570	.364	.399	.485	.384	.396
Q135R	.445	.366	1.000	.386	.491	.367	.454	.500	.376
Q136R	.405	.570	.386	1.000	.576	.403	.499	.380	.400
Q137R	.537	.364	.491	.576	1.000	.472	.587	.456	.504
Q138R	.344	.399	.367	.403	.472	1.000	.656	.271	.609
Q139R	.466	.485	.454	.499	.587	.656	1.000	.369	.597
Q140R	.452	.384	.500	.380	.456	.271	.369	1.000	.333
Q141R	.453	.396	.376	.400	.504	.609	.597	.333	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q133R	13.4362	5.951	.592	.396	.868
Q134R	13.5102	5.854	.564	.416	.871
Q135R	13.4184	5.980	.584	.382	.869
Q136R	13.3750	6.039	.632	.487	.865
Q137R	13.5026	5.640	.698	.547	.858

Table 4.28

Item statistics for the Job Satisfaction subscale (Pay) (continued)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q138R	13.6786	5.678	.619	.512	.866
Q139R	13.6735	5.470	.733	.590	.855
Q140R	13.4439	6.033	.535	.362	.873
Q141R	13.5740	5.732	.647	.484	.863

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.689	1.523	1.827	.304	1.199	.012	9
Item Variances	.177	.124	.214	.090	1.728	.001	9
Inter-Item Correlations	.447	.271	.656	.385	2.422	.008	9

This subscale consisted of 9 items and according to the reliability statistics in Table 4.28, a satisfactory Cronbach alpha value of .879 is indicated. None of the *Pay Satisfaction* items showed themselves as outliers in the item standard deviation distribution. None of the items dependably correlated below the mean inter-item correlation (.447) with the other items of the subscale. None of the items showed themselves as outliers in the corrected item-total correlation distribution. All items, if deleted, resulted in a lowering of the current Cronbach alpha. All 9 items comprising the *Pay* subscale therefore to a satisfactory degree reflected a common source of systematic variance although not invariably a unidimensional source nor invariably the targeted *Job Satisfaction* facet. No items were therefore culled.

4.4.10.5 Item Analysis of the Opportunity for Promotion Subscale of the Job Satisfaction Scale

Table 4.29 shows the item statistics for the *Opportunity for Promotion* subscale of the *Job Satisfaction* scale.

Table 4.29

Item statistics for the Job Satisfaction subscale (Opportunity for promotion)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.906	.906	9

	Mean	Std. Deviation	N
Q142R	1.3418	.43322	196
Q143R	1.2245	.38645	196
Q144R	1.4668	.46152	196
Q145R	1.6531	.44381	196
Q146R	1.3852	.43950	196
Q147R	1.4515	.47658	196
Q148R	1.4617	.45270	196
Q149R	1.2194	.37599	196
Q150R	1.3699	.42325	196

Table 4.29

Item statistics for the Job Satisfaction subscale (Opportunity for promotion) (continued)

	Q142R	Q143R	Q144R	Q145R	Q146R	Q147R	Q148R	Q149R	Q150R
Q142R	1.000	.680	.673	.527	.833	.702	.374	.513	.747
Q143R	.680	1.000	.495	.374	.553	.533	.357	.489	.540
Q144R	.673	.495	1.000	.501	.620	.546	.295	.434	.568
Q145R	.527	.374	.501	1.000	.603	.647	.291	.251	.502
Q146R	.833	.553	.620	.603	1.000	.738	.274	.464	.795
Q147R	.702	.533	.546	.647	.738	1.000	.425	.417	.642
Q148R	.374	.357	.295	.291	.274	.425	1.000	.411	.282
Q149R	.513	.489	.434	.251	.464	.417	.411	1.000	.519
Q150R	.747	.540	.568	.502	.795	.642	.282	.519	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q142R	11.2321	6.601	.851	.796	.882
Q143R	11.3495	7.173	.657	.501	.897
Q144R	11.1071	6.832	.679	.497	.895
Q145R	10.9209	7.051	.609	.481	.900
Q146R	11.1888	6.631	.821	.802	.884
Q147R	11.1224	6.554	.779	.659	.887
Q148R	11.1122	7.426	.426	.288	.914
Q149R	11.3546	7.390	.563	.398	.903
Q150R	11.2041	6.815	.764	.676	.889

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.397	1.219	1.653	.434	1.356	.018	9
Item Variances	.188	.141	.227	.086	1.607	.001	9
Inter-Item Correlations	.517	.251	.833	.582	3.320	.023	9

This subscale consisted of 9 items and according to the reliability statistics in Table 4.29, a very satisfactory Cronbach alpha value of .906 is indicated. None of the items showed themselves as outliers in the item standard deviation distribution. Item Q148R dependably correlated below the mean inter-item correlation (.517) with the other items of the subscale although not substantially so. Item Q148R also showed itself as an outlier in the corrected item-total correlation distribution and even more so in the squared multiple correlation distribution. Q148R, if deleted, resulted in a small gain in the current Cronbach alpha. The responses to Q148R therefore did not to the same degree as was the case with the other items of the subscale originate from the same source of systematic variance. The evidence against items Q148R was, however not sufficiently severe to seriously question this item. No items were therefore removed.

4.4.10.6 Item Analysis of the Supervision Subscale of the Job Satisfaction Scale

Table 4.30 displays the item statistics for the *Supervision* subscale of the *Job Satisfaction* scale.

Table 4.30

Item statistics for the Job Satisfaction subscale (Supervision)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.930	.934	18

	Mean	Std. Deviation	N
Q151R	1.7730	.38328	196
Q152R	1.6378	.45167	196
Q153R	1.8265	.33284	196
Q154R	1.7347	.40322	196
Q155R	1.6684	.44112	196
Q156R	1.6939	.42747	196
Q157R	1.7398	.40655	196
Q158R	1.8520	.32588	196
Q159R	1.5281	.47011	196
Q160R	1.6709	.42981	196
Q161R	1.8010	.37375	196
Q162R	1.6633	.44592	196
Q163R	1.7806	.37599	196
Q164R	1.8827	.29353	196
Q165R	1.8827	.28012	196
Q166R	1.6964	.42176	196
Q167R	1.7194	.40552	196
Q168R	1.8724	.28922	196

	Q151R	Q152R	Q153R	Q154R	Q155R	Q156R	Q157R	Q158R	Q159R	Q160R	Q161R	Q162R	Q163R	Q164R	Q165R	Q166R	Q167R	Q168R
Q151R	1.000	.411	.534	.579	.477	.387	.540	.602	.228	.525	.488	.368	.329	.548	.407	.460	.454	.454
Q152R	.411	1.000	.569	.547	.501	.286	.371	.522	.386	.453	.429	.512	.239	.403	.351	.396	.408	.322
Q153R	.534	.569	1.000	.582	.549	.436	.423	.755	.441	.388	.607	.416	.299	.670	.454	.408	.416	.448
Q154R	.579	.547	.582	1.000	.642	.493	.570	.558	.310	.529	.507	.456	.341	.559	.472	.496	.428	.445
Q155R	.477	.501	.549	.642	1.000	.458	.503	.584	.397	.402	.476	.440	.371	.500	.420	.400	.394	.461
Q156R	.387	.286	.436	.493	.458	1.000	.491	.400	.260	.454	.395	.277	.370	.438	.427	.549	.434	.429
Q157R	.540	.371	.423	.570	.503	.491	1.000	.492	.280	.476	.417	.483	.455	.430	.485	.569	.566	.480
Q158R	.602	.522	.755	.558	.584	.400	.492	1.000	.362	.465	.641	.441	.288	.649	.399	.399	.480	.465
Q159R	.228	.386	.441	.310	.397	.260	.280	.362	1.000	.312	.338	.363	.267	.331	.220	.354	.304	.338
Q160R	.525	.453	.388	.529	.402	.454	.476	.465	.312	1.000	.428	.322	.384	.434	.412	.394	.475	.383
Q161R	.488	.429	.607	.507	.476	.395	.417	.641	.338	.428	1.000	.481	.336	.627	.388	.453	.383	.571
Q162R	.368	.512	.416	.456	.440	.277	.483	.441	.363	.322	.481	1.000	.215	.392	.370	.531	.375	.421
Q163R	.329	.239	.299	.341	.371	.370	.455	.288	.267	.384	.336	.215	1.000	.404	.460	.338	.300	.295
Q164R	.548	.403	.670	.559	.500	.438	.430	.649	.331	.434	.627	.392	.404	1.000	.533	.415	.444	.487
Q165R	.407	.351	.454	.472	.420	.427	.485	.399	.220	.412	.388	.370	.460	.533	1.000	.435	.375	.511

Table 4.30

Item statistics for the Job Satisfaction subscale (Supervision) (continued)

	Q151R	Q152R	Q153R	Q154R	Q155R	Q156R	Q157R	Q158R	Q159R	Q160R	Q161R	Q162R	Q163R	Q164R	Q165R	Q166R	Q167R	Q168R
Q166R	.460	.396	.408	.496	.400	.549	.569	.399	.354	.394	.453	.531	.338	.415	.435	1.000	.496	.543
Q167R	.454	.408	.416	.428	.394	.434	.566	.480	.304	.475	.383	.375	.300	.444	.375	.496	1.000	.382
Q168R	.454	.322	.448	.445	.461	.429	.480	.465	.338	.383	.571	.421	.295	.487	.511	.543	.382	1.000

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q151R	29.6505	20.091	.664	.	.925
Q152R	29.7857	19.851	.612	.	.926
Q153R	29.5969	20.255	.719	.	.924
Q154R	29.6888	19.718	.737	.	.923
Q155R	29.7551	19.642	.686	.	.924
Q156R	29.7296	20.062	.594	.	.927
Q157R	29.6837	19.846	.693	.	.924
Q158R	29.5714	20.272	.730	.	.924
Q159R	29.8954	20.321	.467	.	.930
Q160R	29.7526	19.953	.620	.	.926
Q161R	29.6224	20.113	.676	.	.925
Q162R	29.7602	19.973	.589	.	.927
Q163R	29.6429	20.738	.479	.	.929
Q164R	29.5408	20.565	.702	.	.925
Q165R	29.5408	20.898	.602	.	.927
Q166R	29.7270	19.867	.658	.	.925
Q167R	29.7041	20.132	.611	.	.926
Q168R	29.5510	20.767	.633	.	.926

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.746	1.528	1.883	.355	1.232	.009	18
Item Variances	.153	.078	.221	.143	2.817	.002	18
Inter-Item Correlations	.438	.215	.755	.540	3.516	.009	18

This subscale consisted of 18 items and according to the reliability statistics in Table 4.30, a very satisfactory Cronbach alpha value of .930 is indicated. None of the *Supervision Satisfaction* items showed themselves as outliers in the item standard deviation distribution. None of the items dependably correlated below the mean inter-item correlation (.438) with the other items of the subscale. None of the items showed themselves as outliers in the corrected item-total correlation distribution. All items, if deleted, resulted in a lowering of the current Cronbach alpha. All 18 items comprising the *Supervision* subscale therefore to a satisfactory degree reflected a common source of systematic variance although not invariably a unidimensional source nor invariably the targeted *Job Satisfaction* facet. No items were therefore culled.

4.4.10.7 Reliability of the total score on the Job Satisfaction Scale (excluding the satisfaction with Work in General subscale)

Cronbach alpha coefficients were calculated for each of the six *Job Satisfaction* subscales. The reliability of the *Job Satisfaction* total score, calculated as the unweighted sum of the five subscale scores describing the five *Job Satisfaction* facets, was estimated using the formula proposed by Nunnally (1978, p. 248). The *Satisfaction with the Work in General* subscale score was not included in this calculation as it was also considered to provide a second global (rather than facetted) assessment of the level of *Job Satisfaction* experienced by employees.

The unweighted total score reliability for the complete *Organisational Commitment* scale was calculated as:

$$rtot = 1 - \left[\frac{[\sum_{i=1}^{5} S^2 i - \sum_{i=1}^{5} rtti S^2 i]}{S^2 t}\right]$$

$$= 1 - [\frac{75.978 - 54.98982519}{261.091}]$$

$$= 1 - [\frac{20.9886154150395}{261.091}]$$

$$= 1 - \ .08038826$$

$$= .91961174$$

The resultant value of .92 was considered satisfactory.

4.4.11 Summary of the Item Analysis results

The findings obtained for the item analyses conducted on the different subscales used to operationalise the constructs in the structural model were summarised in Table 4.9.

The reliability of the subscales used to measure the constructs in the structural model depicted in Figure 3.1 can largely be considered acceptable. The only subscales were the Cronbach alpha coefficients failed to exceed the critical cut-off value of .80 were the *Competence* subscale of the *Psychological Empowerment* scale (.769), the *Affective Commitment* subscale of the *Organisational Commitment* scale (.786) and the *Continuance Commitment* subscale of the *Organisational Commitment* scale (.704). The reliability of the composite *Psychological Empowerment* and *Organisational Commitment* scores was, however satisfactory and exceeded the critical value of .80. The only scale that created reason for noteworthy concern in terms of problematic items was the *Perceived Satisfactoriness of Performance* scale, but after the deletion of items Q77R and Q78R there were no further problem items flagged.

4.5 DIMENSIONALITY ANALYSIS

The different scales used to operationalise the constructs in the structural model, depicted in Figure 3.1 being tested in the current study were developed with the intention that specific items would reflect participants' standing on specific latent variables. The items comprising each scale and subscale were written to serve as stimuli that will elicit behavioural responses from participants where the nature of the response will reflect the participant's standing on the focal latent variable. Moreover, for each of the subscales in the composite research questionnaire the assumption was that the focal latent variable or latent dimension of a construct was a unidimensional latent variable. Unrestricted principal axis factor analyses with oblique rotation were performed on the various scales and subscales that were developed with the intention to measure a unidimensional construct. The objective of the analyses was to determine whether this intention to measure unidimensional latent variables succeeded and to evaluate the validity with which each item measured the specific unidimensional construct it was designed to reflect[25]. The items that were flagged as

[25] If the items comprising a subscale do successfully measure the focal unidimensional latent variable the subscale was designed to reflect factor analysis of the subscale inter-item correlation matrix will result in the extraction of a single factor and all the items will display moderate to high factor loadings on the single extracted factor. Moreover, the percentage of large residual correlations will approach zero. It is, however, acknowledged that if factor analysis of a subscale inter-item correlation matrix results in the extraction of a single factor and all the items display moderate to high factor loadings on the single extracted factor it cannot be conclusively concluded that the design intention with the subscale succeeded. It can only concluded that the hypothesis that the items validly reflect the focal unidimensional latent variable survived an opportunity to be refuted.

problematic in the preceding item analyses and that were subsequently culled from the scale/subscale were not included in the factor analyses.

In deciding how many factors to extract the so-called Kaiser or eigenvalue-greater-than-one rule and the position of the inflection point in the scree plot (Tabachnick & Fidell, 2001) were considered. Factor loadings[26] of items on the factor they were earmarked to represent were interpreted as satisfactory if they exceeded (or were equal to) .50. The validity and credibility of the factor structure (i.e., the fit the model) was evaluated by calculating the percentage of the residual correlations that could be considered to be large (i.e. >.05).

4.5.1 Dimensionality Analysis: Psychological Empowerment

The Psychological Empowerment construct was conceptualised as a comprising four correlated latent dimensions, namely; *Meaning*, *Competence*, *Self-Determination* and *Impact* (Spreitzer, 1995). The structural model developed in response to the research-initiating question utilised *Psychological Empowerment* as a complex multidimensional construct without distinguishing between the aforementioned latent dimensions of the construct in the hypothesised structural model. However, it was decided to execute exploratory factor analysis (EFA) on each of the dimensions individually to determine whether the assumption that each of the four subscales successfully measured a unidimensional latent *Psychological Empowerment* dimension was tenable. The extracted factor matrix for the *Meaning* subscale of the *Psychological Empowerment* scale is shown in Table 4.31.

Table 4.31

Extracted factor matrix for the Psychological Empowerment (Meaning) scale

	Factor
	1
Q19	.959
Q14	.869
Q11	.791

The subscale obtained a KMO of .721 and Bartlett's test of sphericity showed that the identity matrix H_0 could be rejected. The correlation matrix was therefore factor analysable. Both the scree plot and the eigen-value-greater-than-one rule indicated the extraction of a single

[26] Factor loading describes the slope of the regression of an observed variable on the underlying factor that it represents.

factor. All three items in the *Meaning* subscale of the *Psychological Empowerment* scale loaded very satisfactory on the single underlying factor (greater than .50 values).

The credibility of the extracted one-factor solution as an explanation of the observed correlation matrix was satisfactory, as none (0.0%) of the non-redundant residual correlations obtained absolute values greater than .05. In the case of the *Meaning* subscale the unidimensionality assumption was therefore supported.

The extracted factor matrix for the *Competence* subscale of the *Psychological Empowerment* scale is shown in Table 4.32.

Table 4.32

Extracted factor matrix for the Psychological Empowerment (Competence) scale

	Factor
	1
Q18	.795
Q10	.795

The items comprising the *Competence dimension* all loaded satisfactory on the single underlying factor with values of .795. Residuals are computed between observed and reproduced correlations. There were zero (0.0%) non-redundant residual correlations with absolute values greater than .05. The KMO value of .500 was somewhat disappointing, however, only one factor obtained an eigenvalue greater than unity. The scree plot also indicated the extraction of a single factor for the *Competence dimension* subscale. The unidimensionality assumption was therefore supported for the *Competence* subscale.

The extracted factor matrix for the *Self-Determination* subscale of the *Psychological Empowerment* scale is shown in Table 4.33.

Table 4.33

Extracted factor matrix for the Psychological Empowerment (Self-Determination) scale

	Factor
	1
Q17	.906
Q16	.853
Q12	.683

The *Self-determination dimension* subscale obtained a satisfactory KMO of .699 and Bartlett's test of sphericity showed that the identity matrix H_0 could be rejected. The correlation matrix was therefore found to be factor analysable. Furthermore, the results revealed that only one factor should be extracted since only one factor obtained an eigenvalue greater than 1. The scree plot also suggested the extraction of a single factor for the *Self-determination dimension* subscale. The items comprising the *Self-determination*

subscale all loaded satisfactory on the single extracted factor with the lowest being .683 and 0.0% non-redundant residuals with absolute values greater than .05. The unidimensionality assumption was therefore supported for the *Self-determination* subscale.

The extracted factor matrix for the *Impact* subscale of the *Psychological Empowerment* scale is shown in Table 4.33.

Table 4.34

Extracted factor matrix for the Psychological Empowerment (Impact) scale

	Factor
	1
Q15	.852
Q20	.818
Q13	.804

The *Impact dimension* subscale obtained a satisfactory KMO of .736. The eigen-value-greater-than-one rule and the scree plot suggested the extraction of a single factor for the *Impact* subscale. All three items in the *Meaning dimension* of the *Psychological Empowerment* scale loaded very satisfactory on the single underlying factor (greater than .50 lambda values).

The credibility of the extracted one-factor solution as an explanation of the observed correlation matrix was satisfactory, as none (0.0%) of the non-redundant residual correlations obtained absolute values greater than .05. The unidimensionality assumption was therefore supported for the *Impact* subscale.

4.5.1.1 Confirmatory factor analysis of the *Psychological Empowerment* scale

To examine the construct validity of the *Psychological Empowerment* scale the measurement model implied by the scoring key of the scale was fitted. The inter-item covariance matrix was utilised with RML estimation. The data did not conform to a multivariate normal distribution. The data was not normalised. The first-order *Psychological Empowerment* measurement model (path diagram not displayed) showed poor fit (RMSEA=.085; p<.05). The presence of a non-ignorable, albeit not really large, number of statistically significant (p<.01) modification indices calculated for the first-order *Psychological Empowerment* measurement model (see Figure 4.1) suggested that the items of the *Psychological Empowerment* scale also reflect general source of systematic variance currently not acknowledged by the model. Consequently, a bi-factor model was fitted (Reise, 2012). Reise (2012, p. 667) explains a bi-factor model as follows:

A bifactor structural model specifies that the covariance among a set of item responses can be accounted for by a single general factor that reflects the common variance running among all scale items, and group1 factors that reflect additional common variance among clusters of items, typically, with highly similar content. It is assumed that the general and group factors all are orthogonal. Substantively, the general factor represents the conceptually broad "target" construct an instrument was designed to measure, and the group factors represent more conceptually narrow subdomain constructs. The bifactor model, thus, appears ideally suited for representing the construct-relevant multidimensionality that arises in the responses to measures of broad constructs where multiple and distinct domains of item content are included to increase content validity (see, for example, Reise, Moore, & Haviland, 2010).

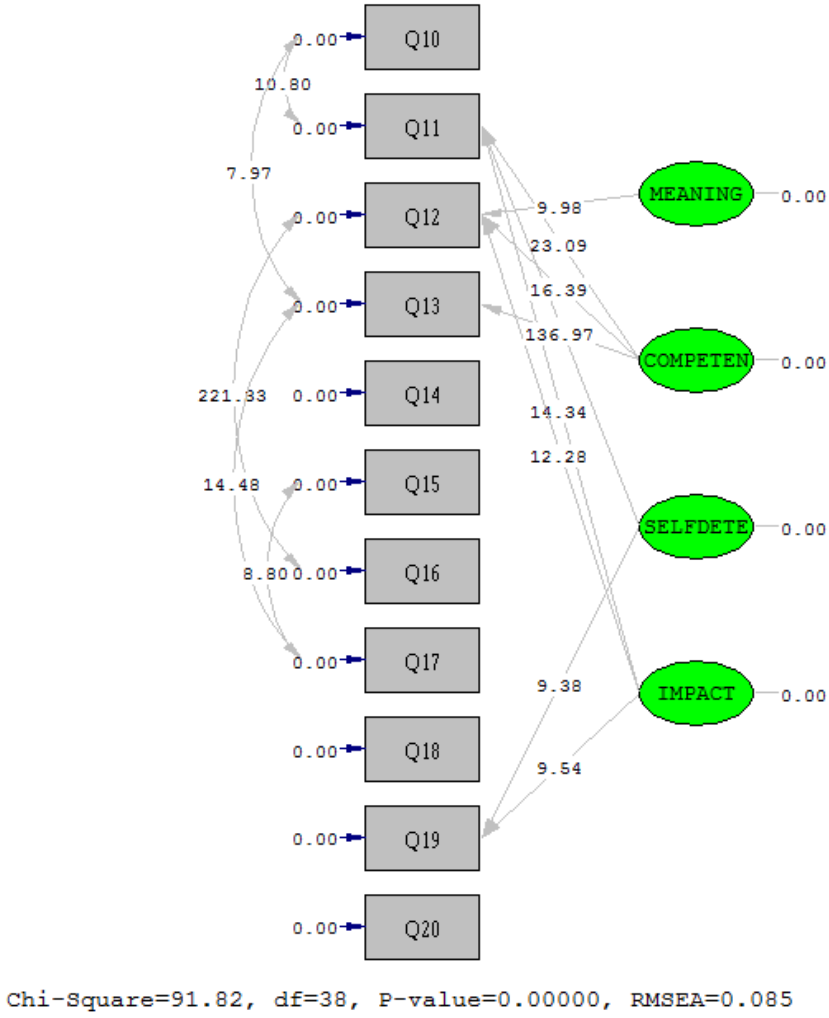

Figure 4.1. Statistically significant (p<.01) modification indices calculated for the first-order Psychological Empowerment measurement model.

The bi-factor model (see Figure 4.2) showed close fit RMSEA=.065; p>.05).

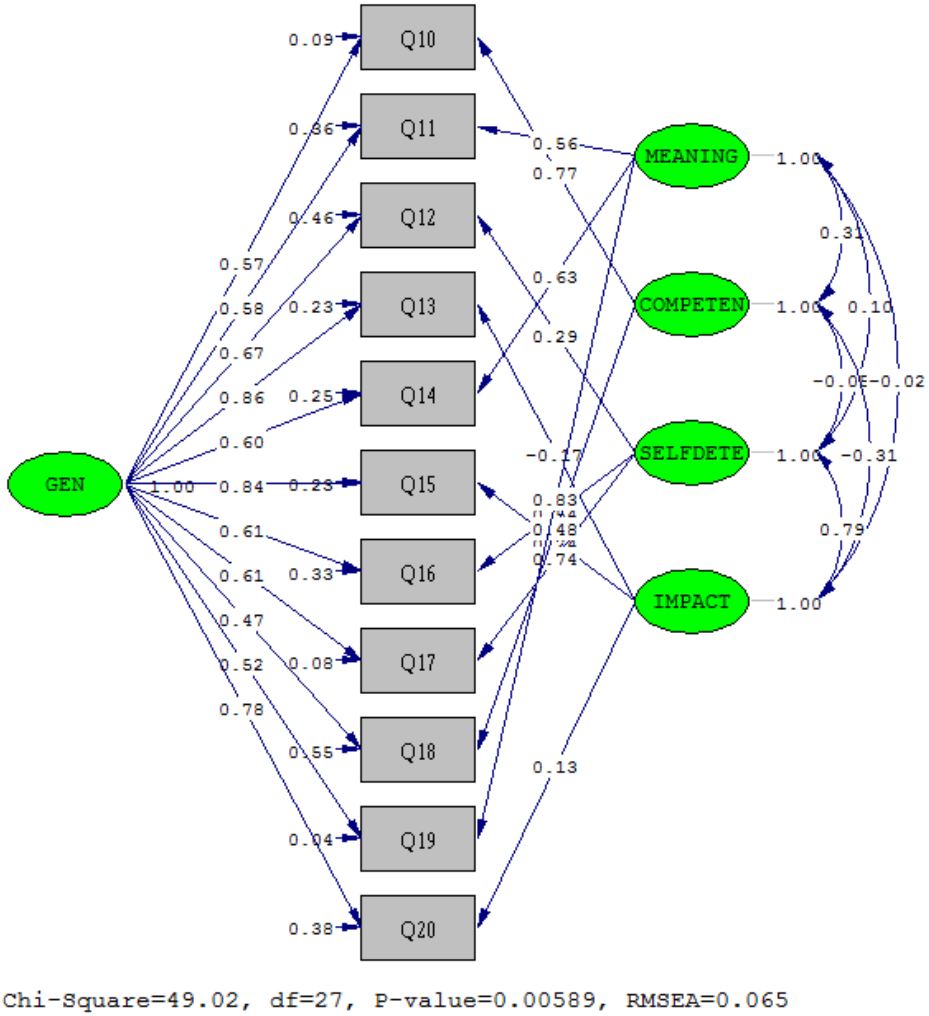

Figure 4.2. Bi-factor Psychological Empowerment measurement model (completely standardised solution).

Table 4.35 shows that all the items of the *Psychological Empowerment* scale statistically significantly loaded on the broad, general *Psychological Empowerment* factor. The items that were designed to reflect the latent *Meaning*, *Competence* and *Self-determination* dimensions statistically significantly (p<.05) loaded on their designated narrow group-factors. The items that were designed to reflect the latent *Impact* dimension, however, statistically insignificantly (p>.05) loaded on their designated narrow group-factor.

Table 4.35

Unstandardised lambda-X matrix for the bi-factor Psychological Empowerment scale

	MEANING	COMPETEN	SELF-DETERMINATION	IMPACT	GEN
Q10	- -	0.535* (0.121) 4.422	- -	- -	0.397* (0.099) 4.027
Q11	0.477* (0.066) 7.189	- -	- -	- -	0.495* (0.096) 5.154
Q12	- -	- -	0.271* (0.103) 2.646	- -	0.641* (0.084) 7.666

Table 4.35

Unstandardised lambda-X matrix for the bi-factor Psychological Empowerment scale (continued)

	MEANING	COMPETEN	SELF-DETERMINATION	IMPACT	GEN
Q13	- -	- -	- -	-0.160	0.795*
				(0.177)	(0.099)
				-0.905	8.056
Q14	0.617*	- -	- -	- -	0.587*
	(0.068)				(0.094)
	9.069				6.255
Q15	- -	- -	- -	0.254	0.900*
				(0.184)	(0.070)
				1.379	12.933
Q16	- -	- -	0.573*	- -	0.651*
			(0.110)		(0.112)
			5.209		5.792
Q17	- -	- -	0.762*	- -	0.637*
			(0.118)		(0.125)
			6.467		5.097
Q18	- -	0.394*	- -	- -	0.382*
		(0.092)			(0.083)
		4.279			4.625
Q19	0.784*	- -	- -	- -	0.490*
	(0.060)				(0.092)
	13.117				5.305
Q20	- -	- -	- -	0.144	0.875*
				(0.164)	(0.068)
				0.874	12.873

The proportion of variance explained in each items when regressing each item on the broad, general *Psychological Empowerment* factor and the narrow, more specific group factor it was designated to reflect shown in Table 4.36 indicate that in the case of all the items except Q18 more than 50% of the item variance was explained by the two *Empowerment* factors that they were linked to[27]. The current study therefore concluded that all the items of the Psychological Empowerment scale were useful indicators of the multidimensional Psychological Empowerment and consequently decided to retain all the items of the scale. The fact that items Q13, Q15 and Q20 did not statistically significantly ($p>.05$) load on the narrow, *Impact* group factor (although they statistically significantly ($p<.05$) loaded on the general *Empowerment* factor) is acknowledged as a methodological limitation.

Table 4.36

Psychological Empowerment item R^2 values

Q10	Q11	Q12	Q13	Q14	Q15
0.911	0.640	0.536	0.770	0.752	0.767
Q16	Q17	Q18	Q19	Q20	
0.666	0.918	0.447	0.960	0.625	

[27] Given the critical cut-off value of .50 set for the completely standardised factor loadings even Q18 met the criterion of having more than 25% of its variance explained by the latent variables linked to it.

4.5.2 Dimensionality Analysis: Intention to Quit

The *Intention to Quit* latent variable was conceptualised as a unidimensional construct. The dimensionality analysis results obtained a satisfactory KMO of .824. Both the scree plot and the eigen-value-greater-than-one rule indicated that a single factor needed to be extracted. All four items loaded very satisfactory on the single underlying factor (values greater than .50), with the lowest being .723. Furthermore, none (0.0%) of non-redundant residuals obtained absolute values greater than .05, suggesting that the single-factor factor structure offered a highly credible explanation for the observed inter-item correlation matrix.

Table 4.37

Extracted factor matrix for the Intention to Quit scale

	Factor 1
Q23	.953
Q24	.871
Q21	.851
Q22	.723

4.5.3 Dimensionality Analysis: Organisational Commitment

The *Organisational Commitment* construct was conceptualised as comprising three correlated latent dimensions: *Affective Commitment*, *Continuance Commitment* and *Normative Commitment* (Meyer & Allen, 1991). Each of the latent dimensions were conceptualised as unidimensional latent dimensions.

Table 4.38

Extracted factor matrix for the Organisational Commitment (Affective Commitment) scale

	Factor 1
Q36R	.738
Q37R	.733
Q38	.699
Q33	.547
Q35R	.524
Q34	.478

The *Affective Commitment dimension* subscale obtained a satisfactory KMO of .768 Bartlett's test of sphericity indicated that the identity matrix H_0 could be rejected. It was therefore worthwhile factor analising the correlation matrix. The items comprising the *Affective Commitment dimension* all but one (item Q34) loaded satisfactory (value greater than .50) on the single extracted factor. The single-factor factor structure, however, failed to provide a convincing explanation for the observed inter-item correlation matrix in that 11 (73.0%) non-redundant residual correlations had absolute values greater than .05. Thus, the

extraction of two factors were forced to obtain a more credible explanation for the observed inter-item correlation matrix.

Table 4.39

Extracted factor (pattern) matrix for the Affective Commitment scale with two factors forced

	Factor	
	1	2
Q37R	.854	-.044
Q36R	.765	.029
Q35R	.559	-.003
Q38	.008	.889
Q33	-.031	.699
Q34	.250	.268

The two-factor factor structure offered a credible explanation for the observed inter-item correlation matrix in that 0.0% of the residual correlations were now larger than .05. Table 4.39 indicates that all the negatively keyed items load on factor one. To examine the merit of this line of reasoning a first-order CFA measurement model was fitted to the data of the affective Commitment subscale in which each item was allowed to load on the Affective Commitment factor but then also assigned to either a positively keyed or negatively keyed factor. This measurement model showed exact fit (χ^2=.09; p>.05; RMSEA=0: p>.05). The path diagram of the completely standardised solution of the fitted measurement model is shown in Figure 4.3.

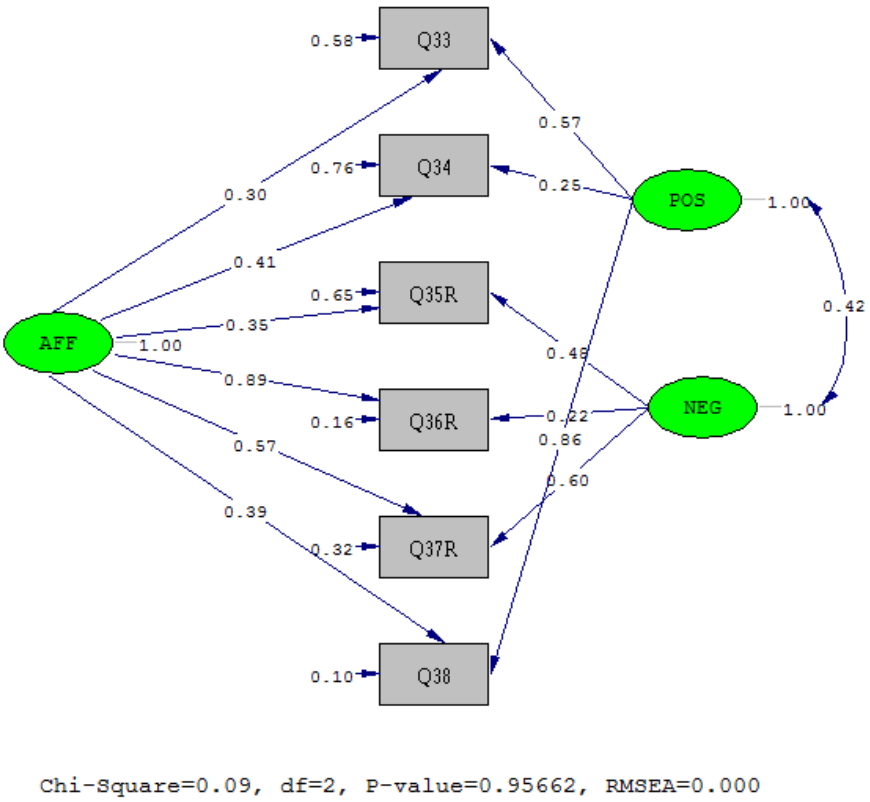

Figure 4.3. First-order Affective Commitment measurement model with two method factors (completely standardised solution).

Table 4.40 shows that the two factors obtained in the EFA are moderately correlated.

Table 4.40

Extracted factor correlation matrix for the Affective Commitment scale with two factors forced

Factor	**1**	**2**
1	1.000	.607
2	.607	1.000

Table 4.41

Extracted factor (pattern) matrix for the Continuance Commitment scale

	Factor	
	1	2
Q40	.804	.029
Q41	.689	.127
Q39	.569	-.068
Q44	-.167	.795
Q42	.113	.680
Q43	.168	.359

Table 4.42

Extracted factor correlation matrix for the Continuance Commitment scale with two factors extracted

Factor	**1**	**2**
1	1.000	.337
2	.337	1.000

The *Continuance Commitment dimension* subscale obtained a satisfactory KMO of .684 and Bartlett's test of sphericity indicated that the identity matrix H_0 could be rejected. This meant that the correlation matrix was factor analysable. Both the scree plot and the eigen-value-greater-than-one rule indicated the extraction of two factors. Item Q39, Q40 and Q41 loaded on the first factor whilst Q42, Q43 and Q44 loaded on factor two Based on the common theme shared by the items loading on these two factors factor one was identified as a hardship factor whilst factor two was identified as lack of alternative options factor. The factor fission was considered conceptually meaningful. There were no (0.0%) non-redundant residual correlations with absolute values greater than .05.

A first-order CFA measurement model was subsequently fitted reflecting the factor loadings prescribed by the pattern matrix. The first-order CFA measurement model showed close fit (RMSEA=.065; p>.05). A second-order *Continuance Commitment* CFA measurement model was subsequently fitted in which the Hardship and Options first-order factors loaded on a single *Continuance Commitment* second-order factor. The model (see Figure 4.4) showed close fit (RMSEA=.073; p>.05). The second-order measurement model SIMPLIS syntax was subsequently translated to LISREL syntax to allow the estimation of the indirect

effects of the second-order *Continuance Commitment* second-order factor on the subscale items via the CO command[28] and to test the statistical significance of these effects. The unstandardised indirect effects are shown in Table 4.43. Table 4.43 indicates that the second-order *Continuance Commitment* second-order factor statistically significantly (p<.05) affects all the items of the *Continuance Commitment* subscale. The use of the items as indicators of the second-order Continuance Commitment factor was thereby warranted.

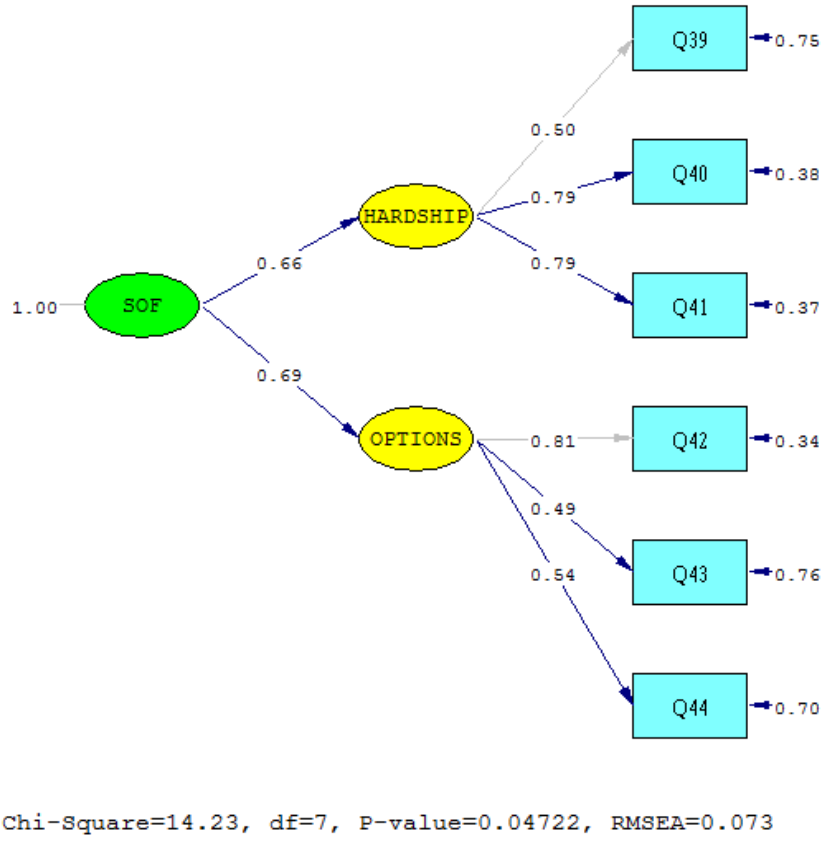

Figure 4.4. Second-order Continuance Commitment measurement model with two substantive factors loading on a single second-order Continuance Commitment factor (completely standardised solution).

[28] The LISREL syntax specified the calculation of the indirect effects as follows:
CO PAR(1) = GA(1,1)*LY(1,1)
CO PAR(2) = GA(1,1)*LY(2,1)
CO PAR(3) = GA(1,1)*LY(3,1)
CO PAR(4) = GA(2,1)*LY(4,2)
CO PAR(5) = GA(2,1)*LY(5,2)
CO PAR(6) = GA(2,1)*LY(6,2)

Table 4.43

Indirect effects of the second-order Continuance Commitment factor on the Continuance Commitment subscale items

PA(1)	PA(2)	PA(3)	PA(4)	PA(5)	PA(6)
0.39	0.68	0.66	0.68	0.40	0.46
(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
5.48	9.45	9.25	9.52	5.62	6.37

Table 4.44

Extracted factor matrix for the Normative Commitment scale

	Factor
	1
Q49	.826
Q47	.738
Q50	.708
Q48	.703
Q46	.677
Q45R	.569

The *Normative Commitment dimension* subscale obtained a very satisfactory KMO of .857 and Bartlett's test of sphericity showed that the identity matrix H_0 could be rejected. The correlation matrix was therefore factor analysable. The eigenvalue-greater-than-one rule as well as the position of the elbow in the scree plot indicated that a single factor should be extracted. The items comprising the *Normative Commitment dimension* all loaded satisfactory (with factor loadings greater than .05) on the single extracted factor. However, the residual correlation matrix indicated that six (40.0%) non-redundant residual correlations had absolute values greater than .05, which implied that the single-factor factor structure failed to convincingly explain the observed inter-item correlation matrix. Therefore, the extraction of two factors was requested and the analysis was run again. The resultant obliquely rotated two-factor solution is shown in Table 4.45.

Table 4.45

Extracted factor (pattern) matrix for the Normative Commitment scale with two factors forced

	Factor	
	1	2
Q50	.785	.040
Q48	.778	.038
Q49	.570	-.291
Q45R	.553	-.039
Q46	-.036	-.814
Q47	.085	-.743

There were no (0.0%) non-redundant residual correlations with absolute values greater than .05 after two factors were forced to be extracted.

Table 4.46

Extracted factor correlation matrix for the Normative Commitment scale with two factors forced

Factor	1	2
1	1.000	-.755
2	-.755	1.000

4.5.3.1 Confirmatory factor analysis of the *Psychological Empowerment* scale

To examine the construct validity of the *Organisational Commitment* scale, the measurement model implied by the scoring key of the scale was fitted. The inter-item covariance matrix was utilised with RML estimation. The data did not adhere to a multivariate normal distribution. The data was not normalised. The first-order *Organisational Commitment* measurement model showed poor fit in the sample and H_0: RMSES≤.05 had to be rejected (RMSEA=.112; p<.05). Inspection of the modification indices calculated for the fitted first-order model revealed a large number of statistically significant (p<.01) modification values for the measurement error covariances (see Figure 4.5).

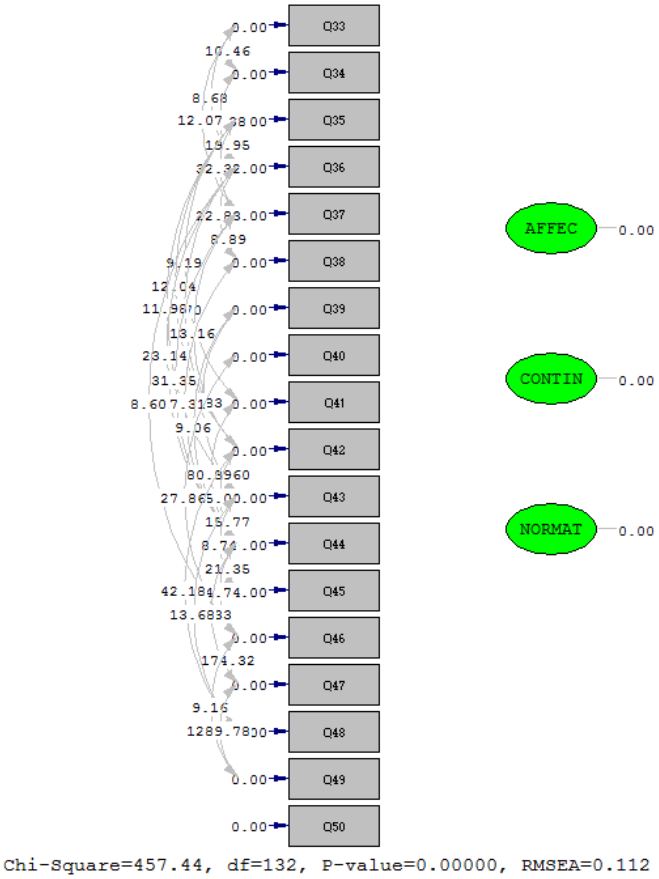

Figure 4.5. Statistically significant (p<.01) modification indices calculated for the first-order Organisational Commitment measurement model.

The measurement error terms (δ_i) represent random error and systematic error influences that produce variance in the items but that were not formally models as latent variables in the model. The large number of statistically significant (p<.01) modification indices calculated for the off-diagonal of Θ_δ implied that to some degree a common systematic influence, currently excluded from the model, produces variance in all the items. This in turn implied that a bi-factor model might provide a convincing explanation of the observed interitem covariance matrix (Reise, 2012).

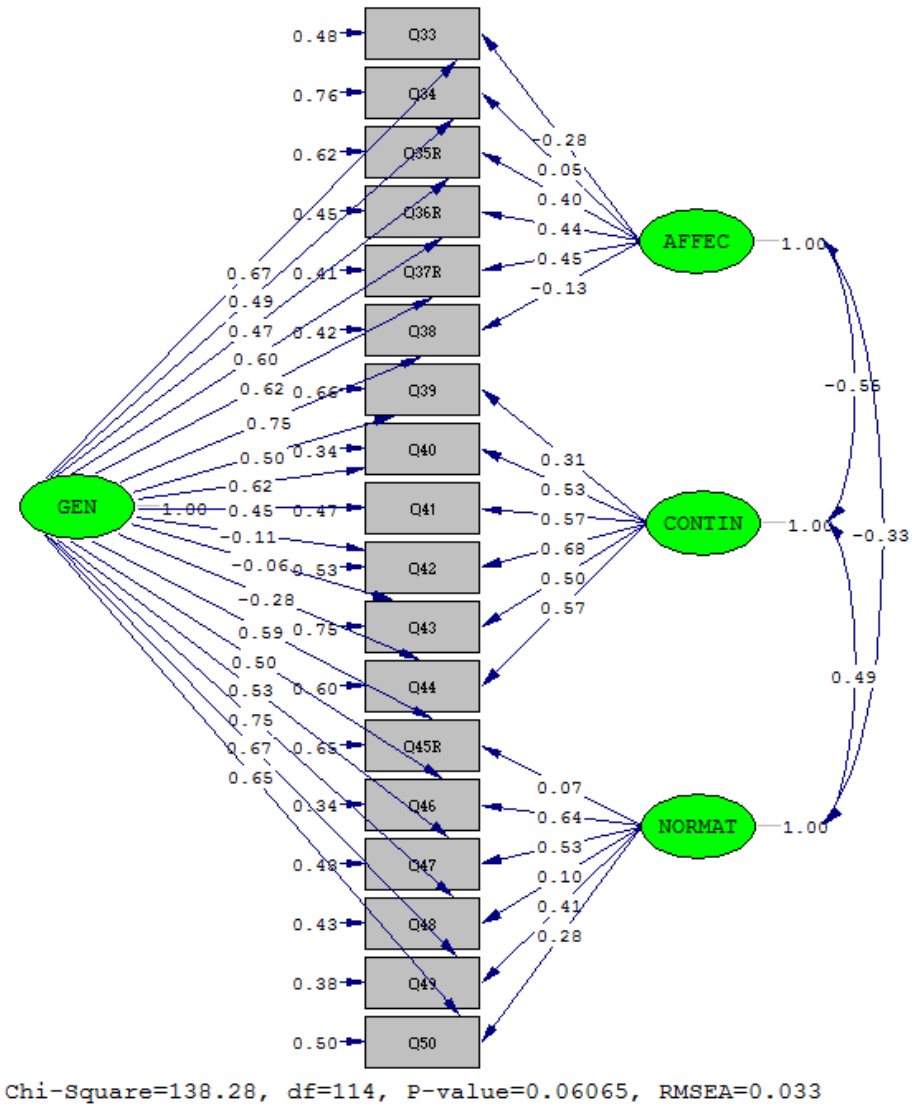

Figure 4.6. Bi-factor Organisation Commitment measurement model (completely standardised solution).

The bi-factor model making provision for a broad, general *Organisational Commitment* factor along with the three narrower, more specific *Organisational Commitment* factors showed close fit (RMSEA=.033; p>.05) (see Figure 4.6). The unstandardised factor loading matrix is shown in Table 4.47.

Table 4.47

Unstandardised factor loading matrix for the bi-factor Organisational Commitment scale

	AFFECTIVE COMMITMENT	CONTINUANCE COMMITMENT	NORMATIVE COMMITMENT	GENERAL ORGANISATIONAL COMMITMENT FACTOR
Q33	**-0.361**	- -	- -	0.874*
	(0.251)			(0.078)
	-1.437			11.193
Q34	**0.057**	- -	- -	0.571*
	(0.153)			(0.097)
	0.374			5.889
Q35R	0.487*	- -	- -	0.581*
	(0.136)			(0.120)
	3.582			4.856
Q36R	0.550*	- -	- -	0.755*
	(0.249)			(0.153)
	2.205			4.928
Q37R	0.558*	- -	- -	0.772*
	(0.239)			(0.151)
	2.337			5.098
Q38	**-0.144**	- -	- -	0.858*
	(0.263)			(0.079)
	-0.550			10.847
Q39	- -	0.370*	- -	0.594*
		(0.149)		(0.098)
		2.478		6.063
Q40	- -	0.686*	- -	0.803*
		(0.171)		(0.104)
		4.024		7.725
Q41	- -	0.724*	- -	0.575*
		(0.141)		(0.122)
		5.122		4.695
Q42	- -	0.822*	- -	**-0.133**
		(0.096)		**(0.137)**
		8.601		**-0.970**
Q43	- -	0.587*	- -	**-0.067**
		(0.103)		**(0.113)**
		5.708		**-0.590**
Q44	- -	0.692*	- -	-0.336*
		(0.110)		(0.132)
		6.292		-2.548
Q45R	- -	- -	**0.095**	0.788*
			(0.207)	(0.093)
			0.457	8.471
Q46	- -	- -	0.855*	0.662*
			(0.129)	(0.136)
			6.640	4.870
Q47	- -	- -	0.718*	0.720*
			(0.169)	(0.136)
			4.245	5.274
Q48	- -	- -	**0.119**	0.925*
			(0.205)	(0.074)
			0.582	12.576
Q49	- -	- -	0.485*	0.779*
			(0.196)	(0.099)
			2.466	7.903
Q50	- -	- -	**0.338**	0.793*
			(0.214)	(0.090)
			1.579	8.840

(* p<.05)

Table 4.47 indicates that most (10 out of 18) items in the *Organisational Commitment* scale statistically significantly (p<.05) load on both the broad, general *Organisational Commitment* factor and the narrow, more specific *Commitment* factor they were designated to reflect. Q42 and Q43 were the only two items that loaded insignificantly (p>.05) on the broad,

general factor. They, however both loaded statistically significantly (p<.05) on the *Continuance Commitment* factor. Items Q33, Q34 and Q38 loaded statistically insignificantly (p>.05) on the narrower *Affective Commitment* factor but statistically significantly (p<.05) on the general *Commitment* factor. Q45R, Q48 and Q50 loaded statistically insignificantly (p>.05) on the narrower *Normative Commitment* factor but statistically significantly (p<.05) on the general *Commitment* factor. The proportion of variance that was explained in each item by the two factors on which each item loads is shown in Table 4.48.

Table 4.48

Organisational Commitment item R^2 values

Q33	Q34	Q35R	Q36R	Q37R	Q38
0.525	0.239	0.384	0.547	0.588	0.580
Q39	Q40	Q41	Q42	Q43	Q44
0.343	0.660	0.531	0.471	0.251	0.402
Q45R	Q46	Q47	Q48	Q49	Q50
0.355	0.664	0.568	0.575	0.616	0.504

In the case of items Q34, Q35R, Q39, Q42, Q43, Q44 and Q45R the broad, general Commitment factor and the narrow, more specific Commitment factor the item had been designated to reflect explain less than 50% of the variance in the item. Especially Q34 and Q43 stand out as two items that seemed to have less successful in the task assigned to them. Nonetheless all items were retained.

4.5.4 Dimensionality Analysis: Perceived Development Opportunities

The item analysis indicated that item Q28 was somewhat of an outlier in the squared multiple correlation distribution, however no items were deleted from this subscale and all items were consequently included in the exploratory factor analysis. The scale obtained a KMO of .827 and the identity matrix H_0 could be rejected. The correlation matrix was therefore factor analysable.

The results revealed that only one factor should be extracted since only one factor obtained an eigenvalue greater than 1. All the items in the scale obtained factor loadings exceeding the .50 cut-off value with the lowest being .777. The one factor solution provided a plausible explanation for the observed correlation matrix in that none (0.0%) of the residual correlations were greater than .05. The unidimensionality assumption was consequently corroborated.

Table 4.49

Extracted factor matrix for the Perceived Development Opportunities scale

	Factor 1
Q27	.959
Q26	.928
Q25	.856
Q28	.777

4.5.5 Dimensionality Analysis: Perceived Alternative Opportunities

Perceived Development Opportunities was conceptualised as a unidimensional construct. In evaluating the unidimensionality assumption the question was examined whether the 6 items included in the *Perceived Development Opportunities* scale all reflect a single underlying factor. All the items in the correlation matrix obtained correlations exceeding the .50 cut-off value and were statistically significant ($p<.05$). The scale obtained a KMO of .881 and it was deduced from the results that the identity matrix H_0 could be rejected, meaning that the correlation matrix was factor analysable. The Kaiser rule suggested that a single factor should be extracted as did the position of the elbow in the scree plot.

Table 4.50

Extracted factor matrix for the Perceived Alternative Opportunities scale

	Factor 1
Q54	.874
Q51	.868
Q56	.866
Q53	.794
Q55	.711
Q52	.573

All the items of the *Perceived Development Opportunities* scale loaded satisfactorily on the single extracted factor. The one factor solution provided a plausible explanation for the observed correlation matrix in that only three (20.0%) of the residual correlations were greater than .05. The unidimensionality assumption was consequently corroborated for the *Perceived Alternative Opportunities scale*.

4.5.6 Dimensionality Analysis: Perceived Human Capital

Perceived Human Capital was conceptualised as a unidimensional construct. The item analysis indicated that item Q29 consistently correlated lower than the mean inter-item correlation (.749) with the remaining items of the scale but only very marginally so. The *Perceived Human Capital* obtained a satisfactory KMO value of .855 and all inter-item correlations were statistically significant ($p<.05$).

Table 4.51

Factor matrix for the Perceived Human Capital scale

	Factor 1
Q31	.906
Q30	.873
Q32	.857
Q29	.826

The Kaiser rule suggested that a single factor should be extracted. All the items of the *Perceived Human Capital* scale loaded satisfactorily on the single extracted factor. Item Q29 that was flagged as subtly problematic in the item analysis returned the lowest factor loading but still comfortably exceeded the critical loading of .50. The one factor solution provided a plausible explanation for the observed correlation matrix in that none (0.0%) of the residual correlations were greater than .05. The unidimensionality assumption was consequently supported for the *Perceived Human Capital* scale.

4.5.7 Dimensionality Analysis: Perceived Utility of Movement

Perceived Utility of Movement was conceptualised as a unidimensional construct. The item analysis indicated that although items Q64 and Q66 showed themselves as marginally problematic items, no items were deleted from this scale.

Table 4.52

Factor matrix for the Perceived Utility of Movement scale

	Factor 1
Q58	.836
Q59	.831
Q62	.823
Q63	.799
Q61	.793
Q60	.774
Q57	.774
Q65	.767
Q66	.592
Q64	.526

The scale obtained a KMO of .924. Both the eigenvalue-greater-than-one rule and the position of the elbow in the scree plot indicated the extraction of a single factor. All ten items in the *Perceived Utility of Movement* scale loaded very satisfactory on the single underlying factor (greater than .50 values), with the lowest value at .526. The two borderline problematic items that were flagged during the item analysis returned the two lowest loadings in the single-factor factor structure but both nonetheless loaded higher than .50 with the single extracted factor. The credibility of the extracted one-factor solution as an explanation of the observed correlation matrix was satisfactory, as only twelve (26.0%) of non-redundant

residual correlations had absolute values greater than .05. The unidimensionality assumption was consequently substantiated for the *Perceived Utility of Movement* scale.

4.5.8 Dimensionality Analysis: Perceived Employability

Perceived Employability was conceptualised as a unidimensional construct. This scale consisted of five items. Table 4.53 presents the factor loadings for the *Perceived Employability* scale.

Table 4.53

Factor matrix for the Perceived Employability scale

	Factor
	1
Q68	.815
Q71	.803
Q67	.798
Q70	.760
Q69	.750

The *Perceived Employability* scale obtained a very satisfactory KMO of .828 and Bartlett's test of sphericity showed that the identity matrix H_0 could be rejected. This meant that the correlation matrix was factor analysable. Both the eigenvalue-greater-than-one rule and the [position of the elbow in the scree plot indicated the extraction of a single factor. The items comprising the *Perceived Employability scale* all loaded satisfactory (with factor loadings greater than .05) in the single extracted factor. However, four (40.0%) non-redundant residual correlations with absolute values greater than .05, brought into question the credibility of the single-factor solution as an explanation for the observed inter-item correlation matrix. Therefore, the extraction two factors were requested and the analysis was run again. The resultant pattern matrix is shown in table 4.54.

Table 4.54

Factor (pattern) matrix for the Perceived Employability scale with two factors forced

	Factor	
	1	2
Q68	1.003	.145
Q67	.743	-.084
Q69	.561	-.226
Q71	.499	-.359
Q70	.048	-.924

Item Q70 was the only item that loaded on the second factor. No clear distinct theme could be identified that differentiated Q70 from the other items of the subscale. Item Q70 was subsequently deleted and the EFA run again. The resultant factor structure is shown in Figure 4.55.

Table 4.55

Factor matrix for the Perceived Employability scale with Q70 deleted

	Factor 1
Q68	.869
Q67	.812
Q71	.753
Q69	.734

All items comprising the *Perceived Employability scale* now loaded satisfactory (all factor loadings greater than .05) on a single factor after the deletion of item Q70. None (0.0%) of the non-redundant residual correlations had absolute values greater than .05. Thus, the extracted single-factor factor structure for the reduced *Perceived Employability* scale provided a plausible explanation for the observed inter-item correlation matrix. The unidimensionality assumption was consequently confirmed for the reduced *Perceived Employability* scale.

4.5.9 Dimensionality Analysis: Perceived Satisfactoriness of Performance

Perceived Satisfactoriness of Performance was conceptualised as a unidimensional construct. The self-developed *Perceived Satisfactoriness of Performance* scale contained 7 items. Item Q77R and Q78 showed themselves as poor items during the item analysis and therefore were deleted from this scale.

Table 4.56

Factor matrix for the Perceived Satisfactoriness of Performance scale with Q77Rand Q78R deleted

	Factor 1
Q72	.822
Q76	.794
Q73	.784
Q74	.766
Q75	.688

The reduced *Perceived Satisfactoriness of Performance* scale obtained a satisfactory KMO estimate of .868. Both the eigenvalue-greater-than-one rule and the scree plot indicated that a single factor should be extracted. All five items of the reduced*Perceived Satisfactoriness of Performance* scale loaded very satisfactory on the single underlying factor (with loadings greater than .50). The credibility of the extracted one-factor solution as an explanation of the observed correlation matrix was satisfactory, as only two (20.0%) of the non-redundant residual correlations obtained absolute values greater than .05.

4.5.10 Dimensionality Analysis: Job Satisfaction

The Job Satisfaction latent variable was conceptualised as a construct that comprises of six correlated latent subscales. The structural model developed in response to the research initiating question developed *Job Satisfaction* as a complex construct but did not distinguish the specific latent dimensions of the construct in the model. Because of the multidimensional nature of the *Job Satisfaction* construct EFA was performed on each of the dimensions individually. The conceptualisation of the *Job Satisfaction* construct did not formally make provision for sub factors within each of the five latent *Satisfaction* dimensions. Conceptually the five latent *Satisfaction* dimensions were considered unidimensional.

4.5.10.1 Job Satisfaction (People that I work with)

The *People that I work with* subscale obtained a KMO estimate of .891 and Bartlett's test of sphericity indicated that the identity matrix H_0 could be rejected, meaning that the correlation matrix was factor analysable. The eigenvalue-greater-than-one indicated that five factors should be extracted to explain the observed inter-item correlation matrix. In contrast the position of the elbow in the scree plot indicated the extraction of a single factor. The obliquely rotated pattern matrix is shown in Table 4.57. The small percentage of large residual correlations (12%) indicated that the five-factor solution provided a plausible and credible explanation for the observed inter-item correlation matrix.

Table 4.57

Factor (pattern) matrix for the Job Satisfaction (people that I work with) scale

	Factor				
	1	2	3	4	5
Q93R	.622	-.063	-.146	.138	.096
Q92R	.605	.190	-.084	.056	.000
Q82R	.428	.218	.014	.026	.411
Q88R	.026	.796	.122	-.003	.072
Q87R	.053	.571	-.122	.116	-.091
Q91R	.075	.539	-.083	.036	.112
Q96R	.029	.440	-.324	.088	-.065
Q83R	-.221	.270	-.196	.110	.246
Q95R	-.068	.374	-.696	.088	-.096
Q81R	.036	-.148	-.593	.095	.120
Q90R	.130	.079	-.557	-.071	.112
Q94R	.290	.055	-.423	.209	.004
Q84R	.308	.100	-.378	-.085	.304
Q80R	-.077	.017	.031	.887	.049
Q79R	.349	.017	.015	.553	.028
Q89R	-.024	-.081	-.060	.058	.715
Q86R	.049	.054	-.066	.100	.665
Q85R	.170	.336	.088	-.001	.375

Table 4.58 indicates modest correlations between the five extracted factors.

Table 4.58

Factor correlation matrix for the Job Satisfaction (people that I work with) scale

Factor	1	2	3	4	5
1	1.000	.296	-.317	.319	.378
2	.296	1.000	-.419	.360	.379
3	-.317	-.419	1.000	-.437	-.399
4	.319	.360	-.437	1.000	.367
5	.378	.379	-.399	.367	1.000

Items Q82R, Q92R, and Q93R loaded on factor 1. Items Q83R, QQ87R, Q88R, Q91R and Q94R loaded on factor 2. Items Q81R, Q84R, Q90R, Q94R and Q95R loaded on factor 3. Items Q79R and Q80R loaded on factor 4. Q85R Q86R and Q89R loaded on factor 5. Given the theme shared by the items that loaded on it factor 1 was interpreted as an Actively *supportive co-worker factor,* factor 2 was interpreted as an *Obnoxious co-worker factor,* factor three as a *Frustratingly meticulous co-worker factor* whilst factor 4 was interpreted as a *Stimulating co-worker factor.* Factor 5 was interpreted as a *gifted co-worker* factor. The factor fission was regarded as conceptually meaningful.

4.5.10.2 Job Satisfaction (Work in general)

The *Work in general* subscale of the *Job Satisfaction* scale returned a KMO estimate of .929. The Bartlett test returned a statistically significant chi-square ($p<.05$) which allowed the identity matrix null hypothesis to be rejected. The position of the elbow in the scree plot and the eigenvalue-greater-than-unity rule indicated the extraction of two factors. The pattern matrix is shown in Table 4.59. The reasonably small percentage of large residual correlations (24%) indicated that the two-factor solution provided a plausible and credible explanation for the observed inter-item correlation matrix.

Table 4.59

Factor (pattern) matrix for the Job Satisfaction (work in general) scale

	Factor	
	1	2
Q114R	.941	-.112
Q112R	.860	-.156
Q98R	.858	.014
Q102R	.713	.136
Q105R	.680	.010
Q100R	.665	.070
Q110R	.644	.155
Q104R	.617	-.051
Q101R	.587	.196
Q113R	.540	.364
Q108R	.489	.080
Q97R	.438	.413
Q99R	-.041	.918
Q111R	.011	.917
Q106R	-.100	.787
Q103R	.258	.596
Q109R	.157	.546
Q107R	.250	.437

Table 4.60 indicates a moderately high correlation between the two extracted factors.

Table 4.60

Factor correlation matrix for the Job Satisfaction (work in general) scale

Factor	1	2
1	1.000	.630
2	.630	1.000

Items Q97R, Q98R, Q100R, Q101R, Q102R, Q104R, Q105R, Q108R, Q110R, Q112R, Q113R and Q114R loaded on factor 1. Items Q99R, Q103R, Q106R, Q107R, Q109R and Q111R loaded on factor 2. Given the theme shared by the items that loaded on it factor 1 was interpreted as a *Disagreeable work* factor whereas factor 2 was interpreted as an *Agreeable work* factor. The factor fission was regarded as conceptually meaningful.

4.5.10.3 Job Satisfaction (Work on present job)

The *Work on present job* subscale of the *Job Satisfaction* scale returned a KMO estimate of .910. The Bartlett test returned a statistically significant chi-square ($p<.05$) which allowed the identity matrix null hypothesis to be rejected. The eigenvalue-greater-than-unity rule indicated the extraction of four factors. The position of the elbow in the scree plot in contrast indicated the extraction of two factors. The pattern matrix is shown in Table 4.61. The small percentage of large residual correlations (15%) indicated that the four-factor solution provided a plausible and credible explanation for the observed inter-item correlation matrix.

Table 4.61

Factor (pattern) matrix for the Job Satisfaction (work on present job) scale

	Factor			
	1	2	3	4
Q123R	.816	.029	-.044	-.025
Q120R	.812	.003	-.045	-.082
Q119R	.772	-.055	-.106	-.144
Q117R	.717	.024	-.244	-.152
Q121R	.708	.006	-.044	.079
Q122R	.648	.095	-.098	.207
Q131R	.633	-.020	.040	-.002
Q132R	.597	.036	.030	.039
Q115R	.515	.131	-.162	.082
Q124R	.495	.003	.027	.183
Q128R	.485	.208	.048	.261
Q127R	.071	.888	.032	-.117
Q116R	.026	.742	-.015	.000
Q118R	-.002	-.030	-.957	-.020
Q129R	.131	.059	-.674	.009
Q130R	.239	-.009	-.529	.066
Q125R	.261	-.140	-.072	.739
Q126R	-.135	.245	-.246	.316

The factor correlation matrix shown in Table 4.62 indicates modest correlations between the four extracted factors.

Table 4.62

Factor correlation matrix for the Job Satisfaction (work on present job) scale

Factor	1	2	3	4
1	1.000	.270	-.585	.331
2	.270	1.000	-.389	.279
3	-.585	-.389	1.000	-.302
4	.331	.279	-.302	1.000

Items Q115R, Q117R, Q119R, Q120R, Q121R, Q123R, Q124R, Q128R, Q131R and Q132R loaded on factor 1. Items Q116R and Q127R loaded on factor 2. Items Q118R, Q129R and Q130R loaded on factor 3. Items Q125R and Q126R loaded on factor 4. Given the theme shared by the items that loaded on it factor 1 was interpreted as a *Rewarding-fulfilling work* factor, factor 2 was interpreted as a *Repetitive work* factor, factor three as a *Boring work* factor whilst factor 4 was interpreted as a *Challenging work* factor. The factor fission was regarded as conceptually meaningful.

4.5.10.4 Job Satisfaction (Pay)

The *Pay* subscale obtained a KMO estimate of .885 and it was gathered from the results obtained for Bartlett's test of sphericity that the identity matrix H_0 could be rejected, meaning that the correlation matrix was factor analysable. The eigenvalue-greater-than-unity dictated the extraction of a single factor. The position of the elbow in the scree plot corroborated the extraction of a single factor. All nine items in the scale loaded satisfactory on the single underlying factor (greater than .50 values) with the lowest vale at .572.

Table 4.63

Factor matrix for the Job Satisfaction (pay) scale

	Factor 1
Q139R	.789
Q137R	.758
Q141R	.692
Q136R	.675
Q138R	.667
Q133R	.636
Q135R	.622
Q134R	.607
Q140R	.572

The credibility of the extracted one-factor solution as an explanation of the observed correlation matrix was, however, questionable in that sixteen (44.0%) of the non-redundant residual correlations obtained absolute values greater than .05. Consequently, the default eigenvalue-greater-than-unity extraction rule was overridden and the extraction of two factors was requested. The resultant pattern matrix is shown in Table 4.64.

Table 4.64

Factor (pattern) matrix for the Job Satisfaction (pay) scale with the extraction of two factors forced

	Factor	
	1	2
Q140R	.789	.158
Q135R	.647	-.031
Q133R	.597	-.093
Q137R	.572	-.250
Q136R	.506	-.225
Q134R	.400	-.259
Q138R	-.080	-.868
Q139R	.206	-.679
Q141R	.145	-.633

The reasonably small percentage of large residual correlations (16%) indicated that the two-factor solution now provided a more plausible and credible explanation for the observed inter-item correlation matrix than the original single-factor solution. The factor correlation matrix shown in Table 4.65 indicates a moderately high negative correlation between the two extracted factors.

Items Q133R, Q134R, Q135R, Q136R, Q137R and Q140R loaded on factor 1. Items Q138R, Q139R and Q141R loaded on factor 2. Given the theme shared by the items that loaded on it factor 1 was interpreted as an *Evaluation of pay against expenses* factor whilst factor 2 was interpreted as an *Evaluation of pay against comparable others* factor. The factor fission was regarded as conceptually meaningful.

Table 4.65

Factor correlation matrix for the Job Satisfaction (pay) scale with the extraction of two factors forced

Factor	1	2
1	1.000	-.652
2	-.652	1.000

4.5.10.5 Job Satisfaction (Opportunity for promotion)

The *Opportunity for promotion* subscale obtained a KMO estimate of .899. The Bartlett test returned a statistically significant chi-square ($p<.05$) which allowed the identity matrix null hypothesis to be rejected. The eigenvalue-greater-than-unity rule indicated the extraction of a single factors. The position of the elbow in the scree plot also indicated the extraction of a single factor 1. The resultant single-factor factor matrix is shown in Table 4.66.

Table 4.66

Factor matrix for the Job Satisfaction (opportunity for promotion) scale

	Factor 1
Q142R	.909
Q146R	.884
Q150R	.818
Q147R	.814
Q144R	.715
Q143R	.687
Q145R	.638
Q149R	.581
Q148R	.437

All items in the subscale loaded satisfactory on the single underlying factor (greater than .50 values), except for item Q148R with a value of .437. The one-factor solution, however, failed to provide a plausible explanation for the observed inter-item correlation matrix in that fifteen (41.0%) of the residual correlations were greater than .05. The extraction of two factors was consequently requested. The resultant pattern matrix is shown in Table 4.67.

Table 4.67

Factor (pattern) matrix for the Job Satisfaction (opportunity for promotion) scale with the extraction of two factors forced

	Factor	
	1	2
Q146R	.933	-.022
Q145R	.786	-.150
Q147R	.784	.060
Q142R	.707	.263
Q150R	.679	.188
Q144R	.572	.190
Q149R	-.043	.806
Q143R	.331	.453
Q148R	.087	.440

The reasonably small percentage of large residual correlations (22%) indicated that the two-factor solution now provided a more plausible and credible explanation for the observed inter-item correlation matrix. The factor correlation matrix shown in Table 4.68 indicates a moderately high positive correlation between the two extracted factors.

Table 4.68

Factor correlation matrix for the Job Satisfaction (opportunity for promotion) scale with the extraction of two factors forced

Factor	1	2
1	1.000	.660
2	.660	1.000

Items Q142R, Q144R, Q145R, Q146R, Q147R and Q150R loaded on factor 1. Items Q143R, Q148R and Q149R loaded on factor 2. Given the theme shared by the items that

loaded on it factor 1 was interpreted as a *Chance of promotion* factor whilst factor 2 was interpreted as a *Frequency of promotion* factor. The factor fission was regarded as conceptually meaningful.

4.5.10.6 Job Satisfaction (Supervision)

The Supervision subscale of the Job satisfaction scale returned a KMO estimate of .928. the Bartlett test returned a statistically significant (p<.05) chi square estimate which allowed the identity matrix null hypothesis to be rejected. The eigen-value-greater-than-unity indicated the extraction of two factors. The position of the elbow in the scree plot, in contrast, suggested the extraction of a single factor. The resultant pattern matrix is shown in Table 4.69.

Table 4.69

Factor (pattern) matrix for the Job Satisfaction (supervision) scale

	Factor	
	1	2
Q157R	.852	.084
Q166R	.776	.053
Q156R	.666	.005
Q165R	.572	-.099
Q163R	.564	.033
Q167R	.563	-.109
Q160R	.513	-.168
Q168R	.489	-.214
Q162R	.331	-.314
Q153R	-.160	-.983
Q158R	-.082	-.916
Q161R	.120	-.643
Q164R	.158	-.635
Q152R	.093	-.580
Q155R	.279	-.479
Q154R	.403	-.412
Q151R	.360	-.385
Q159R	.137	-.373

The reasonably small percentage of large residual correlations (27%) indicated that the two-factor solution provided a plausible and credible explanation for the observed inter-item correlation matrix. The factor correlation matrix shown in Table 4.70 indicates a reasonably high negative correlation between the two extracted factors.

Table 4.70

Factor correlation matrix for the Job Satisfaction (supervision) scale

Factor	**1**	**2**
1	1.000	-.753
2	-.753	1.000

Items Q151R, Q152R, Q153R, Q154R, Q155R, Q158R, Q159R, Q161R and Q164R loaded on factor 2. Items Q156R, Q157R, Q160, Q162R, Q163R, Q165R, Q166R, Q167R and Q168R loaded on factor 1. Given the theme shared by the items that loaded on it factor 1

was interpreted as a *satisfaction with task-related supervision* factor whilst factor 2 was interpreted as a *Satisfaction with people-related supervision* actor. The factor fission was regarded as conceptually meaningful.

4.5.10.6 Confirmatory factor analysis of the Job Satisfaction *scale*

The *Job Satisfaction* scale comprises 90 items measuring 5 latent variables. Fitting the Job Satisfaction measurement model with individual items would require the estimation of 190 freed parameters[29]. The sample comprised 196 observations. The ratio of freed parameters to observations was therefore too large to allow the fitting of the *Job Satisfaction* measurement model with individual items. Consequently, it was decided to fit the measurement model in which each of the five latent *Job Satisfaction* dimensions were represented by the composite item scores[30] calculated in accordance with the loading pattern of the subscale items in the pattern matrices. The first-order *Job Satisfaction* measurement model (see Figure 4.7) showed reasonable fit but the close fit null hypothesis nonetheless had to be rejected (RMSEA=.066; p<.05[31]). All the composite item indicators loaded statistically significantly (p<.05)[32] on the latent *Job Satisfaction* dimensions they were designated to reflect.

Inspection of the modification indices calculated for the first-order Job Satisfaction measurement model, however, showed a large number of statistically significant (p<.01) modification index values for the off-diagonal of the theta-delta matrix (see Figure 4.8). This suggested the presence of a general factor that the first-order measurement model failed to formally acknowledge. A bi-factor model (Reise, 2012) was consequently fitted in which each of the five specific, narrow latent *Job Satisfaction* dimensions were represented by specific composite item scores calculated in accordance with the loading pattern of the subscale items in the pattern matrix but in which these composite indicators also all reflected a broad, general *Job Satisfaction* factor.

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[29] 90 λ_{ij}, 90 $\theta_{\delta ii}$ and 10ϕ_{jk}.
[30] The mean item scores of the items loading on each extracted factor were calculated.
[31] The conditional probability of obtaining the sample RMSEA value of .066 under the close fit null hypothesis was .0426 a consequently a finding of close fit was only marginally missed.
[32] Interpretation of the measurement model parameters was considered justifiable given the finding of reasonable model fit, albeit not close fit.

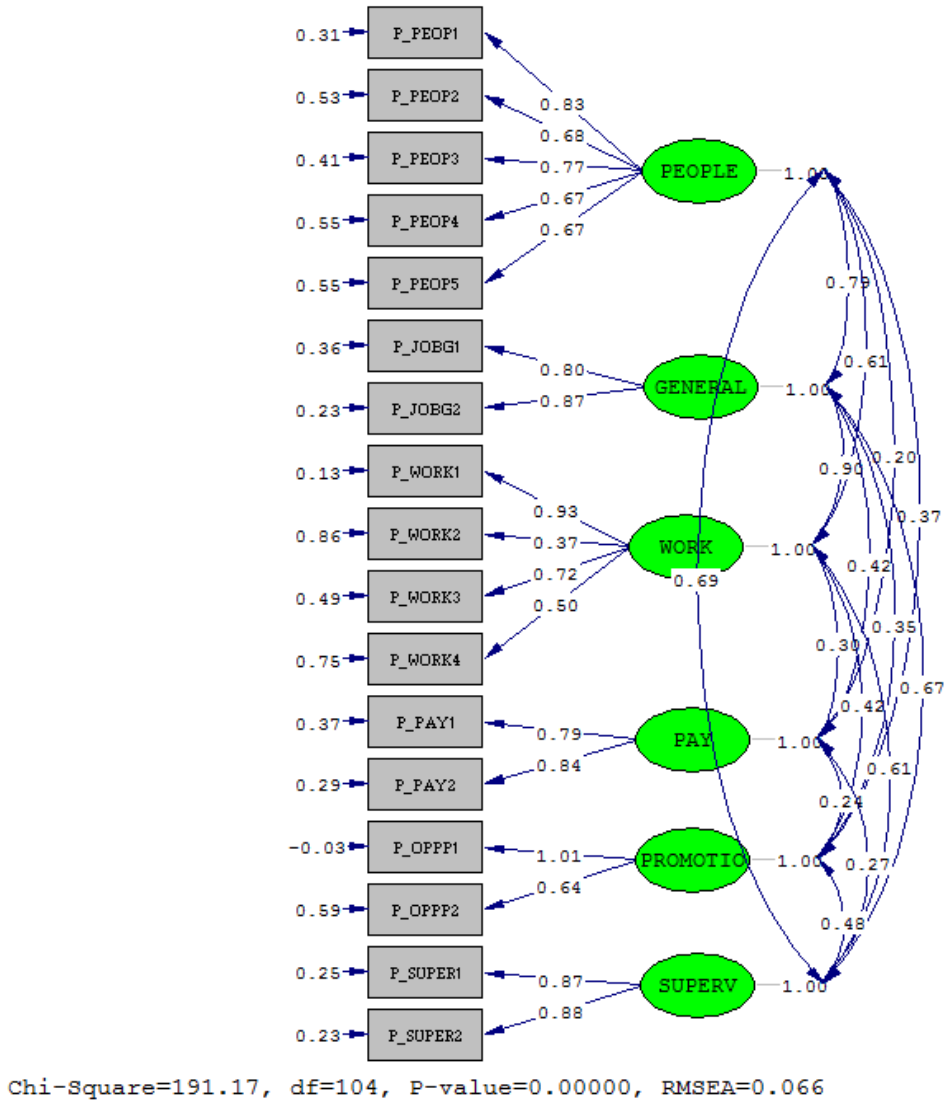

Figure 4.7. First-order Job Satisfaction measurement model (completely standardised solution).

The bi-factor model, depicted in Figure 4.9, showed close fit (RMSEA=.056; p>.05). The composite indicator variables all loaded statistically significantly (p<.05) on the broad, general *Job Satisfaction* factor (see Table 4.71) but for the composite indicator calculated from items Q116R and Q127R that loaded on the second factor (*Repetitive work* factor) extracted for the *Work on present job* subscale. Table 4.71, in addition, shows that all composite indicators loaded statistically significantly on the narrow, more specific latent Job satisfaction dimensions they were designated to reflect but for the indicators calculated from the *Work on the present job* subscale.

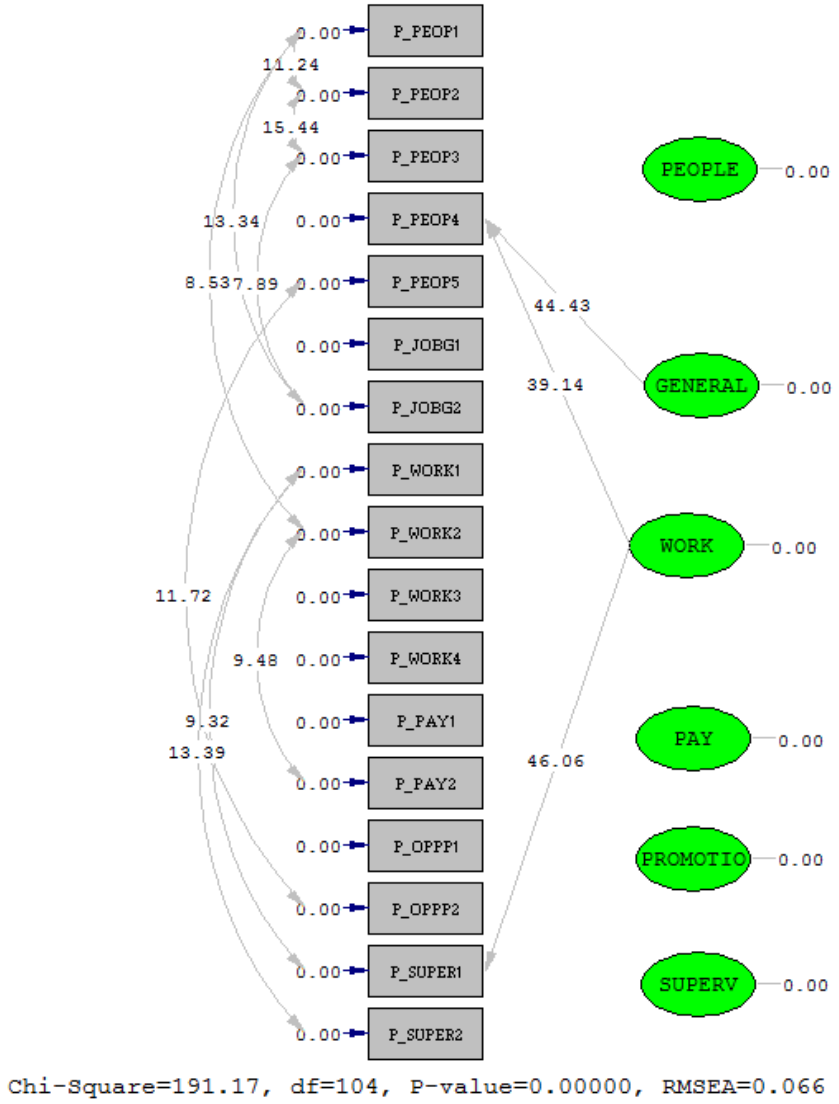

Figure 4.8. Statistically significant (p<.01) modification indices calculated for the first-order Job Satisfaction measurement model.

The items (Q116R and Q127R) comprising the second composite indicator (P_Work2) were subsequently ignored when calculating the parcels that were used to operationalise the *Job Satisfaction* latent variable to allow the empirical testing of the hypothesised *Intention to Quit* structural model.

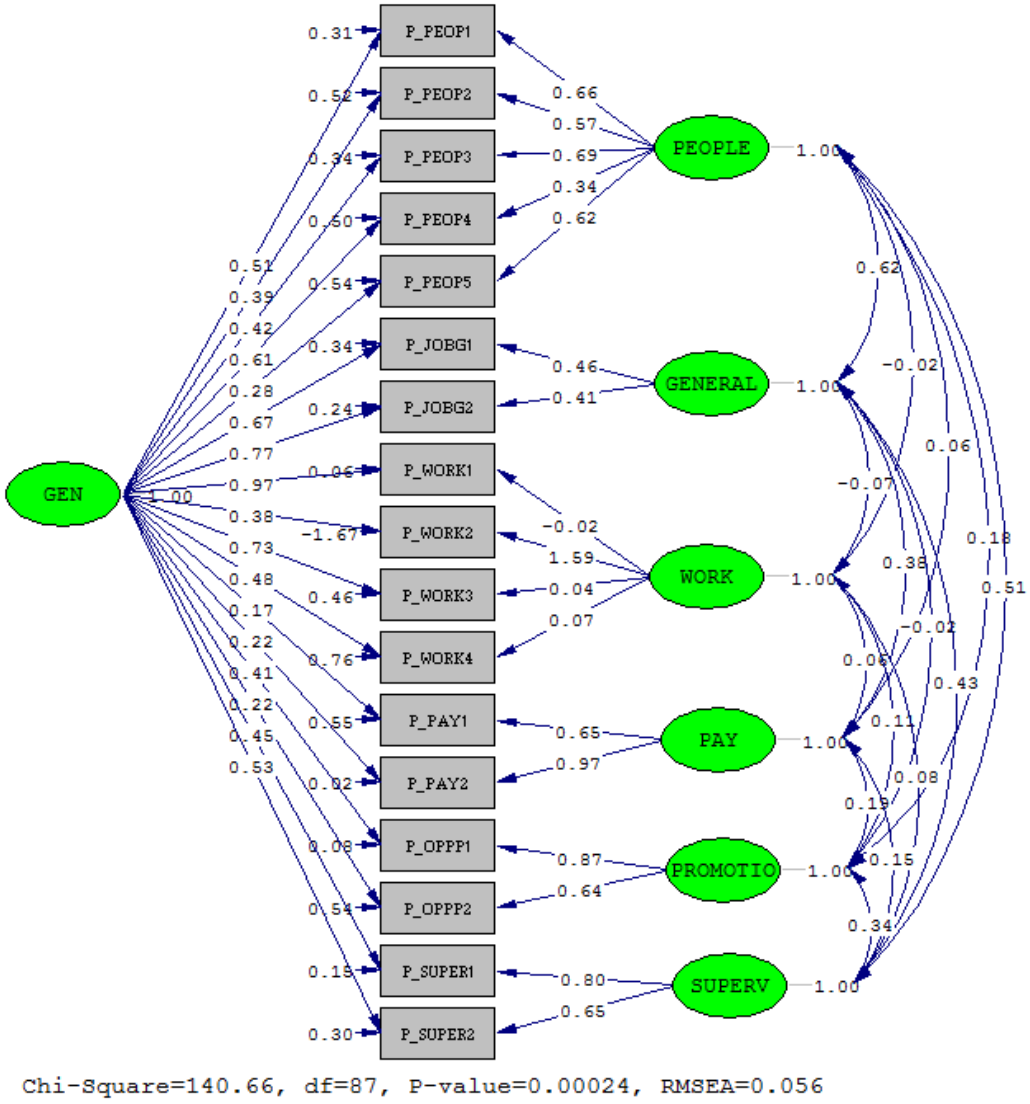

Figure 4.9. Bi-factor Job Satisfaction measurement model (completely standardised solution).

Table 4.71

Unstandardised factor loading matrix for the bi-factor Job Satisfaction measurement model

	PEOPLE	GENERAL	WORK	PAY	PROMOTIO	SUPERV	GEN
P_PEOP1	0.195	- -	- -	- -	- -	- -	0.149
	(0.036)						(0.029)
	5.337						5.115
P_PEOP2	0.142	- -	- -	- -	- -	- -	0.097
	(0.026)						(0.022)
	5.385						4.432
P_PEOP3	0.205	- -	- -	- -	- -	- -	0.126
	(0.020)						(0.023)
	10.235						5.431
P_PEOP4	0.111	- -	- -	- -	- -	- -	0.197
	(0.028)						(0.030)
	4.002						6.686
P_PEOP5	0.132	- -	- -	- -	- -	- -	0.060
	(0.025)						(0.019)
	5.391						3.115
P_JOBG1	- -	0.095	- -	- -	- -	- -	0.139
		(0.025)					(0.021)
		3.830					6.532
P_JOBG2	- -	0.126	- -	- -	- -	- -	0.238
		(0.034)					(0.022)
		3.668					10.904
P_WORK1	- -	- -	-0.006	- -	- -	- -	0.263
			(0.058)				(0.021)
			-0.101				12.721
P_WORK2	- -	- -	0.663	- -	- -	- -	0.158
			(3.803)				(0.103)
			0.174				1.532
P_WORK3	- -	- -	0.011	- -	- -	- -	0.223
			(0.063)				(0.027)
			0.181				8.413
P_WORK4	- -	- -	0.021	- -	- -	- -	0.146
			(0.131)				(0.030)
			0.160				4.852
P_PAY1	- -	- -	- -	0.192	- -	- -	0.050
				(0.069)			(0.030)
				2.805			1.652
P_PAY2	- -	- -	- -	0.377	- -	- -	0.085
				(0.120)			(0.030)
				3.139			2.835
P_OPPP1	- -	- -	- -	- -	0.324	- -	0.155
					(0.037)		(0.024)
					8.774		6.341
P_OPPP2	- -	- -	- -	- -	0.203	- -	0.069
					(0.030)		(0.024)
					6.692		2.835
P_SUPER1	- -	- -	- -	- -	- -	0.219	0.122
						(0.025)	(0.021)
						8.739	5.754
P_SUPER2	- -	- -	- -	- -	- -	0.187	0.152
						(0.025)	(0.025)
						7.479	6.180

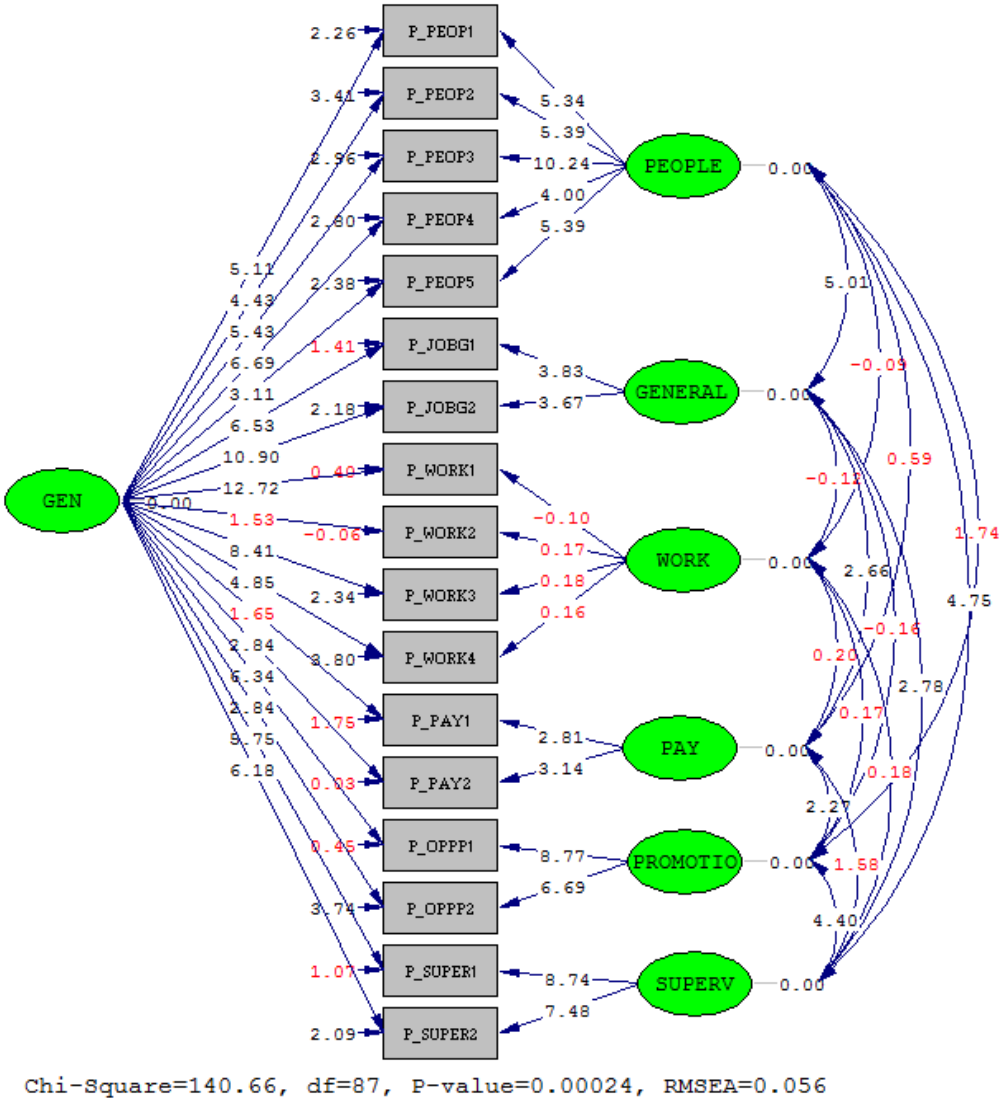

Figure 4.10. Z-values calculated to allow the testing of the statistical significance of the parameter estimates of the *bi-factor Job Satisfaction measurement model (completely standardised solution).*

4.5.11 Summary of the Findings of the Dimensionality Analyses

The objective of the dimensionality analyses was to determine whether the scales and subscales developed to measure unidimensional latent variables included in the reduced *Intention to Quit* Structural Model as depicted in Figure 3.1 succeeded in doing so. The item analyses for all the scales except for subscales Competence (.769), *Affective Commitment* (.786) and *Continuance Commitment* (.704) indicated acceptable internal consistency in that all of them returned alpha values exceeding the critical cut-off value of .80. The interpretation of the item statistics indicated the need to delete only two items from all the scales and subscales in the composite research questionnaire. With regards to the dimensionality analyses, all the scales, except for *Organisational Commitment* and *Job Satisfaction* passed the unidimensionality assumption as was originally hypothesised.

4.6 ITEM PARCELLING

It would be an ideal situation in research to use the individual items that make up the scale to operationalise the latent variables they were developed to represent, whilst using LISREL to evaluate a structural model. However, this then leads to very large models in which a huge number of measurement model parameters need to be estimated. This then in turn requires a large sample to ensure that the ratio of observations to freed parameters is acceptable. A solution was to operationalise the latent variables in a manner that reduced the complexity of the model. Therefore, at least two item parcels were created for each latent variable. According to Little, Cunningham, Shahar and Widaman (2002) there are several advantages or psychometric merits that justify the use of item parcelling. These include higher statistical power for a given sample size, an increase in indicator variable reliability and more symmetric indicator variable distributions.

Therefore, item parcels were created by calculating the means of the even and uneven numbered items of each scale or subscale and creating two item parcels per latent variable before the fitting of the measurement and structural model commenced.

To operationalise the latent interaction effect in the model the residual centering procedure proposed by Little, Bovairda and Widaman (2006) was used. The procedure involved firstly calculating all possible product terms from the indicators of the latent variables involved in the interaction effect (Perceived Utility of Movement and Employability), allowing only products between indicators of different latent variables. These product terms were then regressed one-by-one on all the individual indicators of the latent variables involved and the unstandardised residuals calculated for each regression model (RES_1 – RES_4). The unstandardised residuals contained that part of the variance in the product term that is unrelated to the indicator variable main effects. The unstandardised residual therefore represents the pure interaction effect (if it exists), uncontaminated by any main effects (Little et al., 2006). The residuals (RES_1 – RES_4) were then used to represent the latent Perceived Utility of Movement x Employability interaction effect.

4.7 FITTING OF THE INTENTION TO QUIT MEASUREMENT MODEL

The structural model depicted in Figure 3.1 represents a hypothesis on the manner in which the constructs in the model causally affect each other. To empirically test the validity of these structural hypotheses the constructs were operationalised through indicator variables. Operationalisation of the constructs creates a measurement model as a hypothesis on the manner in which the constructs are structurally related to the indicator variables.

The comprehensive LISREL model is obtained when the structural and measurement models are combined into a single model. A prerequisite for a valid verdict on the validity of the structural hypotheses is that the indicator variables provide valid and reliable measures of the latent variables they were designated to reflect according to the measurement model. Therefore, the measurement model component of the comprehensive LISREL model had to be evaluated prior to the thorough evaluation of the structural model component of the model (Diamantopoulos & Siguaw, 2000).

4.7.1 Variable Type

For the purpose of this research study the indicator variables were interpreted as continuous variables, measured on an interval level (Burger, 2012), as opposed to discrete variables. The most obvious reason for this is that the indicator variables were item parcels rather than individual items Thus, the covariance matrix was analysed using ML estimation provided that the multivariate normality assumption was met (Mels, 2003). According to Millsap and Maydeu-Olivares (2009, p. 78) “when all variables are continuous, it is typical to assume a multivariate-normal model”. This assumption must however first be tested. In section 4.7.2 multivariate normality as a critical assumption when using SEM will be discussed.

4.7.2 Testing for multivariate normality

When fitting models to continuous data the default method of estimation (ML estimation) assumes that the indicator variables follow a multivariate normal distribution (Mels, 2003). When this assumption is not met the risk of incorrect standard errors and chi-square values increases (Du Toit & Du Toit, 2001; Mels, 2003). The multivariate normality of the indicator variable distribution was therefore evaluated via PRELIS (Jöreskog & Sörbom, 1996a). The results of the test of multivariate normality are shown in Table 4.72 to Table 4.75.

Table 4.72

Test of univariate normality for continuous variables before normalisation

	Skewness		Kurtosis		Skewness and Kurtosis	
Variable	**Z-Score**	**P-Value**	**Z-Score**	**P-Value**	**Chi-Square**	**P-Value**
P_SAT1	-4.775	0.000	0.639	0.523	23.206	0.000
P_SAT2	-4.925	0.000	1.184	0.236	25.658	0.000
P_PSEMP1	-6.881	0.000	4.594	0.000	68.452	0.000
P_PSEMP2	-6.888	0.000	4.525	0.000	67.927	0.000
P_ITQ1	2.953	0.003	-2.265	0.024	13.850	0.001
P_ITQ2	4.261	0.000	-0.684	0.494	18.626	0.000
P_PDO1	-2.731	0.006	-2.395	0.017	13.197	0.001
P_PDO2	-3.701	0.000	-0.162	0.871	13.723	0.001
P_PHC1	-4.206	0.000	1.564	0.118	20.136	0.000
P_PHC2	-4.084	0.000	1.325	0.185	18.433	0.000
P_PAO1	-1.149	0.251	-3.594	0.000	14.237	0.001
P_PAO2	-0.488	0.625	-3.532	0.000	12.712	0.002
P_PHM1	1.002	0.316	-2.355	0.019	6.552	0.038
P_PHM2	0.897	0.370	-2.271	0.023	5.962	0.051
P_PEP1	-0.297	0.766	-3.448	0.001	11.977	0.003
P_PEP2	-0.884	0.377	-3.208	0.001	11.073	0.004
P_PSP1	-3.368	0.001	-0.010	0.992	11.343	0.003
P_PSP2	2.306	0.021	3.309	0.001	16.266	0.000
P_OC1	-1.524	0.127	-0.020	0.984	2.324	0.313
P_OC2	-0.740	0.459	0.221	0.825	0.596	0.742
RES_1	4.242	0.000	2.760	0.006	25.616	0.000
RES_2	4.480	0.000	2.838	0.005	28.129	0.000
RES_3	4.748	0.000	2.989	0.003	31.484	0.000
RES_4	4.823	0.000	3.280	0.001	34.020	0.000

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

From Table 4.72 it is clear that the assumption of univariate normality was not met for all item parcels but for P_PHM2, P_OC1 and P_OC2. In the absence of univariate normality satisfying the multivariate normality assumption was an unlikely outcome. This was corroborated by Table 4.73.

Table 4.73

Test of multivariate normality for continuous variables before normalisation

Skewness			Kurtosis			Skewness and Kurtosis	
Value	Z-Score	P-Value	Value	Z-Score	P-Value	Chi-Square	P-Value
159.602	28.243	0.000	738.239	12.510	0.000	954.186	0.000

From Table 4.72 and Table 4.73 it is clear that the necessary assumptions of univariate and multivariate normality were not met. The chi-square for skewness and kurtosis indicated that 21 of the 24 item parcels failed the univariate normality assumption ($p<.05$). Moreover, the null hypothesis that the data follows a multivariate normal distribution also had to be rejected ($\chi^2=954.186$; $p<.05$). Therefore, the composite indicator variable distribution was normalised using PRELIS. The results are shown in Table 4.74 and Table 4.75.

Table 4.74

Test of univariate normality for continuous variables after normalisation

	Skewness		Kurtosis		Skewness and Kurtosis	
Variable	Z-Score	P-Value	Z-Score	P-Value	Chi-Square	P-Value
P_SAT1	-0.070	0.944	-0.158	0.875	0.030	0.985
P_SAT2	-0.065	0.948	-0.046	0.964	0.006	0.997
P_PSEMP1	-0.409	0.682	-0.516	0.606	0.434	0.805
P_PSEMP2	-0.731	0.465	-1.145	0.252	1.845	0.397
P_ITQ1	1.191	0.234	-2.272	0.023	6.583	0.037
P_ITQ2	1.953	0.051	-2.892	0.004	12.178	0.002
P_PDO1	-1.142	0.253	-2.470	0.014	7.404	0.025
P_PDO2	-1.109	0.267	-1.832	0.067	4.588	0.101
P_PHC1	-0.998	0.318	-0.864	0.388	1.743	0.418
P_PHC2	-1.182	0.237	-1.274	0.203	3.021	0.221
P_PAO1	0.404	0.686	-1.132	0.257	1.445	0.485
P_PAO2	0.504	0.614	-0.963	0.335	1.182	0.554
P_PHM1	0.395	0.693	-1.019	0.308	1.194	0.550
P_PHM2	0.317	0.751	-0.646	0.518	0.518	0.772
P_PEP1	0.418	0.676	-0.847	0.397	0.892	0.640
P_PEP2	0.311	0.756	-1.438	0.150	2.165	0.339
P_PSP1	-1.354	0.176	-1.680	0.093	4.657	0.097
P_PSP2	-0.119	0.905	0.103	0.918	0.025	0.988
P_OC1	-0.009	0.993	0.096	0.924	0.009	0.995
P_OC2	0.001	0.999	0.089	0.929	0.008	0.996
RES_1	-0.006	0.995	0.091	0.927	0.008	0.996
RES_2	-0.009	0.993	0.088	0.930	0.008	0.996
RES_3	-0.006	0.995	0.091	0.927	0.008	0.996
RES_4	-0.006	0.995	0.091	0.927	0.008	0.996

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

Table 4.75

Test of multivariate normality for continuous variables after normalisation

Skewnes			Kurtosis			Skewness and Kurtosis	
Value	Z-Score	P-Value	Value	Z-Score	P-Value	Chi-Square	P-Value
154.836	26.872	0.000	728.754	11.948	0.000	864.850	0.000

The results indicate that the normalisation procedure succeeded in resolving the univariate normality problem that plagued the indicator variables and that most of the individual variables were displaying a univariate normal distribution but for three (P_ITQ1, P_ITQ2 and P_PDO1). The results shown in Table 4.75, however show that the normalisation procedure failed to solve the lack of multivariate normality problem. The null hypothesis that the data follows a multivariate normal distribution still had to be rejected ($\chi 2$=864.850; p<.05) after normalisation. The normalisation procedure did, however, have the benefit that it reduced the extent to which the observed indicator distribution deviated from the theoretical multivariate normal distribution. This is reflected in the decrease in the chi-square statistic for skewness and kurtosis.

Since the normalisation technique lead to a reduction in the chi-square statistics, robust maximum likelihood was used as an alternative, more appropriate, estimation technique. The fact that the data used is continuous and does not satisfy the multivariate normality assumption critical for the multivariate statistical analysis to follow made this estimation technique an applicable technique to use (Mels, 2003).

4.7.3 Fit of the Reitz Intention to Quit Measurement Model

The measurement model describes the manner in which the latent variables are hypothesised to be related to the indicator variables. Operationalising the latent variables comprising the structural model with invalid indicators could result in an erroneous verdict on the validity of the hypothesised structural relations. Thus, it was important to first determine the psychometric quality of the measures, prior to investigating the fit of the structural model or the substantive relationships of interest. Evaluating the fit of the *intention to quit* measurement model involved the evaluation of the hypothesised relationships between the latent variables in the *intention to quit* structural model and the composite indicators created to represent them. The objective is to determine the reliability and validity with which the measures designed to represent the latent variables do just that. When fitting the measurement model, verdicts on the goodness of fit are more credible if derived from a combination of a variety of fit indices (Tanaka, 1993; Theron 2014).

The original measurement model failed to converge due to an inadmissible solution. Negative measurement error variance estimates were obtained for some of the indicators of the latent interaction effect. Two indicators of the latent interaction effect were consequently removed (RES_1 and RES_4). The revised model successfully converged without any inadmissible parameter estimates. A visual representation of the fitted Reitz *intention to quit* measurement model is presented in Figure 4.11. This is followed by Table 4.76, which outlines the goodness of fit indices.

Although a wide range of goodness-of-fit statistics are available to evaluate model fit, no one single measure is explicitly superior when compared to the others. According to Diamantopoulos and Siguaw (2009), this is due to the fact that intervening factors such as sample size, estimation procedure and model complexity influence the way in which certain indices operate and furthermore fit is measured differently by the various fit indices. Furthermore Tanaka (1993) states that consensus about what constitutes "good fit statistics" also seems to be missing. Therefore, it is imperative to consider a basket of evidence surrounding measurement model fit in order to reach a valid conclusion regarding the actual fit of a model (Theron, 2014).

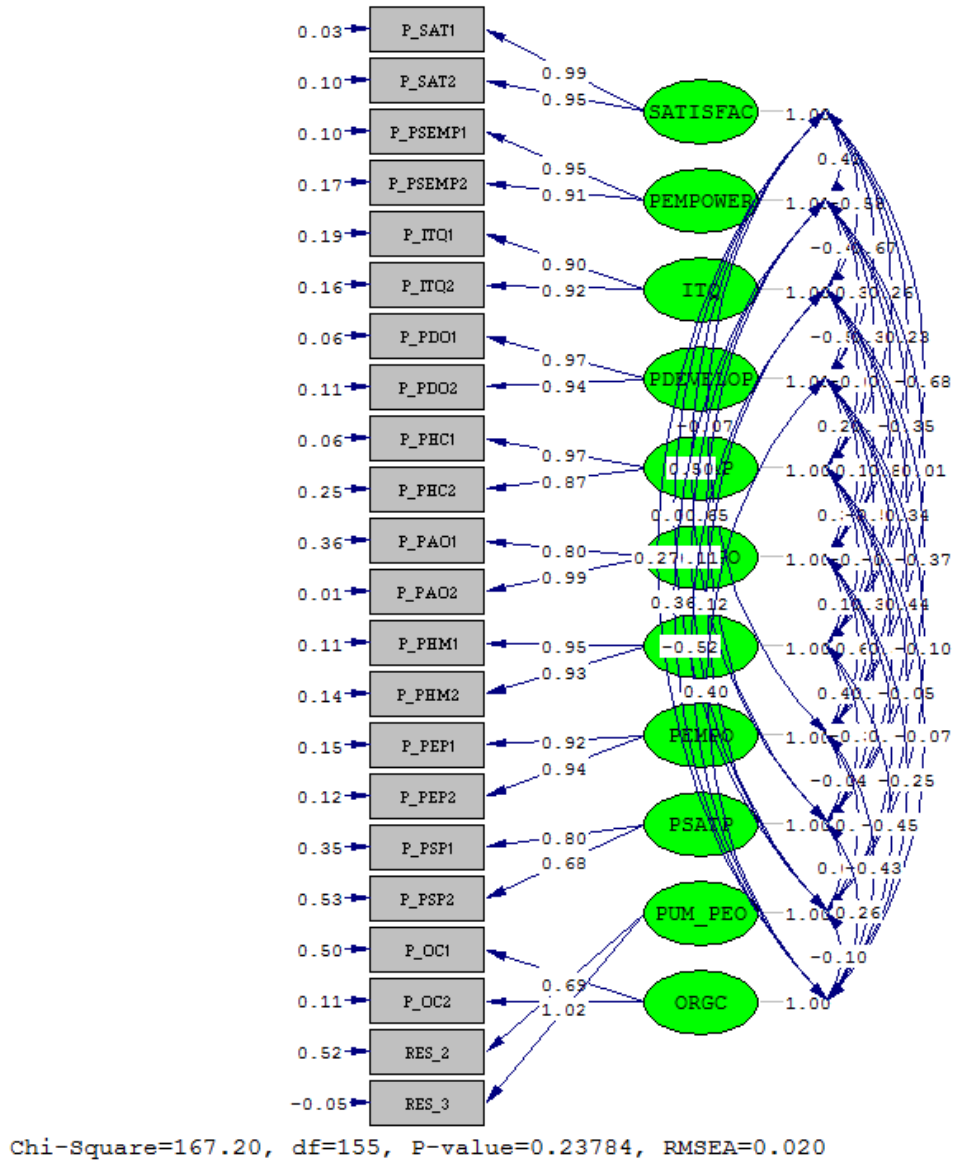

Figure 4.11. Visual representation of the Reitz *Intention to Quit* measurement model (completely standardised solution).

Fit was evaluated using absolute fit indices and incremental as well as parsimony fit indices simultaneously. In addition to these goodness of fit indices, the distribution of the standardised variance and covariance residuals and the magnitude of the model modification indices calculated for $\boldsymbol{\Lambda}^{x}$ and $\boldsymbol{\Theta}_{\delta}$ were also evaluated to determine the model fit. According to Diamantopoulos and Siguaw (2009), Hooper, Coughlan and Mullen (2008) and Hu and Bentler (1999), the overall fit statistics used to assess measurement model fit, highlighted[33] in Table 4.77, along with an evaluation of the standardised residuals and percentage of large modification indices, should be more than sufficient to aid in reaching a

[33] The measures used have been highlighted by bolding the specific values under investigation. The discussion surrounding the benefit of the use of each measure will be presented hand-in-hand with the data interpretation. Additionally, the justification for ignoring certain other indices have also been provided.

well-informed conclusion surrounding model fit. The results of the full range of fit indices (both comparative and absolute) are reported in Table 4.76.

Table 4.76

Goodness of fit statistics for the Reitz intention to quit measurement model

Goodness of Fit Statistics
Degrees of Freedom = 155
Minimum Fit Function Chi-Square = 184.367 (P = 0.0537)
Normal Theory Weighted Least Squares Chi-Square = 178.905 (P = 0.0916)
Satorra-Bentler Scaled Chi-Square = 167.202 (P = 0.238)
Chi-Square Corrected for Non-Normality = 914.755 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 12.202
90 Percent Confidence Interval for NCP = (0.0 ; 47.593)
Minimum Fit Function Value = 0.945
Population Discrepancy Function Value (F0) = 0.0626
90 Percent Confidence Interval for F0 = (0.0 ; 0.244)
Root Mean Square Error of Approximation (RMSEA) = 0.0201
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.0397)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.997
Expected Cross-Validation Index (ECVI) = 1.863
90 Percent Confidence Interval for ECVI = (1.800 ; 2.044)
ECVI for Saturated Model = 2.595
ECVI for Independence Model = 26.705
Chi-Square for Independence Model with 231 Degrees of Freedom = 5163.503
Independence AIC = 5207.503
Model AIC = 363.202
Saturated AIC = 506.000
Independence CAIC = 5301.621
Model CAIC = 782.457
Saturated CAIC = 1588.363
Normed Fit Index (NFI) = 0.968
Non-Normed Fit Index (NNFI) = 0.996
Parsimony Normed Fit Index (PNFI) = 0.649
Comparative Fit Index (CFI) = 0.998
Incremental Fit Index (IFI) = 0.998
Relative Fit Index (RFI) = 0.952
Critical N (CN) = 232.938
Root Mean Square Residual (RMR) = 0.0234
Standardized RMR = 0.0349
Goodness of Fit Index (GFI) = 0.923
Adjusted Goodness of Fit Index (AGFI) = 0.874
Parsimony Goodness of Fit Index (PGFI) = 0.565

The null hypothesis that the model fits the population data perfectly was tested via the Satorra-Bentler $\chi 2$ test statistics:

$$H_{026a}: \text{RMSEA} = 0$$

$$H_{a26a}: \text{RMSEA} > 0$$

Table 4.76 indicates that this model achieved a Satorra-Bentler scaled chi-squared statistic (Satorra & Bentler, 1994) of 167.202 (p=.238). H_{026a}: RMSEA = 0 was therefore not rejected (p<.05). This finding was somewhat surprising as the assumption that a model could fit exactly in the population is rather unrealistic. A more realistic assumption is that this model

could fit closely or reasonably well and therefore the hypothesis of close fit would normally rather be tested, namely;

$$H_{026b}: \text{RMSEA} = 0$$

$$H_{a26b}: \text{RMSEA} > 0$$

Given the decision not to reject the exact fit null hypothesis, it followed that the more lenient H_{026b}: RMSEA = 0 would also not be rejected. According to Table 4.76 it is evident that H_{026b}: RMSEA = 0 was not rejected (p>.05). The conditional probability of obtaining the sample RMSEA estimate (.0201) under the assumption that the close fit null hypothesis is true in the parameter was sufficiently large (.997) not to reject the close fit null hypothesis (H_{026b}).

The (RMSEA) is generally regarded as one of the more informative fit indices, as it takes into consideration the complexity of the model and therefore the degrees of freedom. It is a widely used measure of fit that expresses the difference between the observed and fitted sample covariance matrices. The RMSEA-value illustrates how well the model, with unknown but optimally chosen parameter values, fits the population covariance matrix if it were available. According to Theron (2010) and Diamantopoulos and Siguaw (2000), they suggest that values of .05, or less, are generally regarded as indicative of a good model fit in the sample, and for values above .05 but less than .08, mediocre fit is indicative by a value of .08 and poor model fit for values of .10 and higher. Based on this convention, the fit of the Reitz intention to quit measurement model in the sample was good.

Furthermore, according to Byrne (2001), if assessed in conjunction with the 90 percent confidence interval for RMSEA (.0; .0397) it is further suggested that this model showed a good fit in the parameter in that the interval is small. Moreover, this is indicative of a higher level of precision of the model's fit in the population and in that the upper bound of the confidence interval fell below .05. The standardised root mean square residual (SRMR) (.0349) as showed in Table 4.76 additionally indicated good fit (SRMR<.05).

Furthermore, prudent measures of model fit also include the goodness-of-fit index (GFI) and adjusted goodness-of-fit index (AGFI). According to Diamantopoulos and Siguaw (2000), Tabachnick and Fidell (2014) the GFI acts as an indication of how closely a model can reproduce the observed covariance matrix, whereas the AGFI additionally takes degrees of freedom into account. Both indices' values should range between 0 and 1 and any value greater than .90 reflects a good fit. Table 4.76 show values of .923 (GFI) and .874 (AGFI).

The normed-fit index (NFI) and comparative-fit index (CFI) indicated that when compared to a baseline independent model, the measurement model fitted well. NFI evaluates the fit by comparing the chi-square value of the model to the chi-square value of the null hypothesis

model[34]. Values greater than .90 are, according to Bentler and Bonnet (1980), indicative of a good fit, but however, more recently according to Hu and Bentler (1999), they suggested that a better cut-off would be values equal to or greater than .95. As illustrated in Table 4.76, a NFI value of .968 and a CFI value of .998 was obtained for the Reitz intention to quit measurement model which suggests that this model fits well. The non-normed fit index (NNFI) of .996 supports the assumption of a good model fit.

Lastly, the assessment of parsimonious fit acknowledges that model fit can always be improved by increasing the number of paths to the model until perfect fit is achieved in the form of a saturated or just-identified model with zero degrees of freedom (Kelloway, 1998). The parsimonious normed-fit index (PNFI=.649) and the parsimonious goodness-of-fit index (PGFI=.565) describe model fit from this point of view. PNFI and PGFI range from 0 to 1, but there is no critical cut-off value that is generally accepted as indicative of parsimonious fit, although values within the range of .50 region could already be indicative of a good fit.

In conclusion, taking all of the above fit indices into account it seemed reasonable to suggest that the Reitz *intention to quit* measurement model showed good fit. However, before a final conclusion was drawn with regards to the fit of the model, standardised residuals and modification indices were also considered. These analyses are presented in sections 4.7.4 and 4.7.5.

4.7.4 Examination of the standardised residuals of the Reitz Intention to Quit Measurement Model

LISREL provides a summary of the large positive and negative standardised residuals. The standardised variance-covariance residuals point to variance and/or covariance terms in the observed sample covariance matrix that were poorly estimated from the model parameter estimates. Several large standardised residuals would therefore comment negatively on the ability of the model and its parameter estimates to reproduce the observed covariance matrix. Therefore, the shape and distribution, as well as the number of large and small standardised residuals[35], were considered. Figure 4.12 below provides the stem-and-leaf plot of standardised co-variance residuals for the *intention to quit* measurement model.

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[34] In this model all of the measured variables will be uncorrelated and this is therefore a worst case scenario (Hooper, D. C., Coughlan, J., & Mullen, M. R., 2008).

[35] It must be noted here that the standardised residuals have been reported on due to the fact that they do not display a dependence on the unit of measurement (unlike fitted residuals which are influence heavy by the units of measurement used in the questionnaire).

```
- 3|1
- 2|6655
- 2|410
- 1|76665555
- 1|44322110000
- 0|999988888887666665555
- 0|444433333332222222221111111000000000000000000000000000000000000000000000+40
  0|111111112222222233333344444444
  0|555555556666667778888888899999
  1|00000111222333
  1|5566667789
  2|00233
  2|556
```

Figure 4.12. Stem-and-leaf plot of the Intention to Quit measurement model standardised residuals.

Standardised co-variance residuals are z-scores (i.e. they can be interpreted in terms of the number of standard deviations the co-variance residual falls above or below the mean). In the current study standardised residuals were regarded as large (and therefore worthy of note) if they exceeded +2.58 or -2.58. The distribution of standardised residuals should ideally be symmetrical around the median residual. The location of the distribution of standardised residuals should moreover ideally be zero. Large standardised residuals indicate observed covariances that the fitted model explained poorly. More specifically, large positive residuals would indicate that the fitted model provided a too low estimate of the co-variance between two indicator variables and consequently would imply the need for additional explanatory paths, whereas, large negative residuals would suggest that the fitted model provided too large estimates of the co-variance between two observed variables, implying the need to trim paths from the model.

Table 4.77

Summary statistics for the Intention to Quit measurement model standardised residuals

Description	**Value**
Residual for P_PHC1 and P_PSEMP2:	-2.588
Residual for P_PEP1 and P_SAT1:	-3.098
Residual for P_PSP2 and P_PDO1:	-2.642

The findings presented in Figure 4.12 are supported by the summary statistics for the Reitz *intention to quit* measurement model standardised residuals. Table 4.77 indicates that only three large negative residuals were observed but no large positive residuals. The presence of the limited number of large negative standardised residual was an indication that only three terms in the covariance matrix were overestimated and thus that the culling of paths in the measurement model would not be necessary. Moreover, the presence of only three

large negative residual and no large positive residuals provided further support for a good model fit.

The Q-plot presented in Figure 4.13 provides further corroboratory evidence of a well-fitting model.

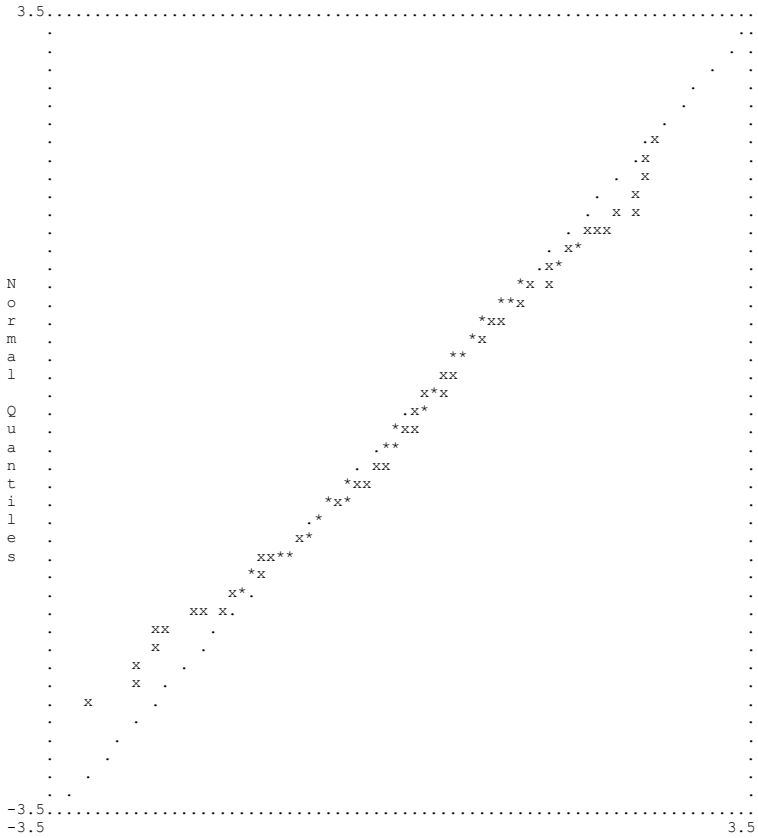

Figure 4.13. Q-plot of the Reitz Intention to Quit measurement model.

The Q-plot in Figure 4.13, provided further supporting evidence that the model fitted very well in that the data points were concentrated mainly around the 45-degree reference line. It also corroborates the findings presented in Table 4.77 in that the data points revolved away from the 45-degree line specifically at the lower tail. It was important to also consider the modification indices for the Reitz *intention to quit* measurement model before making a final decision with regards to model fit.

4.7.5 Reitz Intention to Quit Measurement Model modification indices

Modification indices provide estimates of the extent to the fit of the measurement model, as expressed by the normal theory chi-square statistic, would improve if parameters or paths are freed which are currently set to zero. The modification indices indicate the decrease in the model's (normal theory) X^2 if a previously fixed parameter is freed and the model re-estimated. If modification indices larger than 6.64 are presented, statistically significant ($p<.01$) decreases the X^2 fit statistic occur. The objective of this analysis into the modification indices was not to determine any specific parameters to be freed or to modify the model but

rather to act as an indication of the integrity of the model fit. It seems logical to suggest that if the proposed modifications are limited that this alludes to a well-fitting model. The modification indices for the lambda-X matrix are presented in Table 4.78. It is evident from the matrix that only in the case of 9 (4.0%) of the current 220 fixed factor loading parameters would setting them free statistically significantly (p<.05) improve the fit of the Reitz *intention to quit* model. This small percentage of large modification indices for $\boldsymbol{\Lambda}^{\mathbf{X}}$ was further evidence of a well-fitting model.

Table 4.79 outlines the modification indices for theta-delta matrix

Table 4.78

Modification indices for the lambda-X matrix

	SATISFAC	PEMPOWER	ITQ	PDEVELOP	PHCAP	PAEMPO
P_SAT1	- -	0.011	0.949	0.790	0.002	0.107
P_SAT2	- -	0.011	1.360	0.813	0.002	0.098
P_PSEMP1	**10.500**	- -	**8.402**	5.836	5.737	0.067
P_PSEMP2	**11.012**	- -	**8.768**	6.207	5.955	0.069
P_ITQ1	0.888	1.236	- -	0.311	0.564	1.021
P_ITQ2	0.686	1.264	- -	0.242	0.565	1.019
P_PDO1	0.442	0.002	0.790	- -	0.246	1.052
P_PDO2	0.669	0.002	0.727	- -	0.240	1.055
P_PHC1	0.025	0.112	0.046	0.414	- -	0.924
P_PHC2	0.028	0.136	0.048	0.456	- -	1.009
P_PAO1	1.487	0.001	0.000	2.364	0.140	- -
P_PAO2	2.281	0.001	0.000	3.757	0.216	- -
P_PHM1	6.511	0.391	**28.088**	0.484	0.451	3.928
P_PHM2	**10.034**	0.386	- -	0.474	0.438	3.992
P_PEP1	4.972	2.215	3.054	1.793	0.912	1.653
P_PEP2	5.078	2.219	3.162	1.852	0.864	1.451
P_PSP1	3.065	0.459	3.092	5.678	0.000	0.379
P_PSP2	3.536	1.131	3.556	5.740	0.000	0.350
P_OC1	9.207	1.145	0.004	0.637	0.069	0.094
P_OC2	**11.286**	1.281	0.005	1.129	0.096	0.176
RES_2	0.885	0.735	0.006	0.982	1.097	1.418
RES_3	0.385	0.638	0.011	0.516	1.582	2.619

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

Table 4.78

Modification indices for the lambda-X matrix (continued)

	PUM	PEMPO	PSATP	PUM_PEO	ORGC
P_SAT1	0.280	1.119	0.732	6.279	0.122
P_SAT2	0.454	1.123	0.652	6.384	0.132
P_PSEMP1	5.822	0.245	0.04	1.396	1.257
P_PSEMP2	6.274	0.249	0.051	1.422	1.311
P_ITQ1	- -	0.109	3.014	6.317	0.081
P_ITQ2	0.415	0.103	2.864	6.208	0.062
P_PDO1	0.134	0.178	1.535	0.003	1.015
P_PDO2	0.140	0.177	1.499	0.003	1.051
P_PHC1	0.002	0.042	0.143	1.267	0.859
P_PHC2	0.002	0.045	0.148	1.200	0.820
P_PAO1	0.212	0.952	0.193	1.488	0.784
P_PAO2	0.226	1.940	0.471	1.372	0.833
P_PHM1	- -	0.616	0.034	0.09	0.937
P_PHM2	- -	0.813	0.040	0.033	0.973
P_PEP1	4.368	- -	0.817	0.198	0.375
P_PEP2	4.608	- -	0.847	0.212	0.372
P_PSP1	6.063	0.299	- -	5.165	0.138
P_PSP2	6.023	0.258	- -	4.546	0.133
P_OC1	4.990	0.341	1.493	4.451	- -
P_OC2	**17.178**	0.708	2.336	6.178	- -
RES_2	0.047	0.094	0.913	- -	0.059
RES_3	0.000	0.324	0.661	- -	0.014

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

Table 4.79

Modification indices for the theta-delta matrix

	P_SAT1	P_SAT2	P_PSEMP1	P_PSEMP2	P_ITQ1	P_ITQ2
P_SAT1	- -					
P_SAT2	- -	- -				
P_PSEMP1	0.093	0.521	- -			
P_PSEMP2	0.448	0.151	- -	- -		
P_ITQ1	0.032	0.167	**6.877**	**10.898**	- -	
P_ITQ2	0.611	0.401	2.567	4.817	- -	- -
P_PDO1	0.078	0.126	1.015	0.509	0.528	2.723
P_PDO2	0.012	0.033	2.580	1.792	0.966	3.736
P_PHC1	1.111	1.143	0.787	0.415	0.269	0.075
P_PHC2	0.988	1.025	0.483	1.148	0.064	0.396
P_PAO1	0.205	1.222	3.437	2.907	0.142	0.600
P_PAO2	0.393	1.177	2.027	1.690	0.814	3.060
P_PHM1	0.539	0.008	0.003	0.292	1.075	0.152
P_PHM2	1.501	0.155	0.234	0.000	1.946	0.008
P_PEP1	1.823	0.754	0.025	0.229	1.489	1.108
P_PEP2	0.179	0.015	0.037	0.688	1.840	1.419
P_PSP1	0.202	0.072	0.051	0.922	0.013	0.000
P_PSP2	0.734	0.454	1.239	0.117	0.165	0.304
P_OC1	2.195	0.020	0.344	2.195	0.004	3.755
P_OC2	0.607	0.149	0.041	0.656	0.502	0.645
RES_2	1.621	1.326	0.522	0.523	0.018	0.188
RES_3	0.446	0.742	2.019	2.059	2.965	2.219

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

Table 4.79

Modification indices for the theta-delta matrix (continued)

	P_PDO1	P_PDO2	P_PHC1	P_PHC2	P_PAO1	P_PAO2
P_PDO1	- -					
P_PDO2	- -	- -				
P_PHC1	0.006	0.037	- -			
P_PHC2	0.158	0.011	- -	- -		
P_PAO1	1.944	4.232	0.053	0.713	- -	
P_PAO2	2.733	4.460	0.472	0.116	- -	- -
P_PHM1	0.225	0.128	0.074	0.028	0.257	0.638
P_PHM2	0.555	0.400	0.782	0.743	0.200	0.787
P_PEP1	0.970	0.769	0.008	0.068	0.037	0.015
P_PEP2	1.934	1.692	1.150	1.855	0.008	0.040
P_PSP1	0.288	1.179	0.007	0.000	3.575	1.207
P_PSP2	1.943	0.613	0.041	0.018	4.410	1.045
P_OC1	2.192	4.547	1.246	0.279	1.187	0.249
P_OC2	0.012	0.274	3.220	1.931	0.041	0.002
RES_2	1.055	0.774	0.422	1.185	2.175	0.066
RES_3	0.346	0.224	1.423	2.230	3.671	0.980

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

Table 4.79 (continued)

Modification indices for the theta-delta matrix

	P_PHM1	P_PHM2	P_PEP1	P_PEP2	P_PSP1	P_PSP2
P_PHM1	- -					
P_PHM2	- -	- -				
P_PEP1	0.783	1.746	- -			
P_PEP2	0.006	0.215	- -	- -		
P_PSP1	0.537	0.029	1.232	1.525	- -	
P_PSP2	0.027	1.697	0.005	0.009	- -	- -
P_OC1	1.314	3.922	0.236	0.195	0.109	1.872
P_OC2	0.492	1.560	0.248	0.222	0.504	0.012
RES_2	0.554	0.167	0.207	0.029	1.385	1.164
RES_3	0.785	0.331	0.006	0.269	5.614	5.198

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

Table 4.79

Modification indices for the theta-delta matrix (continued)

	P_OC1	P_OC2	RES_2	RES_3
P_OC1	- -			
P_OC2	- -	- -		
RES_2	0.004	0.042	- -	
RES_3	1.289	0.673	- -	- -

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

It is evident from Table 4.79, illustrating the theta-delta modification indices, that similarly only 2 of the 231 covariance terms in the theta-delta matrix currently fixed to zero, if set free,

would significantly (p<.01) improve the fit of the model. Therefore, only .87% of the values, if set free, would lead to a statistically significant (p<.01) decrease in the X^2 statistic. The low percentages obtained here again speaks to a measurement model that fitted very well.

The above evidence pertaining to the level of fit obtained for the measurement model allowed for the further investigation of the measurement model parameter estimates and squared multiple correlations.

4.7.6 Reitz Intention to Quit Measurement Model parameter estimates and squared multiple correlations

When a composite indicator (X_i) has been designated to provide a valid measure of a specific latent variable (ξ_k), then the slope of the regression of X_j on ξ_k in the fitted measurement model has to be substantial and statistically significant (p<.05), according to Diamantopoulos and Siguaw (2000). The unstandardised $\mathbf{\Lambda^X}$ (see Table 4.80) contains the slope of the regression of the unstandardised individual item parcel X_j on the unstandardised latent variable ξ_k, and was used to evaluate the statistical significance of the first-order factor loadings (λ_{jk}) hypothesised by the proposed first-order measurement model expressed as equation 1. The unstandardised matrix provides some valuable information pertaining specifically to three aspects namely 1) λ_{jk}, 2) the standard error term, and 3) the z-value, which is the value of λ_{jk} divided by its standard error. The latter provided an indication of the significance of the relationship. The results depicted in Table 4.80 signified that all the freed λ_{jk} were statistically significant (p<.05). Significant loadings were indicated by z-values greater than |1.6449| in the matrix[36]. H_{0i}: λ_{jk}=0; i=26, 27,…, 47; j=1, 2, …, 22; k=1, 2, …, 11 was therefore rejected for all i, j and k.

Table 4.80

Reitz Intention to Quit measurement model unstandardised lambda-X matrix

	SATISFAC	*PEMPOWER*	*ITQ*	*PDEVELOP*	*PHCAP*	*PAEMPO*
P_SAT1	*0.190* *(0.010)* *19.911*	- -	- -	- -	- -	- -
P_SAT2	*0.174* *(0.009)* *18.605*	- -	- -	- -	- -	- -
P_PSEMP1	- -	*0.651* *(0.038)* *17.122*	- -	- -	- -	- -
P_PSEMP2	- -	*0.688*	- -	- -	- -	- -

[36] The null hypotheses H_{0i}: λ_{jk}=0 was tested against directional alternative hypotheses H_{ai}: λ_{jk}>0.

Table 4.80

Reitz Intention to Quit measurement model unstandardised lambda-X matrix (continued)

	SATISFAC	PEMPOWER	ITQ	PDEVELOP	PHCAP	PAEMPO
		(0.042) 16.540				
P_ITQ1	- -	- -	1.012 (0.058) 17.589	- -	- -	- -
P_ITQ2	- -	- -	1.028 (0.052) 19.637	- -	- -	- -
P_PDO1	- -	- -		1.080 (0.049) 22.211	- -	- -
P_PDO2	- -	- -		0.983 (0.052) 18.868	- -	- -
P_PHC1	- -	- -		- -	0.862 0.051) 17.057	- -
P_PHC2	- -	- -		- -	0.775 0.056) 13.790	- -
P_PAO1	- -	- -	- -	- -	- -	0.855 (0.063) 13.655
P_PAO2	- -	- -	- -	- -	- -	0.974 (0.056) 17.481

Table 4.80

Reitz Intention to Quit measurement model unstandardised lambda-X matrix (continued)

	SATISFAC	PEMPOWER	ITQ	PDEVELOP	PHCAP	PAEMPO
P_PHM1	- -	- -	- -	- -	- -	- -
P_PHM2	- -	- -	- -	- -	- -	- -
P_PEP1	- -	- -	- -	- -	- -	- -
P_PEP2	- -	- -	- -	- -	- -	- -
P_PSP1	- -	- -	- -	- -	- -	- -
P_PSP2	- -	- -	- -	- -	- -	- -
P_OC1	- -	- -	- -	- -	- -	- -
P_OC2	- -	- -	- -	- -	- -	- -
RES_2	- -	- -	- -	- -	- -	--
RES_3	- -	- -	- -	- -	- -	- -

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

Table 4.80

Reitz Intention to Quit measurement model unstandardised lambda-X matrix (continued)

	PUM	PEMPO	PSATP	PUM_PEO	ORGC
P_SAT1	- -	- -	- -	- -	- -
P_SAT2	- -	- -	- -	- -	- -
P_PSEMP1	- -	- -	- -	- -	- -
P_PSEMP2	- -	- -	- -	- -	- -
P_ITQ1	- -	- -	- -	- -	- -
P_ITQ2	- -	- -	- -	- -	- -
P_PDO1	- -	- -	- -	- -	- -

Table 4.80

Reitz Intention to Quit measurement model unstandardised lambda-X matrix (continued)

	PUM	***PEMPO***	***PSATP***	***PUM_PEO***	***ORGC***
P_PDO2	- -	- -	- -	- -	- -
P_PHC1	- -	- -	- -	- -	- -
P_PHC2	- -	- -	- -	- -	- -
P_PAO1	- -	- -	- -	- -	- -
P_PAO2	- -	- -	- -	- -	- -
P_PHM1	0.977	- -	- -	- -	- -
	(0.051)				
	19.141				
P_PHM2	0.873	- -	- -	- -	- -
	(0.051)				
	17.098				
P_PEP1	- -	0.926	- -	- -	- -
		(0.051)			
		18.085			
P_PEP2	- -	0.887	- -	- -	- -
		0.049)			
		18.130			
P_PSP1	- -	- -	0.529	- -	- -
			(0.043)		
			12.427		
P_PSP2	- -	- -	0.351	- -	- -
			(0.038)		
			9.227		
P_OC1	- -	- -	- -	- -	0.379
					(0.038)
					9.956
P_OC2	- -	- -	- -	- -	0.577
					(0.042)
					13.699
RES_2	- -	- -	- -	0.716	- -
				(0.135)	
				5.314	
RES_3	- -	- -	- -	1.001	- -
				(0.158)	
				6.356	

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

From Table 4.80 it is evident that all λ_{jk} were statistically significant ($p<.05$). This commented favourably on the validity with which the constructs of interest were represented by the manifest variables, in this case the item parcels, that were earmarked to reflect them. This matrix is very useful in evaluating whether the factor loadings/path coefficients are significant but as mentioned a "problem with relying on unstandardised loadings and associated t-values is that it may be difficult to compare the validity of different indicators measuring a particular construct" (Diamantopoulos & Siguaw, 2009, p. 89). It was therefore important to also report on the completely standardised $\boldsymbol{\Lambda}^{\mathbf{X}}$, which is presented in Table 4.81.

The completely standardise λ_{ij} estimates, in the matrix in Table 4.81, should be interpreted as the slope of the regression of the standardised indicator variables on the standardised

latent variables. The completely standardised λ_{jk} therefore indicate the average increase or decrease, expressed in a standard deviation metric, in the indicator variable associated with one standard deviation change in the construct. In the case of simple linear regression, the completely standardised λ_{jk} are correlation coefficients. The ideal is to have the estimated factor loadings in the completely standardised $\mathbf{\Lambda^X}$ as close to one as possible. A correlation greater than .50 was considered marginally satisfactory; however, the aim was to get the correlation as high as possible. Factor loading estimates in this case were considered satisfactory if the completely standardised λ_{jk} estimates exceeded .71 (Theron, 2014). It is evident from Table 4.81 that the magnitude of all of the λ_{jk} estimates, except that obtained for RES_3, were more than satisfactory. The completely standardised factor loading for RES_3 exceeded unity and therefore constituted an inadmissible estimate. Attempts at solving the problem via different starting values for $\lambda_{21,10}$ and $\lambda_{22,10}$ did not have the desired effect. The critical question was whether the $\lambda_{22,10}$ estimate was statistically significantly larger than one. This could not be tested directly but it was tested indirectly by testing the significance of the corresponding theta-delta estimate. If the $\lambda_{22,10}$ was statistically significantly larger than one the $\theta_{\delta 22,22}$ estimate would be statistically significant ($p<.05$) and negative.

Table 4.81

Reitz Intention to Quit measurement model completely standardised Λ^X

	SATISFAC	PEMPOWER	ITQ	PDEVELOP	PHCAP	PAEMPO
P_SAT1	0.985	- -	- -	- -	- -	- -
P_SAT2	0.948	- -	- -	- -	- -	- -
P_PSEMP1	- -	0.948	- -	- -	- -	- -
P_PSEMP2	- -	0.912	- -	- -	- -	- -
P_ITQ1	- -	- -	0.902	- -	- -	- -
P_ITQ2	- -	- -	0.916	- -	- -	- -
P_PDO1	- -	- -	- -	0.967	- -	- -
P_PDO2	- -	- -	- -	0.943	- -	- -
P_PHC1	- -	- -	- -	- -	0.970	- -
P_PHC2	- -	- -	- -	- -	0.868	- -
P_PAO1	- -	- -	- -	- -	- -	0.801
P_PAO2	- -	- -	- -	- -	- -	0.993
P_PHM1	- -	- -	- -	- -	- -	- -
P_PHM2	- -	- -	- -	- -	- -	- -
P_PEP1	- -	- -	- -	- -	- -	- -
P_PEP2	- -	- -	- -	- -	- -	- -
P_PSP1	- -	- -	- -	- -	- -	- -
P_PSP2	- -	- -	- -	- -	- -	- -
P_OC1	- -	- -	- -	- -	- -	- -
P_OC2	- -	- -	- -	- -	- -	- -
RES_2	- -	- -	- -	- -	- -	- -
RES_3	- -	- -	- -	- -	- -	- -

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

Table 4.81

Reitz Intention to Quit measurement model completely standardised Λ^x (continued)

	PUM	PEMPO	PSATP	PUM_PEO	ORGC
P_SAT1	- -	- -	- -	- -	- -
P_SAT2	- -	- -	- -	- -	- -
P_PSEMP1	- -	- -	- -	- -	- -
P_PSEMP2	- -	- -	- -	- -	- -
P_ITQ1	- -	- -	- -	- -	- -
P_ITQ2	- -	- -	- -	- -	- -
P_PDO1	- -	- -	- -	- -	- -
P_PDO2	- -	- -	- -	- -	- -
P_PHC1	- -	- -	- -	- -	- -
P_PHC2	- -	- -	- -	- -	- -
P_PAO1	- -	- -	- -	- -	- -
P_PAO2	- -	- -	- -	- -	- -
P_PHM1	0.946	- -	- -	- -	- -
P_PHM2	0.926	- -	- -	- -	- -
P_PEP1	- -	0.924	- -	- -	- -
P_PEP2	- -	0.938	- -	- -	- -
P_PSP1	- -	- -	0.804	- -	- -
P_PSP2	- -	- -	0.682	- -	- -
P_OC1	- -	- -	- -	- -	0.710
P_OC2	- -	- -	- -	- -	0.943
RES_2	- -	- -	- -	0.691	- -
RES_3	- -	- -	- -	1.025	- -

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

The square of the completely standardised λ_{jk} describe the share of variance that the focal latent variable explains in the indicator variable (Diamantopoulos & Siguaw, 2000). Since each indicator only reflects a single latent variable completely standardised λ^2_{jk} equal the R^2 values shown in Table 4.82. The squared multiple correlations (R^2)[37] for the observed indicator variables as shown in Table 4.82 express that part of the variance in the observed variable that is brought about by the latent variable linked to it in the measurement model.

Here, a high R^2 value was preferred as it indicates that the variance in the indictor variable, succeeded in its assigned task of reflecting the latent variable it has been designated to reflect. According to Diamantopoulos and Siguaw (2000), a far as the rest of the variance is concerned that was not explained by the latent variable, they can be attributed to systematic and random measurement error.

[37] It is acknowledged that strictly speaking the values reported in Table 4.82 are squared zero-order correlations since each indicator variable only reflects a single latent variable.

Table 4.82

Reitz Intention to Quit measurement model squared multiple correlations for X-variables

P_SAT1	P_SAT2	P_PSEMP1	P_PSEMP2	P_ITQ1	P_ITQ2
0.971	0.899	0.898	0.832	0.813	0.838
P_PDO1	**P_PDO2**	**P_PHC1**	**P_PHC2**	**P_PAO1**	**P_PAO2**
0.935	0.889	0.942	0.754	0.642	0.985
P_PHM1	**P_PHM2**	**P_PEP1**	**P_PEP2**	**P_PSP1**	**P_PSP2**
0.894	0.858	0.854	0.881	0.646	0.466
P_OC1	**P_OC2**	**RES_2**	**RES_3**		
0.504	0.889	0.478	1.050		

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

As is evident from Table 4.82 the R^2-values ranged from .466 to .985. The inadmissible $\lambda_{22,10}$ estimate expressed itself in the inadmissible R^2-value of 1.050 for RES_3. Therefore, it can be suggested that the measurement model displays satisfactory validity in that a satisfactory proportion of variance is explained by each indicator variable and consequently, by implication also satisfactory reliability.

The unstandardised Θ_δ, in Table 4.83, presents the variance in measurement error terms of the indicators of the latent variables in the measurement model (all treated as exogenous latent variables).

Table 4.83

Reitz Intention to Quit measurement model unstandardised theta-delta matrix

P_SAT1	P_SAT2	P_PSEMP1	P_PSEMP2	P_ITQ1	P_ITQ2
0.001	0.003	0.048	0.096	0.236	0.204
(0.001)	(0.001)	(0.019)	(0.024)	(0.050)	(0.048)
1.407	4.441	2.600	3.935	4.748	4.259
P_PDO1	**P_PDO2**	**P_PHC1**	**P_PHC2**	**P_PAO1**	**P_PAO2**
0.081	0.121	0.046	0.196	0.409	0.014
(0.038)	(0.032)	(0.048)	(0.049)	(0.065)	(0.062)
2.103	3.785	**0.951**	3.984	6.274	**0.228**
P_PHM1	**P_PHM2**	**P_PEP1**	**P_PEP2**	**P_PSP1**	**P_PSP2**
0.113	0.126	0.147	0.107	0.153	0.141
(0.023)	(0.031)	(0.031)	(0.028)	(0.031)	(0.022)
5.004	4.111	4.747	3.793	4.982	6.562
P_OC1	**P_OC2**	**RES_2**	**RES_3**		
0.141	0.042	0.560	-0.048		
(0.018)	(0.034)	(0.177)	(0.300)		
7.861	**1.226**	3.164	**-0.159**		

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

Interpretation of the magnitude of the error variances in the completely standardised Θ_δ is again preferred, however, the interpretation of the error variance estimates in the unstandardised theta-delta matrix provides an indication of the statistical significance of the $\Theta_{\delta jj}$ estimates.

It is evident from Table 4.83 that all indicators were statistically significantly affected by measurement error as is evident in the fact that all indicators, report z-values greater than 1.6449 (z≥1.6449) except for P_SAT1 (1.407), P_PHC1 (.951), P_PAO2 (.228), P_OC2 (1.226) and RES_3 (-.159). H_{0i}: $\Theta_{\delta jj}$ = 0; i =48, 49, ..., 69; j=1, 2....., 22 was therefore not rejected for j=48, 56, 59, 67, 69 and rejected for all other i. This finding was alarming in that it suggested that it would be permissible to regard these indicator variables, in general (or in the parameter), as perfectly reliable and valid measures. Although such a finding could, on the one hand have been welcomed, it, on the other hand, evoked suspicion simply because it was too good a finding to be trusted. The statistically insignificant (p>.05) $\Theta_{\delta 22,22}$ estimate was, however, to some degree welcomed as it implied that the $\lambda_{22,10}$ estimate was not statistically significantly larger than one. Moreover, as with the lambda indices, it was again important to also report on the completely standardised $\boldsymbol{\Theta_\delta}$.

The main diagonal of the completely standardised $\boldsymbol{\Theta_\delta}$, shown in Table 4.84, reflects the proportion of the variance in X_i due to measurement error. The indicator variable completely standardised $\Theta_{\delta jj}$ estimates were considered satisfactory when $\Theta_{\delta jj}$ were less than .50 and adequate when they were less than .25.

Table 4.84

Reitz Intention to Quit measurement model completely standardised theta-delta matrix

P_SAT1	P_SAT2	P_PSEMP1	P_PSEMP2	P_ITQ1	P_ITQ2
0.029	0.101	0.102	0.168	0.187	0.162
P_PDO1	**P_PDO2**	**P_PHC1**	**P_PHC2**	**P_PAO1**	**P_PAO2**
0.065	0.111	0.058	0.246	0.358	0.015
P_PHM1	**P_PHM2**	**P_PEP1**	**P_PEP2**	**P_PSP1**	**P_PSP2**
0.106	0.142	0.146	0.119	0.354	0.534
P_OC1	**P_OC2**	**RES_2**	**RES_3**		
0.496	0.111	0.522	-0.050		

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

The observed values in Table 4.84 indicate the proportion of item parcel variance not explained by the underlying latent variable. All values were satisfactory but for the $\Theta_{\delta 22,22}$ estimate.

4.7.7 Discriminant Validity

Discriminant validity is obtained when constructs that are conceptualised to be qualitatively distinct but nonetheless correlated constructs are measured as such. The eleven constructs comprising the Reitz *intention to quit* structural model are expected to correlate. The eleven constructs are conceptualised as eleven qualitatively distinct although related latent variables but they should, however, not correlate excessively high with each other. Φ (Table 4.56) shows the latent variable inter-correlations.

Table 4.85

Reitz Intention to Quit measurement model phi matrix

	SATISFAC	PEMPOWER	ITQ	PDEVELOP	PHCAP	PAEMPO
SATISFAC	1.000					
PEMPOWER	0.416*	1.000				
	(0.061)					
	6.854					
ITQ	-0.584*	-0.425*	1.000			
	(0.049)	(0.069)				
	-11.836	-6.146				
PDEVELOP	0.668*	0.386*	-0.506*	1.000		
	(0.038)	(0.070)	(0.062)			
	17.392	5.493	-8.175			
PHCAP	0.263*	0.372*	-0.008	0.262*	1.000	
	(0.066)	(0.070)	(0.073)	(0.074)		
	3.976	5.284	-0.108	3.532		
PAEMPO	0.228*	0.163*	0.065	0.152*	0.330*	1.000
	(0.075)	(0.073)	(0.078)	(0.075)	(0.074)	
	3.037	2.228	0.838	2.027	4.475	
PUM	-0.676*	-0.348*	0.797*	-0.569*	-0.017	0.109

Table 4.85

Reitz Intention to Quit measurement model phi matrix (continued)

	SATISFAC	PEMPOWER	ITQ	PDEVELOP	PHCAP	PAEMPO
	(0.041)	(0.065)	(0.032)	(0.058)	(0.078)	(0.080)
	-16.676	-5.378	24.903	-9.727	-0.220	1.367
PEMPO	-0.070	0.006	0.340*	-0.074	0.335*	0.666*
	(0.076)	(0.074)	(0.070)	(0.080)	(0.073)	(0.053)
	-0.923	0.086	4.853	-0.926	4.588	12.569
PSATP	0.502*	0.645*	-0.366*	0.443*	0.321*	0.132
	(0.074)	(0.061)	(0.083)	(0.076)	(0.091)	(0.092)
	6.826	10.631	-4.423	5.855	3.535	1.429
PUM_PEO	0.012	-0.107	0.106	-0.090	-0.053	0.043
	(0.083)	(0.074)	(0.085)	(0.080)	(0.079)	(0.079)
	0.150	-1.434	1.242	-1.119	-0.669	0.537
ORGC	0.269*	0.359*	-0.522*	0.399*	-0.070	-0.245*
	(0.078)	0.071)	(0.064)	(0.073)	(0.086)	(0.081)
	3.445	5.049	-8.107	5.476	-0.822	-3.016

SATISFAC=Job Satisfaction, PEMPOWER=Perceived Psychological Empowerment, ITQ=Perceived Intention to Quit, PDEVELOP=Perceived Development Opportunities, PHCAP=Perceived Human Capital, PAEMPO=Perceived Alternative Opportunities, PUM=Perceived Utility of Movement, PEMPO=Perceived Employability, PSATP=Perceived Satisfactoriness of Performance, PUM_PEO= Latent Perceived Utility of Movement x Psychological Empowerment interaction effect, ORGC=Organisational Commitment

* (p<.05)

Table 4.85

Reitz Intention to Quit measurement model phi matrix (continued)

	PUM	PEMPO	PSATP	PUM_PEO	ORGC
PUM	1.000				
PEMPO	0.487*	1.000			
	(0.066)				
	7.395				
PSATP	-0.395*	-0.042	1.000		
	(0.082)	(0.093)			
	-4.831	-0.451			
PUM_PEO	-0.017	0.021	0.049	1.000	
	(0.102)	(0.099)	(0.088)		
	-0.170	0.214	0.557		
ORGC	-0.447*	-0.434*	0.263*	-0.088	1.000
	(0.072)	(0.070)	(0.090)	(0.089)	
	-6.224	-6.161	2.912	-0.991	

PUM=Perceived Utility of Movement, PEMPO=Perceived Employability, PSATP=Perceived Satisfactoriness of Performance, PUM_PEO=Latent Perceived Utility of Movement x Psychological Empowerment interaction effect, ORGC=Organisational Commitment
* (p<.05)

In Table 4.85, the top value represents the unstandardised φ_{ij} estimate, while the second value reflects the standard error of φ_{ij}, and the third value shows the test statistic z. The results presented in Table 4.85 suggested that most but not all of the inter-latent variables correlations are statistically significant (p<.05; z>1.96). More specifically H_{0i}: $\phi_{pk} = 0$; i =70, 71...., 124; p=1, 2....,11; k=1, 2....,11; p≠k could not be rejected for i=76, 78, 85, 87, 90, 91, 95, 100, 102, 105, 108, 109, 110, 112, 113, 117, 119, 120, 122, 124 and rejected for all other i. None of the statistically significant correlations exceeded .90[38]. Given the magnitude of the latent variable inter-correlations it was not deemed necessary to examine the discriminant validity of the operationalisation of the latent variables comprising the structural model more stringently. It was therefore concluded that the manner in which the latent variables comprising the Reitz *intention to quit* structural model were operationalised succeeded in discriminating between the latent variables as related but qualitatively distinct variables.

4.7.8 Overall conclusion of the fit of the Reitz Intention to Quit Measurement Model parameter estimates

According to van Deventer (2015), general criteria in terms of deciding on a finding on the success with which the latent variables comprising a structural model have been operationalised. She suggests that if the following criteria have been met, successful operationalisation can be assumed:

[38] It is conceded that the absence of ϕ_{ij} values greater than .90 is not strong evidence of discriminant validity. The calculation of the 95% confidence interval for ϕ_{ij} and the calculation of the average variance extracted (AVE) viz a viz ϕ^2_{ij}, would have provided stronger evidence (Diamantopoulos and Siguaw, 2000).

1) the measurement model fits the data reasonably well,
2) the completely standardised factor loadings λ_{xij} are large ($\lambda_{ij} \geq .71$) and statistically significant ($p<.05$),
3) the measurement error variance terms ($\theta_{\delta jj}$) in the completely standardised solution are small and statistically significant ($p<.05$) for all indicators,
4) the R^2 indices are large for all indicators; and
5) discriminant validity had been demonstrated.

When considering the above-mentioned criteria in terms of the Reitz *intention to quit* measurement model specifically, the following can be concluded. Good model fit indices were reported in the goodness-of-fit statistics. The completely standardised factor loadings in terms of the lambda-X parameter estimates were relatively high. Furthermore, the measurement error terms were all small and mostly statistically significant. Finally, discriminant validity had been demonstrated. It was therefore concluded that the operationalisation of the constructs contained in the Reitz *intention to quit* structural model was successful[39]. It was therefore permissible to interpret the fit of the Reitz *intention to quit* comprehensive LISREL model.

4.8 FITTING OF THE REITZ INTENTION TO QUIT STRUCTURAL MODEL

When assessing the structural model, the focus was on the theoretical relationships of interest according to Diamantopoulos and Siguaw (2000). The focus in this section was on the various relationships hypothesised in the model, between the exogenous and endogenous latent variables, as well as between the endogenous latent variables. The objective of this part of the research study was to determine if the hypothesised relationships were in fact supported by the data. This can, however, not be achieved by fitting the structural model on its own. The hypothesised structural relations depicted in the structural model can only be empirically evaluated by fitting the comprehensive LISREL model and inferring from the fit of the measurement and the comprehensive LISREL model whether the structural model fitted.

LISREL 8.8 (Jöreskog & Sörbom, 1996b) was used to evaluate the fit of the comprehensive LISRE Reitz *intention to quit* model shown in Figure 3.1. Due to the continuous nature of the

[39] It is acknowledged that the inadmissible estimates associated with RES_3 eroded confidence in this specific indicator of the latent Perceived Utility of Movement x Psychological Empowerment interaction effect. The fact that the negative error variance estimate $\Theta_{622,22}$ was not statistically significant ($p>.05$) to some degree ameliorated this concern.

indicator variables the covariance matrix was analysed. Due to the lack of multivariate normality in the data RML estimation was used.

4.8.1 Evaluating the goodness of fit of the Reitz Intention to Quit Comprehensive LISREL Model

Figure 4.14 portrays a visual representation of the comprehensive LISREL Reitz *intention to quit* model. This is followed by Table 4.86 which outlines the fit statistics.

The conclusion on comprehensive LISREL model fit, was similarly based on a basket of evidence and not merely one single indicator (as seen above in the interpretation of the measurement model fit). Therefore, several fit indices, highlighted in Table 4.86, were considered in determining the fit of the Reitz *intention to quit* comprehensive LISREL model (Model A).

H_{01a}: RMSEA = 0 was rejected ($p<.05$). H_{01b}: RMSEA $\leq .05$ was also rejected ($p<.05$). The remainder of the fit statistics in Table 4.86 indicated reasonable to good fit.

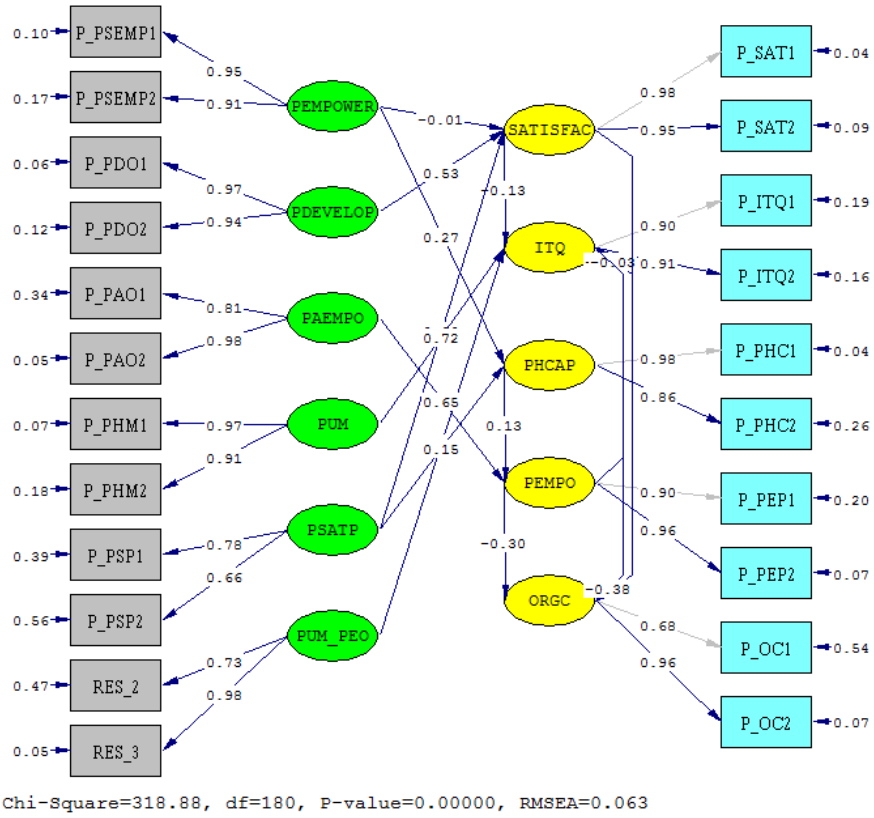

Figure 4.14. Visual representation of the Reitz Intention to Quit comprehensive LISREL model (completely standardised solution) [40]

[40] The path diagram shown in Figure 4.14 indicates that both the completely standardised factor loadings of RES_2 and RES_3 on the latent Perceived Utility of Movement x Perceived Employment Opportunity interaction effect were smaller

Table 4.86

Goodness of fit statistics for the comprehensive *Reitz Intention to Quit* LISREL *model*

Goodness of fit statistics
Degrees of Freedom = 180
Minimum Fit Function Chi-Square = 353.10688 (p = .00)
Normal Theory Weighted Least Squares Chi-Square = 344.40226 (p = .00)
Satorra-Bentler Scaled Chi-Square = 318.87526 (p = .00)
Chi-Square Corrected for Non-Normality = 3251.30575 (p = .0)
Estimated Non-centrality Parameter (NCP) = 138.87526
90 Percent Confidence Interval for NCP = (92.99012 ; 192.61328)
Minimum Fit Function Value = 1.81080
Population Discrepancy Function Value (F0) = .71218
90 Percent Confidence Interval for F0 = (.47687 ; .98776)
Root Mean Square Error of Approximation (RMSEA) = .062901
90 Percent Confidence Interval for RMSEA = (.051471 ; .074078)
P-Value for Test of Close Fit (RMSEA < 0.05) = .032579
Expected Cross-Validation Index (ECVI) = 2.38398
90 Percent Confidence Interval for ECVI = (2.14867 ; 2.65956)
ECVI for Saturated Model = 2.59487
ECVI for Independence Model = 26.70514
Chi-Square for Independence Model with 231 Degrees of Freedom = 5163.50272
Independence AIC = 5207.50272
Model AIC = 464.87526
Saturated AIC = 506.00000
Independence CAIC = 5301.62125
Model CAIC = 777.17763
Saturated CAIC = 1588.36301
Normed Fit Index (NFI) = .93824
Non-Normed Fit Index (NNFI) = .96387
Parsimony Normed Fit Index (PNFI) = .73110
Comparative Fit Index (CFI) = .97184
Incremental Fit Index (IFI) = .97213
Relative Fit Index (RFI) = .92075
Critical N (CN) = 139.85058
Root Mean Square Residual (RMR) = .080764
Standardized RMR = .10272
Goodness of Fit Index (GFI) = .86165
Adjusted Goodness of Fit Index (AGFI) = .80555
Parsimony Goodness of Fit Index (PGFI) = .61303

The Satorra-Bentler scaled chi-square (Satorra & Bentler, 1994) of 231.351 (p = 0.00) indicated that H_{01}: RMSEA=0 should be rejected (p<.05). A significant χ^2 implies that there is significant discrepancy between the fitted covariance matrix and the observed covariance matrix. The aim is to not reject the null hypothesis, therefore indicating good fit according to Diamantopoulos and Siguaw (2000). Rejection of the null hypothesis indicates imperfect model fit and rejection of the model (Kelloway, 1998). The RMSEA value of .063 indicates a reasonable model fit in the sample. The conditional probability of obtaining such a sample

than one and both completely standardised measurement error variances were positive. The theta-delta estimate for RES_3 was still statistically insignificant (p>.05) though.

RMSEA value, if it is assumed that the close fit null hypothesis is true in the parameter, was too small ($p<.05$) and consequently H_{01b}: RMSEA $\leq$ .05 had to be rejected. When viewed in conjunction with the 90 percent confidence interval for RMSEA (.051471 - .074078) further evidence that good to reasonable fit had been obtained, in that in a well-fitting model the lower limit should be close to 0 (at least below .05) while the upper limit should be less than .08. In the current case the latter had been achieved and the lower bound of the interval falls only marginally above .05.

The ECVI value showed that the difference between the sample covariance matrix derived from fitting the Reitz *intention to quit* comprehensive LISREL model on the current sample, and the expected covariance, should the fitted model be cross validated to another sample, was favourable ($ECVI_{independent\ model}$: 26.70514 to ECVI: 2.38398). It is evident that the ECVI for the fitted model is much lower than that of the independent model. It was however slightly higher than that reported for the saturated model (2.59487), providing evidence for a model potentially lacking paths (Diamantopoulos & Siguaw, 2000).

The NFI (.938), NNFI (.963), CFI (.972) IFI (.972) and RFI (.921) fit indices, presented in Table 4.86 in agreement with the preceding indices, rather convincingly suggested a favourable fit of the Reitz *intention to quit* comprehensive LISREL model. All values, but for RFI, exceed the more stringent cut-off value of .95 that has been suggested for these indices (Hu and Bentler, 1999). The RFI still exceeded the less stringent .90 cut-off value.

Further evidence of a merely reasonably well-fitting model was evident in the final fit indices namely the SRMR, GFI and AGFI. The model obtained a somewhat unsatisfactory GFI (.862) and AGFI (.806). However, it should be acknowledged that these values fell just below the cut-off (>.90) and therefore the model should not be assumed to be a poor-fitting model. The SRMR (.10272) was a bit worrisome, as it fell well above the .05 threshold.

Considering the above it can thus far be suggested that the Reitz *intention to quit* comprehensive LISREL model, presented in Figure 4.14, shows reasonable model fit. However, before a final conclusion can be drawn pertaining to the fit of this model the standardised residuals and modification indices were evaluated and interpreted (Jöreskog & Sörbom, 1996).

4.8.2 Comprehensive Reitz Intention to Quit LISREL Model standardised residuals

The distribution of the standardised residuals is visually depicted in Figure 4.15, followed by a summary of both the large positive and large negative residuals presented in Table 4.87.

A stem-and-leaf plot, that depicts a good fitting model, would display residuals distributed closely around zero. It is evident from Figure 4.15 that the distribution of the standardised residuals for the Reitz *intention to quit* comprehensive LISREL model was only somewhat negatively skewed. Nonetheless the number of large positive and negative standardised residuals were essentially equal. Therefore, it can be suggested that in general, were noteworthy estimation errors occurred, the observed covariance matrix was both being underestimated by the model parameters and overestimated with the former occurring slightly more frequently than the latter. Additional support for this finding was found in Table 4.87 where twenty-three of the forty-three significant standardised residuals were negative.

```
-10|7
 - 9|
 - 8|
 - 7|
 - 6|31
 - 5|621
 - 4|760
 - 3|6332110
 - 2|988877655544422221
 - 1|88777655554444322211000
 - 0|9988777766655444443333332222221111111100000000000000000000000000000000+22
   0|1111112333344444445566678888899
   1|00011222333444455555555566678888889
   2|00111123344556667999
   3|0158
   4|3
   5|03558
   6|245
```

Figure 4.15. Stem-and-leaf plot of the Comprehensive Reitz Intention to Quit LISREL model standardised residuals.

Table 4.87

Summary statistics for standardised residuals

Variance/covariance residual	Value
Largest Negative Standardized Residuals	
Residual for P_ITQ1 and P_SAT1	-5.06376
Residual for P_ITQ1 and P_SAT2	-4.65335
Residual for P_ITQ2 and P_SAT2	-10.68447
Residual for P_PEP1 and P_SAT1	-3.55002
Residual for P_PEP1 and P_SAT2	-2.79471
Residual for P_OC2 and P_ITQ1	-2.91418
Residual for P_OC2 and P_ITQ2	-4.00994
Residual for P_OC2 and P_PEP1	-3.32251
Residual for P_OC2 and P_PEP2	-3.26149
Residual for P_PSEMP1 and P_PEP1	-2.69306
Residual for P_PSEMP2 and P_ITQ1	-4.58935
Residual for P_PSEMP2 and P_ITQ2	-2.69767
Residual for P_PSEMP2 and P_PHC1	-2.84203
Residual for P_PSEMP2 and P_PEP1	-3.01965
Residual for P_PDO1 and P_PEP1	-3.09885
Residual for P_PDO1 and P_PEP2	-2.76445
Residual for P_PDO2 and P_PEP1	-3.18507
Residual for P_PHM1 and P_SAT1	-6.32477
Residual for P_PHM1 and P_SAT2	-5.59670
Residual for P_PHM2 and P_SAT1	-6.11330
Residual for P_PHM2 and P_SAT2	-5.21183
Residual for P_PSP1 and P_PEP2	-2.62657

Table 4.87

Summary statistics for standardised residuals (continued)

Variance/covariance residual	Value
Residual for P_PSP2 and P_SAT2	-3.11917
Largest Positive Standardized Residuals	
Residual for P_PEP1 and P_ITQ1	6.50736
Residual for P_PEP1 and P_ITQ2	6.15045
Residual for P_PEP2 and P_ITQ1	5.25082
Residual for P_PEP2 and P_ITQ2	5.45513
Residual for P_PEP2 and P_PHC1	2.93685
Residual for P_PEP2 and P_PHC2	2.90755
Residual for P_PSEMP1 and P_OC2	3.83195
Residual for P_PSEMP2 and P_SAT2	2.57742
Residual for P_PSEMP2 and P_OC2	4.34862
Residual for P_PDO1 and P_OC2	2.96774
Residual for P_PDO2 and P_OC2	3.07727
Residual for P_PAO2 and P_PHC1	3.47830
Residual for P_PAO2 and P_PHC2	2.59582
Residual for P_PHM1 and P_PHC1	2.68273
Residual for P_PHM1 and P_PEP1	6.36465
Residual for P_PHM1 and P_PEP2	5.50363
Residual for P_PHM2 and P_PEP1	5.84860
Residual for P_PHM2 and P_PEP2	4.98196
Residual for P_PSP2 and P_PHM1	2.85554
Residual for P_PSP2 and P_PHM2	2.58478

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

Table 4.87 shows that twenty standardised residuals obtained values greater than 2.58, and twenty-three standardised residual obtained a value smaller than -2.58. Therefore only 43 of the 253 unique variances and covariances in the observed covariance matrix (17%) were poorly reproduced by the fitted comprehensive LISREL model.

The Q-plot, presented in Figure 4.16, provides another description of the distribution of covariance residuals. This graph plotted the standardised covariance residuals (horisontal axis) against the quintiles of the normal distribution (Diamantopoulos & Siguaw, 2000). The data points turned away from the 45-degree reference line, which commented somewhat negatively on the fit of the model. However, the deviation was more pronounced in the lower regions, and somewhat less so in the upper regions on the X-axis. These findings are in line with the results reported in Figure 4.15 and Table 4.87 where there were both large positive and large negative standardised residuals, but where the large negative standardised residuals dominated.

This provided further evidence for a model that displayed only reasonable fit, as good fit would have been indicated by data points gathered tightly around the 45-degree reference line.

Considering the basket of evidence provided by the fit statistics and the percentage large standardised residuals the current study concluded that the comprehensive LISREL model showed reasonable model fit. Taking the reasonable fit of the comprehensive LISREL model in conjunction with the very good measurement model fit it was inferred that the structural model showed sufficient reasonable fit to warrant the interpretation of the structural model parameter estimates.

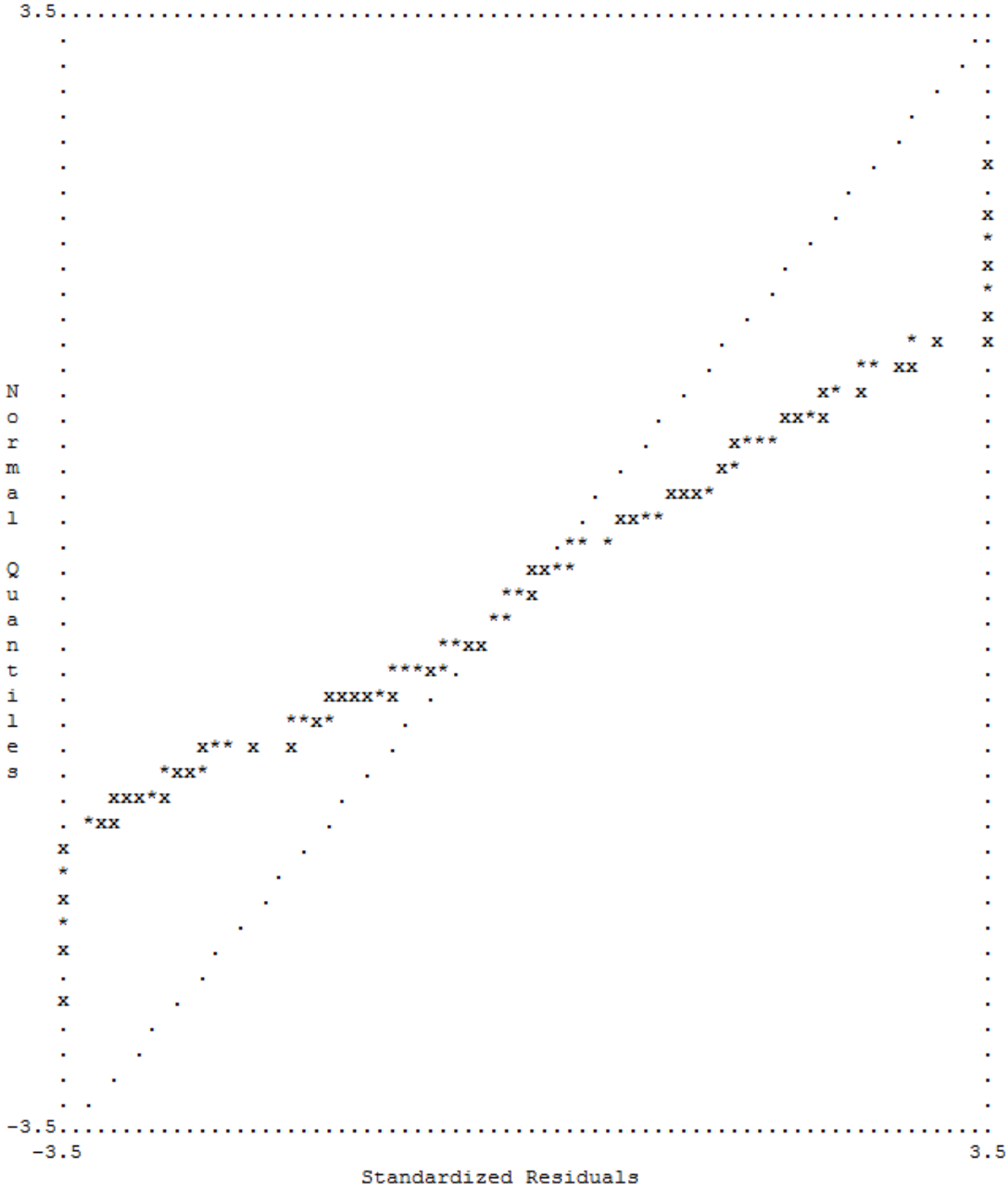

Figure 4.16. Q-Plot of the Reitz Intention to Quit comprehensive LISREL model.

4.8.2 Reitz intention to quit structural model parameter estimates and squared multiple correlations

When assessing the Reitz *intention to quit* structural model in terms of the parameter estimates three specific matrices were of interest, namely, gamma, beta and psi. Gamma describes the estimated slopes of the regression relationships that were hypothesised between the exogenous and endogenous latent variables and beta describes the estimated slopes of the directional regression relationships hypothesised between the endogenous variables. Both γ_{ij} and β_{ij} were interpreted as partial regression coefficients[41] unless only a single ξ_i or η_i was hypothesised to affect η_j. This therefore meant that γ_{ij} and β_{ij} described the average change in η_j associated with one unit change in η_i when holding constant (or controlling for) all other latent variables that were structurally linked to η_j. Psi describes the estimated variances of the structural error terms associated with each endogenous latent variable in the Reitz *intention to quit* structural model.

Diamantopoulos and Siguaw (2000) highlight four aspects of importance when investigating the above-mentioned parameters. Firstly, the sign of the estimated path coefficients should correspond to the relevant path-specific substantive hypotheses, theorised in Chapter 2, and the statistical alternative hypotheses proposed in Chapter 3. If, for example a positive relationship had been hypothesised between *intention to quit* and *psychological empowerment*, the sign of the parameter estimate for this path should be positive (and *vice versa*). All structural error variance estimates have to be positive. Secondly, it should be determined whether the parameter estimates were statistically significant ($p<.05$). Thirdly, the magnitude of the parameter estimates should be interpreted and, lastly, the squared multiple correlations should be analysed to determine the variance in each endogenous variable that was accounted for by the latent variables linked to it in the structural model.

Both the standardised and unstandardised matrices for gamma, beta and psi are presented in Tables 4.88, 4.89, 4.90, 4.91, 4.92 and 4.93 respectively.

In the unstandardised matrices three figures are reported, the unstandardised parameter estimates (the first value), the standard error terms (the middle value) and the z-values (the bottom value). Due to the directional alternative hypotheses, a parameter estimate was considered statistically significant ($p<.05$) if the absolute z-value obtained was greater than or equal to |1.6449|.

---

[41] The path-specific substantive research hypotheses were purposefully formulated in a manner that explicitly reflected this fact.

Table 4.88

Reitz Intention to Quit structural model unstandardised gamma matrix

	PEMPOWER	PDEVELOP	PAEMPO	PUM	PSATP	PUM_PEO
SATISFAC	-.00608	.53209*	- -	- -	.32930*	- -
	(.07900)	(.06865)			.10194)	- -
	-0.07701	7.75116			3.23016	- -
ITQ	- -	- -	- -	.71769*	- -	.12780*
	- -	- -	- -	.06226)	- -	(.05317)
	- -	- -	- -	11.52659	- -	2.40364
PHCAP	.27385*	- -	- -	- -	.15031	- -
	(.11287)	- -	- -	- -	(.12379)	- -
	2.42628	- -	- -	- -	1.21419	- -
PEMPO	- -	- -	.64829*	- -	- -	- -
	- -	- -	(.07407)	- -	- -	- -
	- -	- -	8.75248	- -	- -	- -
ORGC	- -	- -	-	- -	- -	- -

SATISFAC=Job Satisfaction, PEMPO=Perceived Psychological Empowerment, ORGC=Organisational Commitment, PHCAP=Perceived Human Capital, ITQ=Intention to Quit, PUM=Perceived Utility of Movement, PDEVELOP=Perceived Development Opportunities, PAEMPO=Perceived Alternative Opportunities*
(p<.05)

The unstandardised gamma matrix describes the slopes of the regression of the endogenous latent variables (η) on the exogenous latent variables (ξ).

Six of the eight path coefficient estimates were statistically significant (p<.05). More specifically γ_{12}, γ_{31}, γ_{43}, γ_{24}, γ_{15} and γ_{26} were statistically significant (p<.05). Moreover, the signs of the parameter estimates of the statistically significant path coefficients agreed with the nature of the effects hypothesised under the path-specific substantive hypotheses. H_{07}, H_{06}, H_{08}, H_{04} H_{014} and H_{012} could therefore be rejected. Support was therefore obtained:

- For the hypothesised positive effect of *perceived development opportunities* (PDEVELOP) on *job satisfaction* (SATISFAC), when controlling for the effect of *psychological empowerment* and *satisfactoriness of performance*
- For the hypothesised positive effect of *psychological empowerment* (PEMPOWER) on *perceived human capital* (PHCAP), when controlling for the effect of *satisfactoriness of performance*
- For the hypothesised positive effect of *perceived alternative opportunities* (PAEMPO) on *perceived employability* (PEMPO), when controlling for the effect of *human capital*
- For the hypothesised positive effect of *perceived satisfactoriness of performance* (PSATP) on *job satisfaction* (SATISFAC) when controlling for *perceived development opportunities*,
- For the hypothesised positive effect of *perceived utility of movement* (PUM) on *intention to quit* (ITQ) when controlling for the effect of *job satisfaction, commitment, employability* and the interaction between *employability and utility of movement.*, and

- For the hypothesised positive effect of the interaction between *perceived utility of movement* and *perceived employment opportunity* (PUM_PEO) on *intention to quit* (ITQ) when controlling for the effect of *job satisfaction, commitment, employability* and *utility of movement*.

Two of the eight path coefficient estimates were statistically insignificant (p>.05). More specifically γ_{11} and γ_{35} were statistically insignificant (p>.05). H_{04} and H_{013} could therefore not be rejected. Support was therefore not obtained:

- For the hypothesised positive effect of *psychological empowerment* (PEMPOWER) on *job satisfaction* (SATISFAC), when holding *perceived development opportunities* and *satisfactoriness of performance* constant.and
- For the hypothesised positive effect *perceived satisfactoriness of performance* (PSATP) on *perceived human capital* (PHCAP) when controlling for *psychological empowerment.*

The unstandardised beta matrix, describing the slope of the relationship between the various endogenous variables in the Reitz intention to quit structural model, is presented in Table 4.89.

Table 4.89

Reitz Intention to Quit structural model unstandardised beta matrix

	SATISFAC	ITQ	PHCAP	PEMPO	ORGC
SATISFAC	- -	- -	- -	- -	- -
ITQ	-.13061*	- -	- -	-.01021	-.02528
	0.05024)			(.05306)	(.09210)
	-2.59976			-0.19249	-0.27443
PHCAP	- -	- -	- -	- -	- -
PEMPO	- -	- -	.12711*	- -	- -
			(.06535)		
			1.94510		
ORGC	.05579	-.38268*	- -	-.30104*	- -
	(.07561)	.11490)		.09133)	
	0.73791	-3.33060		-3.29614	

SATISFAC=Job Satisfaction, PEMPO=Perceived Psychological Empowerment, ORGC=Organisational Commitment, PHCAP=Perceived Human Capital, ITQ=Intention to Quit, PUM=Perceived Utility of Movement, PDEVELOP=Perceived Development Opportunities, PAEMPO=Perceived Alternative Opportunities
(p<.05)

Four of the seven path coefficient estimates were statistically significant (p<.05). More specifically β_{21}, β_{52}, β_{43} and β_{54} were statistically significant (p<.05). Moreover, the signs of the parameter estimates of the statistically significant path coefficients agreed with the nature of the effects hypothesised under the path-specific substantive hypotheses. H_{05}, H_{016}, H_{09}, and H_{015} could therefore be rejected. Support was therefore obtained:

- For the hypothesised negative effect of *job satisfaction* (SATISFAC) on *intention to quit* (ITQ) when holding *utility of movement, employability,* the interaction between *employability and utility of movement* and *commitment* constant.,
- For the hypothesised negative effect of *intention to quit* (ITQ) on *organisational commitment* (ORGC) when controlling for*, job satisfaction and employability*,
- For the hypothesised positive effect of *perceived human capital* (PHCAP) on *perceived employability* (PEMPO) when controlling for the effect of *alternative opportunities*
- For the hypothesised negative effect of *perceived employability* (PEMPO) on *organisational commitment* (ORGC) when controlling for *job satisfaction* and *intention to quit*

Analysis of the beta matrix (see Table 4.89) indicates three paths that were not statistically significant (p>.05). More specifically β_{51}, β_{24} and β_{25} were statistically insignificant (p<.05). H_{02}, H_{010} and H_{03} could therefore not be rejected. Support was therefore not obtained:

- For the hypothesised positive effect of *job satisfaction* (SATISFAC) on *commitment* (ORGC) when holding *employability* and *intention to quit* constant,
- For the hypothesised positive effect of p*erceived employability* (PEMPO) on *intention to quit* (ITQ)when controlling for the effect of *job satisfaction, commitment, utility of movement* and the interaction between *employability and utility of movement, and*
- For the hypothesised negative effect of *organisational commitment* (ITQ) on *intention to quit* when holding *utility of movement, employability* the interaction between *employability* and *utility of movement* and *job satisfaction* constant.

The standardised matrices were also investigated as they provided additional “insights into the relative impact of each independent variable on each endogenous variable” (Diamantopoulos & Siguaw, 2000, p. 93). Similar to the standardised matrices investigated in the measurement model these standardised matrices for gamma, beta and psi provide information that is unaffected by differences in the units of measurement in the questionnaire. The completely standardised gamma and beta matrices describe the average increase or decrease in the endogenous latent variable η_j expressed in a standard deviation metric brought about by one standard deviation increase in the exogenous latent variable ξ_i or endogenous latent variable η_i. Moreover, both the unstandardised and the completely standardised path coefficients should be interpreted as partial regression coefficients. Table 4.90 depicts the completely standardised gamma matrix.

Table 4.90

Reitz Intention to Quit structural model completely standardised gamma matrix

	PEMPOWER	PDEVELOP	PAEMPO	PUM	PSATP	PUM_PEO
SATISFAC	-.00608	.53209	- -	- -	.32930	- -
ITQ	- -	- -	- -	.71769	- -	.12780
PHCAP	.27385	- -	- -	- -	.15031	- -
PEMPO	- -	- -	.64829	- -	- -	- -
ORGC	- -	- -	- -	- -	- -	- -

SATISFAC=Job Satisfaction, PEMPO=Perceived Psychological Empowerment, ORGC=Organisational Commitment, PHCAP=Perceived Human Capital, ITQ=Intention to Quit, PUM=Perceived Utility of Movement, PDEVELOP=Perceived Development Opportunities, PAEMPO=Perceived Alternative Opportunities

The current study created a taxonomy on the interpretation of completely standardised γ and β parameter values. For the purpose of the current study:

- Weak was interpreted to refer to γ and β parameter values in the range of 0-.19
- Reasonably weak was interpreted to refer to γ and β parameter values in the range of .20-.39;
- Modest was interpreted to refer to γ and β parameter values in the range of .40-.59
- Reasonably strong was interpreted to refer to γ and β parameter values in the range of .60-.79; and
- Strong was interpreted to refer to refer toγ and β parameter values in the range of .80-1;

According to Table 4.90 the influence of *perceived development opportunities* on *job satisfaction* (.532) was modest, the influence of *perceived utility of movement* on *intention to quit* (.718) was reasonably strong, and the influence of *perceived alternative opportunities* on *psychological empowerment* (.648) was modest. The influence of perceived satisfactoriness of performance on job satisfaction (.329) was reasonably weak.

Table 4.91 depicts the completely standardised beta matrix.

Table 4.91

Reitz Intention to Quit structural model completely standardised beta matrix

	SATISFAC	ITQ	PHCAP	PEMPO	ORGC
SATISFAC	- -	- -	- -	- -	- -
ITQ	-.13061	- -	- -	-.01021	-.02528
PHCAP	- -	- -	- -	- -	- -
PEMPO	- -	- -	.12711	- -	- -
ORGC	.05579	-.38268	- -	-.30104	- -

SATISFAC=Job Satisfaction, PEMPO=Perceived Psychological Empowerment, ORGC=Organisational Commitment, PHCAP=Perceived Human Capital, ITQ=Intention to Quit, PUM=Perceived Utility of Movement, PDEVELOP=Perceived Development Opportunities, PAEMPO=Perceived Alternative Opportunities

The completely standardised parameter estimates for **B** revealed that all the paths were somewhat less pronounced. Interpreting the completely standardised β_{ij} estimates indicates that the influence of *job satisfaction* on *intention to quit* (-.131) was weak, the influence of

intention to quit on *organisational commitment* (-.383) was reasonably weak, the influence of *perceived human capital* on *perceived employment opportunity* was weak and the influence of *perceived employment opportunity* on *organisational commitment* (-.301) was also reasonably weak.

- The current study took the decision in Chapter 3 to formulate the path-specific substantive hypotheses in a manner that took an explicit stance on the magnitude of the hypothesised effect. This was done in response to criticism on of null-hypothesis refutation as a means of corroborating psychological hypotheses (Meehl, 2006). Meehl 2006, p. 438) suggests that in "almost all situations in which a significance test can be properly employed permit setting up of a confidence interval. That should come first." This in turn seems to suggest that the research should do more than commit to the rather vague position that the parameter is not zero but rather should commit to an interval of values for the non-zero parameter. All the path specific substantive hypotheses were consequently formulated by using adjectives that committed the hypothesised to specific effect sizes. The effect sizes that specific adjectives referred to were defined in the foregoing taxonomy. The double-barrel path-specific substantive hypotheses were regarded as supported if the corresponding null hypothesis could be rejected [42] and if the completely standardised estimate fell in the interval set out in the taxonomy. Given the completely standardised γ_{ij} and β_{ij} estimates shown in Table 4.90 and Table 4.91 the following results for the path specific hypotheses were obtained:
- Hypothesis 2: *Job satisfaction* has a reasonably strong positive effect on *commitment* when holding *employability* and *intention to quit* constant.
    - Hypothesis 2 was not corroborated: *Job satisfaction* had a statistically insignificant (p>05) effect on *commitment* when holding *employability* and *intention to quit* constant.
- Hypothesis 3: *Commitment* has a reasonably strong negative effect on *intention to quit* when holding *utility of movement, employability* the interaction between *employability and utility of movement,* and *job satisfaction* constant.
    - Hypothesis 3 was not corroborated: *Commitment* had a statistically insignificant (p>.05) negative effect on *intention to quit* when holding *utility of movement, employability* the interaction between *employability and utility of movement,* and *job satisfaction* constant.

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[42] The null hypothesis could only be rejected if the exceedance probability was sufficiently small (i.e if the z-score was sufficient large) and if the sign of the parameter estimate agreed with the prophesy made by the relevant path-specific substantive hypothesis.

- Hypothesis 4: *Psychological empowerment* has a modest positive effect on *job satisfaction* when holding *perceived development opportunities* and *satisfactoriness of performance* constant.
    - Hypothesis 4 was not corroborated: *Psychological empowerment* had a statistically insignificant (p<.05) effect on *job satisfaction* when holding *perceived development opportunities* and *satisfactoriness of performance* constant.
- Hypothesis 5: *Job satisfaction* has a reasonably strong negative effect on *intention to quit* when holding *utility of movement, employability,* the interaction between *employability and utility of movement* and *commitment* constant.
    - Hypothesis 5 was partially corrobotated: *Job satisfaction* had a statistically significant (p<.05) but weak rather than reasonably strong negative effect on *intention to quit* when holding *utility of movement, employability,* the interaction between *employability and utility of movement* and *commitment* constant.
- Hypothesis 6: *Perceived development opportunities* has a modest positive influence on *job satisfaction* when controlling for the effect of *psychological empowerment* and *satisfactoriness of performance.*
    - Hypothesis 6 was partially corroborated: *Perceived development opportunities* had a statistically significant (p<05) but reasonably strong rather than modest positive influence on *job satisfaction* when controlling for the effect of *psychological empowerment* and *satisfactoriness of performance.*
- Hypothesis 7: *Perceived psychological empowerment* modestly positively affects *perceived human capital* when controlling for the effect of *satisfactoriness of performance.*
    - Hypothesis 7 was partially corrobotated: *Perceived psychological empowerment* statistically significantly (p<.05) but reasonably weakly rather than modestly positively affected *perceived human capital* when controlling for the effect of *satisfactoriness of performance.*
- Hypothesis 8: *Perceived alternative job opportunities* modestly positively affects *perceived employability* when controlling for the effect of *human capital.*
    - Hypothesis 8 was partially corroborated: *Perceived alternative job opportunities* statistically significantly (p<.05) but reasonably strongly rather than modestly positively affected *perceived employability* when controlling for the effect of *human capital.*
- Hypothesis 9: *Perceived human capital* modestly positively affects *perceived employability* when controlling for the effect of *alternative opportunities.*

- Hypothesis 9: *Perceived human capital* had a statistically significant (p<.05) but weak rather than modest positive effect on *perceived employability* when controlling for the effect of *alternative opportunities.*

- Hypothesis 10: *Perceived employability* positively affects *intention to quit* when controlling for the effect of *job satisfaction, commitment, utility of movement* and the interaction between *employability and utility of movement.*
  - Hypothesis 10 was not corroborated: *Perceived employability* had a statistically insignificant (p>.05) effect on *intention to quit* when controlling for the effect of *job satisfaction, commitment, utility of movement* and the interaction between *employability and utility of movement.*
- Hypothesis 11: *Perceived utility of movemen*t positively reasonably strongly affects *intention to quit* when controlling for the effect of *job satisfaction, commitment, employability* and the interaction between *employability and utility of movement.*
  - Hypothesis 11 was corroborated: *Perceived utility of movemen*t had a statistically significant (p<.05) and reasonably strongly positive effect on *intention to quit* when controlling for the effect of *job satisfaction, commitment, employability* and the interaction between *employability and utility of movement.*
- Hypothesis 12: The effect of *perceived employability* on *intention to quit* is modestly by *perceived utility of movement* when controlling for the effect of *job satisfaction, commitment, employability* and *utility of movement.* The slope of the regression of intention to quit on perceived employability increases as the perceived utility of movement increases.
  - Hypothesis 12 was partially corroborated: The effect of *perceived employability* on *intention to quit* was statistically significantly (p<.05) moderated by *perceived utility of movement* when controlling for the effect of *job satisfaction, commitment, employability* and *utility of movement.* The slope of the regression of intention to quit on perceived employability increased as the perceived utility of movement increased. The effect was, however, weak rather than modest as hypothesised.
- Hypothesis 13: Perceived *satisfactoriness of performance* modestly positively influences *perceived human capital* when controlling for *psychological empowerment.*
  - Hypothesis 13 was not corroborated: Perceived *satisfactoriness of performance* had a statistically insignificant (p>.05) influenece on *perceived human capital* when controlling for *psychological empowerment.*
- Hypothesis 14: *Perceived satisfactoriness of performance* modestly positively influences *job satisfaction* when controlling for *perceived development opportunities.*

- Hypothesis 14 was partially corroborated: *Perceived satisfactoriness of performance* had a statistically significant (p<.05) but reasonably weak rather than modest influence on *job satisfaction* when controlling for *perceived development opportunities.*

- Hypothesis 15: Perceived employability weakly negatively influences organisational commitment when controlling for *job satisfaction* and *intention to quit.*
  - Hypothesis 15 was partially corroborated: Perceived employability had a statistically significant but reasonably weak rather than weakl negatively influence on organisational commitment when controlling for *job satisfaction* and *intention to quit.*
- Hypotheses 16: The level of intention to quit modestly negatively affects organisational commitment when controlling for *job satisfaction and employability*.
  - Hypotheses 16: The level of intention to quit had a statistically significant (p<.05) but reasonably weak rather than modest negatively effect on organisational commitment when controlling for *job satisfaction and employability.*

The matrix of unstandardised structural error variance estimates (ψ_{jj}) is shown in Table 4.92.

Table 4.92

Reitz Intention to Quit structural model unstandardised psi matrix

SATISFAC	ITQ	PHCAP	PEMPO	ORGC
.45482	.34501	.84779	.55189	.72129
(.05167)	(.05669)	(.13009)	(.08869)	(.16207)
8.80281	6.08601	6.51678	6.22234	4.45054

SATISFAC=Job Satisfaction, PEMPO=Perceived Psychological Empowerment, ORGC=Organisational Commitment, PHCAP=Perceived Human Capital, ITQ=Intention to Quit, PUM=Perceived Utility of Movement, PDEVELOP=Perceived Development Opportunities, PAEMPO=Perceived Alternative Opportunities
*(p<.05)

It is evident from Table 4.92 that the null hypothesis that the variance in the jth structural error term is zero could be rejected (z>1.6449) for all of the endogenous latent variables. This implies that all the estimated structural error variances were statistically significant (p<.05), which was to be expected since it is unlikely that the model would provide a perfect explanation for variance in the endogenous latent variables[43]. H_{018} – H_{022} were therefore all rejected. Table 4.93 illustrated the completely standardised psi matrix.

[43] Models within psychological research are not meant to be perfect representation of reality. They are ever changing, ever evolving representation or explanations that provide us with a window into the uniqueness that underlies each individual within society. They act as mere glimpses into the complex world of human nature and therefore are expected to provide a somewhat close or reasonable representation but not perfect explanation of reality.

Table 4.93

Reitz Intention to Quit structural model completely standardised psi matrix

SATISFAC	ITQ	HCAP	PEMPO	ORGC
.45482	.34501	.84779	.55189	.72129

SATISFAC=Job Satisfaction, PEMPO=Perceived Psychological Empowerment, ORGC=Organisational Commitment, PHCAP=Perceived Human Capital, ITQ=Intention to Quit, PUM=Perceived Utility of Movement, PDEVELOP=Perceived Development Opportunities, PAEMPO=Perceived Alternative Opportunities

The completely standardised psi matrix (Table 4.93) revealed the completely standardised psi matrix provides a somewhat disappointing view in terms of the magnitude of the error variance coefficients for the Reitz *intention to quit* structural model. It was expected that these variances would be significant (p<.05) but reasonably weak (.20-.39) in magnitude. However, this was not the case for four of the five endogenous latent variables in the model. *Intention to quit* was the only exception. This was heartening since this is the focal latent variable in the model. This evidence suggests that the model did a reasonably poor job of explaining variance in each of the endogenous latent variables[44].

Table 4.94 indicates the R^2 values for the five endogenous latent variables. R^2 signifies the part of the variance in the endogenous latent variables that is accounted for by the intention to quit structural model. The results in Table 4.94 echo the finding reported in Table 4.93. But for *intention to quit*, the model relatively poorly explained variance in *especially perceived human capital* and *organisational commitment* but also *perceived employment opportunity* and to a somewhat lesser degree *job satisfaction.*

Table 4.94

Squared multiple correlations $(R)^2$ for the endogenous latent variables in the final Reitz intention to quit structural model

SATISFAC	ITQ	PHCAP	PEMPO	ORGC
.54518	.65499	.15221	.44811	.27871

P_SAT=Job Satisfaction, P_PSEMP=Perceived Psychological Empowerment, P_ITQ=Perceived Intention to Quit, P_PDO=Perceived Development Opportunities, P_PHC=Perceived Human Capital, P_PAO=Perceived Alternative Opportunities, P_PHM=Perceived Utility of Movement, P_PEP=Perceived Employability, P_PSP=Perceived Satisfactoriness of Performance, P_OC-Organisational Commitment, RES=Residuals

4.8.3 Reitz Intention to Quit Structural Model modification indices

The modification indices will now be investigated with a twofold objective, firstly to corroborate model fit and secondly to determine paths or relationships that could be added to this seemingly underestimated model. Table 4.95 provides the modification index values for **B** and Table 4.96 the modification index values for Γ. According to the process suggested

[44] At the same time, however, the reasonably large error variance estimates attest to the complex nature of the psychological mechanism that operates to regulate the levels of *psychological ownership* and that the current Stellenbosch University https://scholar.sun.ac.za

by Jöreskog and Sörbom (1993), the parameter with the highest modification index value across **B** and Γ had to be located. Table 4.95 provides the results for **B**.

Table 4.95

*Reitz Intention to Quit structural model modification indices for **B***

	SATISFAC	ITQ	PHCAP	PEMPO	ORGC
SATISFAC	- -	14.37001	0.19256	0.00000	2.47912
ITQ	- -	- -	0.94824	- -	- -
PHCAP	1.42048	7.44466	- -	**27.54254**	8.23453
PEMPO	**18.37154**	7.37078	- -	- -	8.33521
ORGC	- -	- -	0.01908	- -	- -

SATISFAC=Job Satisfaction, PEMPO=Perceived Psychological Empowerment, ORGC=Organisational Commitment, PHCAP=Perceived Human Capital, ITQ=Intention to Quit, PUM=Perceived Utility of Movement, PDEVELOP=Perceived Development Opportunities, PAEMPO=Perceived Alternative Opportunities

Table 4.96 provides the modification index values for the paths between exogenous and endogenous latent variables currently fixed to zero. According to Table 4.95 and Table 4.96, the parameter with the highest modification index value is γ_{44} that describes the slope of the regression of *perceived employment opportunity* on *perceived utility of movement.*

From Table 4.95 it is evident that six of the thirteen parameters, suggested as additional paths or relationships, if set free, would statistically significantly (p<.01) improve model fit[45]. This percentage (64%) seems a bit unsatisfactory.

Table 4.96

Reitz Intention to Quit structural model modification indices for Γ

	PEMPOWER	PDEVELOP	PAEMPO	PUM	PSATP	PUM_PEO
SATISFAC	- -	- -	3.09012	**31.66628**	- -	0.64416
ITQ	6.00738	0.08146	0.02079	- -	1.14708	- -
PHCAP	- -	1.95082	15.67501	6.68313	- -	0.15622
PEMPO	8.74789	15.40893	- -	**48.88954**	**18.31948**	0.00013
ORGC	12.20200	**21.55936**	0.37391	- -	5.32968	0.31376

SATISFAC=Job Satisfaction, PEMPO=Perceived Psychological Empowerment, ORGC=Organisational Commitment, PHCAP=Perceived Human Capital, ITQ=Intention to Quit, PUM=Perceived Utility of Movement, PDEVELOP=Perceived Development Opportunities, PAEMPO=Perceived Alternative Opportunities

From Table 4.96 it is evident that ten of the twenty-two parameters (46%) suggested as additional paths or relationships in this structural model, if set free, would statistically significantly (p<.01) improve model fit. This is again a rather high percentage which commented negatively on the model fit. These potential modifications will be discussed further in Chapter 5.

[45] It is acknowledged that the modification indices will change if a single suggested path is implemented. The change might be such that some of the currently statistically significant (p<.01) modification index values no longer may be statistically significant in the revised model.

CHAPTER 5

CONCLUSIONS, RECOMMENDATIONS FOR FUTURE RESEARCH, MANAGERIAL IMPLICATIONS AND METHODOLOGICAL LIMITATIONS

5.1 INTRODUCTION

The goal of this research study was to expand and (if necessary) alter the original Smuts (2010) explanatory *intention to quit* structural model and to empirically test the modified and expanded model (Reitz *intention to quit* structural model). Therefore, this study attempted to further the understanding of the nature of the psychological constructs and the way in which they combine and interact with each other to determine the level of the *intention to quit* that employees' experience. Since the aim of the current study was to build on the fundamentals laid by Smuts (2011), it was necessary to first; (a) describe Smuts' (2010) model, (b) explain her theorising in terms of which she justified her model, (c) report on the findings of the fit of the *intention to quit* structural model she put forward, and (d) report on the findings regarding the specific casual relationships that Smuts (2011) proposed. Subsequently, the question was then how the fitted Smuts (2011) model should be modified and/or elaborated via the Reitz *intention to quit* structural model.

The Smuts (2010) model was elaborated primarily by acknowledging that employees' intention to quit is not solely determined by the manner in which they perceive and interpret their work, their organisation and practices within their organisation but importantly also the manner in which they perceive and interpret conditions outside their organisation in the employment market. In this regard the study relied quite strongly on the model proposed by Bezuidenhout (2013). The current study, however, critically examined Bezuidenhout's (2013) theorising can made a number of crucial amendments to his original theorising. In addition, the current study argued that employees' intention to quit in addition determined by the manner in which they perceive and interpret the satisfactoriness of their own performance at work.

The (unbridled) theorising in response to the second-generation research initiating question resulted in an extensive intention to quit structural model (shown in Figure 2.8) comprising twenty latent variables and 38 path-specific substantive hypotheses. To realistically enable empirical testing the model was reduced to the Reitz *intention to quit* structural model (shown in Figure 3.1) comprising eleven latent variables and fifteen path-specific substantive hypotheses.

To operationalise the constructs in the Reitz *intention to quit* structural model a composite *intention to quit* research questionnaire was developed (see Appendix 1) comprising a number of scales and subscales designed to measure the constructs included in the model. The items of the various scales and subscales were combined into item parcels to represent each of the constructs in the Reitz *intention to quit* structural model. Furthermore, the design intention with the formation of the item parcels from the items of the composite Reitz intention to quit research questionnaire was that the item parcels should firstly load statistically significant ($p<.05$) and large ($\lambda_{ij}\geq.50$) on their designated latent variables, secondly that the measurement error variance associated with each item parcel should be statistically significant ($p<.05$) but small, thirdly that the latent variables explain large proportions of the variance in the item parcels that represent them ($\lambda^2ij\geq.25$) and lastly that the latent variables comprising the *intention to quit* structural model correlate low-moderate ($\varphi_{ij}<.90$) with each other.

In this chapter a summary is provided of the findings of this study. In addition, the implications of the findings as well as recommendations for future research are discussed.

5.2 SUMMARY OF FINDINGS

This section outlines a summary and a discussion pertaining to the statistical results presented in Chapter 4. A summary and a discussion of the results obtained for both the measurement and structural models are presented.

5.3.1 Evaluation of the Reitz *Intention to Quit* Measurement Model

The measurement model represents the relationships between the latent variables and their corresponding indicator variables. Thus, it was important to first determine the psychometric quality of the measures, prior to investigating the fit of the structural model or the substantive relationships of interest. Evaluating the fit of the *intention to quit* measurement model involved the evaluation of the hypothesised relationships between the latent variables in the *intention to quit* structural model and the composite indicators created to represent them. The objective was to determine the reliability and validity with which the measures designed to represent the latent variables do just that. When fitting the measurement model, verdicts affecting the goodness of fit are more credible if derived from a combination of a variety of fit indices (Tanaka, 1993; Theron 2014).

Fit was evaluated using absolute fit indices and incremental as well as parsimony fit indices simultaneously. In addition to these goodness of fit indices, the distribution of the standardised variance and covariance residuals and the magnitude of the model

modification indices calculated for $\boldsymbol{\Lambda}^{x}$ and $\boldsymbol{\Theta}_{\boldsymbol{\delta}}$ were also evaluated to determine the model fit. Taking all of the fit indices into account it was reasonable to suggest that the Reitz *intention to quit* measurement model showed a good overall fit. Neither the close fit null hypothesis, nor the exact fit null hypothesis was rejected ($p>.05$). This finding warranted the interpretation of the measurement model parameter estimates.

Moreover, discriminant validity was discussed under section 4.7.7. It was expected that the eleven latent variables comprising the Reitz *intention to quit* structural model would correlate. The results suggested that the majority of the inter-latent variables correlations were statistically significant ($p<.05$) but none of the statistically significant latent variable inter-correlations were excessively large ($\varphi_{ij}>.90$). Thus, given the magnitude of the latent variable inter-correlations, it was not deemed necessary to examine the discriminant validity of the operationalisation of the latent variables comprising the structural model more stringently and therefore it was concluded that the manner in which the latent variables comprising the Reitz *intention to quit* structural model were operationalised succeeded in discriminating between the latent variables as related but qualitatively distinct variables.

Several questions were asked in determining the final conclusion surrounding the success with which the latent variables comprising the Reitz *intention to quit* structural model had been operationalised, namely, did the measurement model fit the data reasonably well, were the completely standardised factor loadings large and statistically significant ($p<.05$), were the measurement error variance terms in the completely standardised solution small but still statistically significant ($p<.05$) and were the R^2 sufficiently indices large? The answer to all of the above posed questions was a qualified yes. The parameter estimates for most of the composite indicators met the criteria outlined above. Five of the twenty-two composite indicators, however returned statistically insignificant ($p>.05$) error variance estimates. (P_SAT1, P_PHC1, P_PAO2, P_OC2 and RES_3). More importantly the one indicator (RES_3) of the latent interaction effect in the model returned an inadmissible factor loading exceeding unity, and by implication then also, an inadmissible negative theta-delta estimate and an inadmissible R^2 estimate exceeding unity. It was, however, argued that since the measurement error variance estimate was not statistically significantly ($p>.05$) smaller than zero (i.e. the null hypothesis H_0: $\theta_{22,22}=0$ was not rejected) it implied that the factor loading $\lambda_{22,11}$ was not statistically significantly larger than one. This line of reason allowed the current study to conclude that the Reitz intention to quit measurement model had been sufficiently successfully operationalised. It was therefore regarded as permissible to fit the comprehensive LISREL model, and if at least reasonable model fit was obtained, interpret the parameter estimates for the *intention to quit* structural model.

5.3.2 Evaluation of the Reitz *Intention to Quit* Structural Model

In order to determine if the relationships, identified through theorising in Chapter two in response to the second-generation research initiating question, were supported by the data, the reduced structural model was evaluated. The goodness of fit statistics were considered as well as the statistical significance and magnitude of the structural model parameter estimates, squared multiple correlations for the endogenous latent variables and the modification indices for Γ and $\mathbf{B}$.

The Reitz *intention to quit* structural model showed reasonable fit according to the goodness of fit statistics (RMSEA=.063, p<.05). The finding of reasonable fit was corroborated by the Q-plot and stem-and-leaf plot in that the data points swiveled away from the 45 degree line, specifically at the upper and lower regions and the stem-and-leaf indicated a model that was only slightly negatively skewed but with a reasonably small percentage (17%) of large covariance residuals. Based on an evaluation of the fit indices and the standardised residuals the current study felt that the comprehensive LISREL model fitted sufficiently reasonable to warrant the interpretation of the structural model parameter estimates.

A summary of the findings regarding the statistical significance of the hypothesised paths is shown in the colour-coded path diagram depicted in Figure 5.1.

Upon examining the parameter estimates (beta and gamma matrices), to determine whether the data supported the relationships hypothesised in Chapter 2, it was evident that the following five paths were statistically insignificant (p>.05) (indicated in red in Figure 5.1):

- The path between *organisational commitment* and *intention to quit*,
- The path between *perceived employability* and *intention to quit*,
- The path between *satisfaction* and *commitment;*
- The path between *perceived satisfactoriness of performance* and *perceived human capital*, and
- The path between *psychological empowerment* and *job satisfaction*.

This meant that H_{02}, H_{03}, H_{04}, H_{010} and H_{013} could not be rejected in favor of H_{ai},

In contrast to the current study, Oehley (2007), Smuts (2011) and Bezuidenhout (2013) did find support for the effect of *organisational commitment* on *intention to quit* in their models. Oehley (2007) did not test any of the other hypotheses that the current study failed to find support for. Bezuidenhout (2013) also failed to find support for the path between *satisfaction* and *commitment* as well as for the path between *psychological empowerment* and *job satisfaction.* Smuts (2011), however did find support for the path between *satisfaction* and

commitment as well as for the effect of *psychological empowerment* on *job satisfaction.* It needs to be stressed again that strictly speaking the findings obtained for seemingly similar effects across the four models are not directly comparable. The path coefficients are partial regression coefficients. They reflect the effect of a specific η_i or ξ_i on η_j when controlling for the other latent variables that were structurally linked to η_j in the specific model. When the number and/or identity of the other latent variables that were structurally linked to η_j differ across the four models the β_{ji} and γ_{ji} are not directly comparable. Smuts (2011) and Bezuidenhout (2013) did, not include *perceived employability* and *perceived satisfactoriness of performance* in their models.

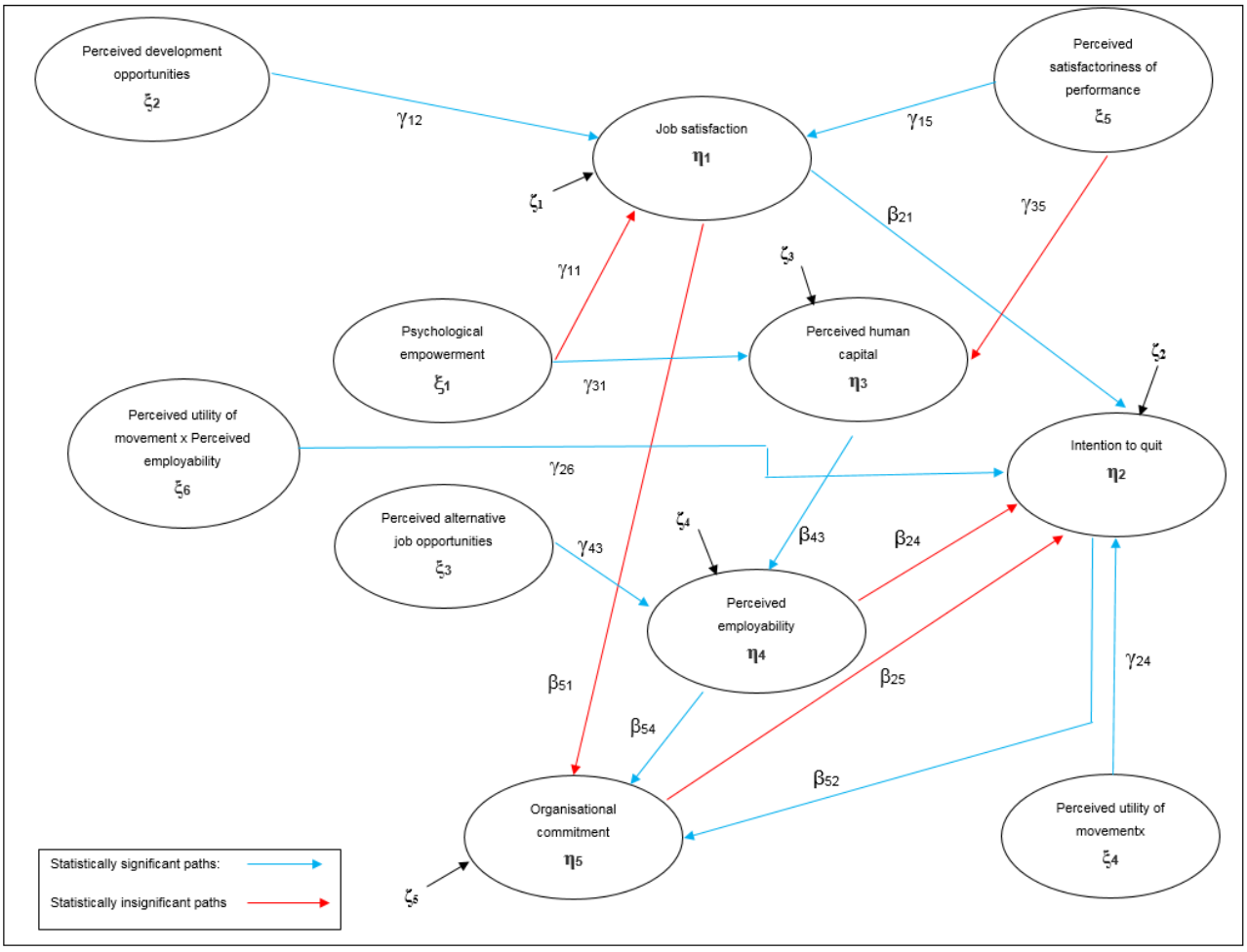

Figure 5.1. Summary of the findings on the statistical significance of the γ_{ij} and β_{ij} parameter estimates.

Upon examining the parameter estimates (beta and gamma matrices), to determine whether the data supported the relationships hypothesised in Chapter 2, it was evident that the following ten paths were statistically significant ($p<.05$) (indicated in blue in Figure 5.1):

- The path from *perceived development opportunities* to *job satisfaction*,

- The path from *perceived satisfactoriness of performance* to *job satisfaction*,
- The path from *job satisfaction* to *intention to quit*,
- The path from *psychological empowerment* to *perceived human capital*,
- The path from *perceived human capital* to *perceived employability*,
- The path from *perceived alternative employment opportunities* to *perceived employability*,
- The path from *perceived employability* to *organisational commitment*,
- The path *from intention to quit* to *organisational commitment;*
- The path from the latent *perceived employability x perceived utility of movement* interaction effect to *intention to quit*, and
- The path from *perceived utility of movement* to *intention to quit*.

This meant that H_{05}, H_{06}, H_{07}, Ho_{8}, H_{09}, H_{011}, H_{012}, H_{014}, H_{015} and H_{016} could be rejected in favor of Ha_{i}.

None of the other three studies included *perceived satisfactoriness of performance* in their models. Oehley (2007) included two job satisfaction facets in her model. She found that *organisational job satisfaction* had a significant, negative but moderate effect on *intention to quit*. She, however, did not find support for the effect of *supervisory job satisfaction* on *intention to quit*. Smuts (2011), in agreement with the current study, found support for the effect of *job satisfaction* on *intention to quit*. Bezuidenhout (2013), in contrast, did not find support for this path. Bezuidenhout (2013), like the current study found support for the path from *psychological empowerment* to *perceived human capital*. None of the other three studies included *perceived employability* in their models. None of the other three studies included the path *from intention to quit* to *organisational commitment* in their models. Bezuidenhout (2013), like the current study found support for the path from *perceived utility of movement* to *intention to quit*. Again, as explained earlier, it needs to be stressed again that strictly speaking the findings obtained for seemingly similar effects across the four models are not directly comparable.

The current study proposed double-barrel path-specific substantive hypotheses in which a specific (statistically significant) structural relationships were hypothesised between specific latent variables but, simultaneously, a prophesy was made regarding the magnitude of the relationship. To regard a path-specific substantive research hypothesis now required (a) that the path coefficient be found to be statistically significant, (b) that the sign of the path coefficient estimate corresponded to the nature of the relationship that was hypothesised,

and (c) that the completely standardised path coefficient fell in the interval that corresponded to the hypothesised magnitude of the effect.

Five of the path-specific substantive research hypotheses were not corroborated because the hypothesised effect was statistically insignificant (p>.05). Only one path-specific substantive research hypothesis was unconditionally corroborated, namely Hypothesis 11 that *perceived utility of movemen*t has a statistically significant (p<.05) and reasonably strongly positive effect on *intention to quit* when controlling for the effect of *job satisfaction, commitment, employability* and the interaction between *employability and utility of movement.* Nine of the path-specific substantive research hypotheses were only partially corroborated in that the hypothesised effect was statically significant but the completely standardised point estimate fell outside the hypothesised interval.

From these findings it can therefore be suggested that some evidence was found to support the hypothesised effect of:

- *job satisfaction* on *intention to quit,*
- *perceived development opportunities* on *job satisfaction,*
- *psychological empowerment* on *perceived human capital,*
- *perceived alternative opportunities* on *perceived employability,*
- *psychological empowerment* on *perceived human capital,*
- *the latent perceived employability x perceived utility of movement interaction* effect on *intention to quit,*
- *perceived satisfactoriness of performance* on *job satisfaction*, and
- *perceived employability* on *organisational commitment.*

From the foregoing findings it can therefore be suggested that strong evidence was found to support the hypothesised effect of:

- *perceived utility of movement* on *intention to quit.*

Before concluding this evaluation of the *psychological ownership* structural model there are two important points that should be stressed in order to aid future research studies. Firstly, the path coefficient estimates obtained for the hypothesised paths within the *psychological ownership* structural model should be treated as partial regression coefficients. By combining several hypothesised paths in a single complex model it is implied that the

influence of one exogenous, or endogenous variable, on another specific endogenous latent variable within the model occurs when the variance in the remaining latent variables linked to it are controlled for. Secondly, it must be noted that the model only obtained reasonable fit, therefore the subsequent discussion pertaining to the implications within the workplace had been made with some circumspection.

5.4 LIMITATIONS TO THE STUDY

Several limitations were highlighted throughout the research study, however they will briefly be outlined and discussed here.

The operationalisation of the latent interaction effect caused problems that necessitated the removal of two of the four indicator variables. Even then one of the remaining indicators returned inadmissible parameter estimates. It was, however argued that since the negative measurement error variance was not statistically significantly different from zero, the corresponding completely standardised factor loading could be assumed not to be statistically significantly larger than one. It is, however, conceded that these findings nonetheless erode confidence in the model to some degree.

The study took the bold stem to formulate more stringent double-barrel path-specific substantive hypotheses. It tested these by evaluating the statistical significance of the path coefficient parameter estimates and by determining whether the completely standardised parameter estimate fell in the interval of values represented by the adjective used in the path-specific hypothesis to specify the hypothesised effect. The completely standardised parameter estimate is, however, only a point estimate of the completely standardised path coefficient estimate in the parameter. A more appropriate procedure therefore might have been to have calculated 95% confidence intervals[46] for the completely standardised sample path coefficient estimates and to determine whether the confidence interval overlaps with the interval the adjective refers to in the effect size taxonomy.

An additional limitation that unfortunately fell outside of the control of the researcher, but that plagues many academic research studies, was the sample size. Furthermore, insufficient sample size necessitated the use of an alternative parceling/indicator procedure that was less than desirable. It is hoped that future studies will be able to obtain larger samples so as to ensure more stable and precise parameter estimates.

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[46] The 95% confidence interval for the completely standardised βij and γij estimates would be calculated as $\gamma_{ij\_cs} \pm 1.96$ and $\beta_{ij\_cs} \pm 1.96$.

An additional limitation, in terms of the sampling, was the use of a convenience sample in the form of an email to the researchers' contacts on LinkedIn. This convenience sample potentially lacked the diversity required to properly represent the South African workforce. Therefore, generalisations to the South African workplace population as a whole should be made suggestively and with some circumspection.

Several limitations pertain to the reductions made to the original *intention to quit* model developed through theorising in response to the research initiating question in Chapter 2 (Figure 2.8) and the creation of a reduced model. By assessing the reduced structural model, as opposed to the larger original *intention to quit* model as a whole, a certain degree of meaning was lost as the complexity of the interrelationships within the model as a whole are not fully explicated.

5.5 RECOMMENDATIONS FOR FUTURE RESEARCH

As discussed above in the limitation section, there are still numerous questions that need to be addressed. A number of proposals for future research on the Reitz *intention to quit* model are suggested. Some of these are data-driven proposals derived from the modification indices calculated for Γ and **B** and reported in Chapter 4. Others are theory-driven proposals derived from the researchers own independent theorising.

5.5.1 Data-driven Suggestions for Future Research

According to Jöreskog and Sörbom (1993), data-driven model modification should locate the currently fixed parameter with the highest modification index value across the beta and gamma matrices. The question should then be considered whether the proposed path makes substantive theoretical sense. If so, the additional questions should be considered whether the expected sign of the parameter estimate, should the path be inserted, agrees with the underlying theoretical argument and whether the expected magnitude of the parameter estimate warrants inserting the path.

An inspection of Table 4.95 and table 4.96 reveals that γ_{44} had the highest modification index value (48.88954). A path was therefore suggested from *perceived utility of movement* to *perceived employability*. The standardised expected change is positive and modest in magnitude (.41977). *Perceived utility of movement*, refers to an employee's perception of the level of attractiveness of the outcomes associated with an alternative opportunity *viz-a-viz* the valence of the outcome associated with one's current job (De Cuyper et al., 2011). *Perceived utility of movement* therefore refers to the perceived valence of the salient outcomes associated with attaining an alternative job opportunity *viz-a-viz* the value

attached to the outcomes associated with one's current job (i.e. the gain in benefits). *Perceived employability* refers to the subjective probability of acquiring a new job if resigning from one's present job. The current study hypothesised that *perceived employability* is determined by the extent to which job opportunities exist in the employment market combined with the extent to which one possesses the job competency potential to outperform competing applicants. The current study therefore hypothesised that *perceived employability* is determined by *perceived alternative job opportunities* and *perceived human capital*. Support was obtained in the current study for this position. The question now is whether it makes logical psychological sense to argue that the subjective probability of acquiring a new job will be enhanced if there is a perceived benefit to be gained from successfully relocating from one's current job to the new job? The current study was not able to produce a convincing argument that could support such a path.

The next highest modification index value was for $\gamma 14$. This implied a path from *perceived utility of movement* to *job satisfaction*. If *job satisfaction* referred to the anticipated job satisfaction derived from an alternative job such a path would make substantive theoretical sense. *Job satisfaction* in the current study was, however, defined as satisfaction with one's current job. The current study was not able to produce a convincing argument that could support such a path.

The third highest modification index value was found for β_{34}. This implied a path from *perceived employability* to *perceived human capital*. The current study hypothesised that these two latent variables affect each other but in the opposite direction, and obtained support for this position. The current study was not able to produce a convincing argument that could support a path from *perceived employability* to *perceived human capital*.

The fourth highest modification index value was found for γ_{52}. This implied a path from *perceived development opportunities* to *organisational commitment*. This proposed path made substantive theoretical sense. Social exchange theory would suggest that when employees perceive their organisation to be generous in terms of the development opportunities that it offers employees will feel psychologically obligated to reciprocate by being normatively committed to the organisation. The current study therefore proposes that future research should consider adding this path to an expanded Reitz *intention to quit* structural model.

The fifth and sixth highest modification index values were found for β_{41} and γ_{52}. These implied paths from *job satisfaction* to *perceived employability* and from *perceived satisfactoriness of performance* to *perceived employability*. The current study hypothesised

an indirect effect of *perceived satisfactoriness of performance* on *perceived employability* mediated by *perceived human capital*. One component of this indirect effect was found to be significant but the other not[47]. A direct effect of *job satisfaction* on *perceived employability* did not make substantive theoretical sense, although interpreting the proposed path as a suggestion that *perceived satisfactoriness of performance* having an indirect effect via job satisfaction on perceived employability does to some degree make substantive theoretical sense. The current study obtained support for the first leg of this indirect effect. Moreover, a direct path from perceived satisfactoriness of performance to perceived employability also makes substantive theoretical sense to some degree. To the extent that an employee perceives him-/herself as performing to or beyond expectations they should perceive themselves as employable. It, however, remains difficult not to build perceived human capital in as a mediating variable. The current study consequently would not at this stage suggest that these paths be considered in future research.

When intention to quit is strong due to a high standing on perceived human capital and perceived utility of movement the intention to quit could possibly be reduced if internal alternative opportunities were available that offered similar gain in benefits. Therefore, the current study would want to suggest that future research explore the possibility of introducing a latent variable like *perceived internal promotional opportunities* into the Reitz *intention to quit* structural model. This in turn brings into play a variety of career management latent variables.

5.5.2 Theory-driven Suggestions for Future Research

All the hypothesised paths in the reduced Reitz intention to quit structural model that were not corroborated in the current study are to such a degree underpinned by convincing theoretical argument that they should be retained in future research on intention to quit. In addition, attempts should be made to fit the original *intention to quit* structural model (shown in Figure 2.8) that originated from the theorising in response to the second-generation research initiating question.

Job performance is probably the latent variable that lies at the heart on industrial psychology as a discipline (Myburgh, 2013). It is at the same time, however, a latent variable that relatively seldom explicitly features in explanatory hypotheses. More often than not it is rather vaguely mobilised to justify a research study on direct or indirect antecedents of *job*

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[47] The current study did not formally calculate the indirect effect and test its statistical significance. This could be done by translating the SIMPLIS syntax used to fit the structural model to LISREL syntax and to use the AP and CO commands to calculate the indirect effect and tests its statistical significance. This is recommended for future research.

performance. The current study would want to suggest that future research should attempt to graft *performance* (and its antecedents) as a latent variable onto the Reitz *intention to quit* structural model.

In addition to *psychological empowerment*, *psychological ownership* (Lee, 2017) and (state) *engagement* (Van Deventer, 2014) are two latent variables that are typically associated with a low turnover intention. The current study would want to suggest that future research should attempt to graft these two latent variables onto the Reitz intention to quit structural model.

5.6 MANAGERIAL IMPLICATIONS

It is possible to influence specific employee behaviours and psychological states because the level of these latent variables is not an outcome of a random event. Rather the level that any employee achieves on these latent variables is determined by a complex nomological network of latent variables. The ability to practically influence the level of these latent variables depend on the extent to which the identity of these determining latent variables is validly understood as well as the manner in which they structurally combine to directly and indirectly affect the focal latent variable of interest. The latent variables of interest in the current study are the psychological state of *intention to quit* and actual turnover behaviour. Since substantial parts of the Reitz *intention to quit* structural model had been supported it should be possible to infer practical steps through which *intention to quit* can be lowered. The nature of the practical steps would depend on whether the determining latent variables are malleable or not. In the case of non-malleable determining latent variables some form of flow intervention (Milkovich et al., 1991) will be required to alter the level of the determining latent variables. In the case of malleable determining latent variables some form of stock intervention (Milkovich et al., 1991) will succeed in changing the level of the determining latent variables. Given the assumption that *intention to quit* is complexly determined it needs to be conceded that perfect control of this psychological state is beyond man's reach. Moreover, it implies that numerous interventions will have to simultaneously target as many of the determining latent variables as possible.

The Reitz intention to quit structural model contains no non-malleable latent variables that could be affected via flow interventions. Indirectly though perceived satisfactoriness of performance (and the latent variables that it affects) can be affected via flow interventions by affecting the level of performance that employees achieve. *Perceived satisfactoriness of performance* can, however, also be affected via *performance management interventions*,

provided[48] the employee buys into (i.e. *invests the self*) the performance management process. A well-developed performance management system will invariable have to make provision for a spectrum of development opportunities and therefore should indirectly also positively impact on *perceived development opportunities.*

Perceived alternative job opportunities outside the organisation and *perceived utility of movement* (to alternative jobs outside the organisation) lies largely beyond the control of the organisation. *Perceived utility of movement* involves a comparison of the valence of outcomes associated the employees present job and an alternative job. *Perceived utility of movement* can, therefore, to some degree be influenced by the employee's current organisation by making the outcomes associated with staying in the current job more attractive. The abundance (and quality) of *perceived development opportunities* associated with the current organisation and job could be one way of lowering the *perceived utility of movement*[49]. Competitive, market-leading remuneration and other employment benefits could be further ways of lowering the *perceived utility of movement.* This latter strategy can potentially be especially effective for (young, married) woman (with dependents) if it would focus on *flexible employment opportunities* and the *availability of in-house child care facilities*[50]. At the same time this could potentially increase organisational *job satisfaction* as well. *Perceived alternative job opportunities within the organisation* and *perceived utility of movement* (to alternative jobs within the organisation) can, moreover, also be influenced by the organisation. *Psychological empowerment*, *perceived development opportunities* and *job satisfaction* can be influenced through its determinants. These determinants include, but are not restricted to, job (re)design, leadership practices, remuneration policy, organisation culture, career management and development and development programmes[51].

5.6 CONCLUDING REMARKS

In Chapter 1 it was argued that organisations are managed and run by employees. Employees are the carriers of the production factor labour. Labour is the life-giving production factor that mobilises the other factors of production. Employees are the driving force behind every successful company. Organisations rely on the expertise of their employees in this information age era, in order to stay ahead in the competative market

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[48] A self-investment*performance management system interaction effect is therefore implied.

[49] The modification indices for Γand **B** could not suggest this as a possible path because both latent variables are exogenous latent variables in the current model. The path should, however, be considered in future research.

[50] The effect of these latent variables on perceived utility of movement could possibly be moderated by being young, married with children [or young single-parent with children).

[51] It is acknowledged that the argument here extends beyond the current model. This underscores the importance of extending and elaborating the current model further.

(Samuel & Chipunza, 2009). Some even say that workers are often seen as the key value in having a competative advantage in a business world where most of the processes and systems have been standardised across industry participants (Templer & Cawsey, 1999). Attracting talented employees and especially talented knowledge workers is consequently a critical success factor, as an organisations is only as good as the work performance of its employees. Successfully recruiting and selecting talented employees is, however of little value if the services of those talented, high-performing employees cannot be retained. Talent management (Sutherland, Torricelli, & Karg, 2002), and specifically the retentention of talented employees, therefore represents a critical human resource intervention. An integrated system of human resource interventions aimed at the retention of talented employees can, however, only succeed if such interventions are theoretically grounded in a valid understanding of the nomological network of latent that determine the turnover behaviour of employees. The psychological mechanism that regulates the turnover behaviour of employees is vast and complex. Research in turnover behaviour needs to acknowledge this. Hence the current study's plea for future research contributing to the the development of an extensive validated *intention to quit* structural model.

To be able to more confidently stand behind the verdict on the construct validity of the Reitz *intention to quit* model measures, there is a need to broaden the scope of this study by appropriately attending to the proposed recommendations mentioned above.

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APPENDIX 1

COMPOSITE REITZ INTENTION TO QUIT RESEARCH QUESTIONNAIRE

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CONSENT TO PARTICIPATE IN RESEARCH

To modify and elaborate the original Smuts (2011) explanatory intention to quit structural model and to empirically test the modified and expanded model.

You are invited to participate in a research study conducted by Islari Reitz, a Master of Commerce student, from the Department of Industrial Psychology in the Faculty of Economic and Management Sciences, Stellenbosch University. The results of this research study will contribute towards the completion of the research component of the thesis and consequently the completion of her studies. You were selected as a possible participant in this study because the study requires an investigation into employees under full-time employment, working in private sector and public sector organisations within different industries, within the borders of South Africa. Your participation would be greatly appreciated, but is on a voluntary basis.

PURPOSE OF THE STUDY

In response to the research initiating question, why is there still variance in intention to quit when the latent variables in the previous model would be statistically controlled, the objective of this research study is to look at which other latent variables characterising the employee or his/her work environment influence the level of the employee's intention to quit and how should these additional latent variables be structurally embedded in the current model?

PROCEDURES

If you decide to participate in this research study, we would ask you to complete a questionnaire. The questionnaire will be presented in an online format (that is mobile device friendly). Access to either a smart device or personal computer and the internet will be required. The questionnaire should take about 20 - 30 minutes to complete. Should you not wish to continue (if you do not want to answer specific questions) you may exit the questionnaire by closing the browser. There are no right or wrong answers and there is also no time limit. Please set aside a quiet time and place to complete this questionnaire and answer the questions as honestly as possible, bearing your current job in mind. You can save and stop at any point in time and return to complete the remaining questions later. Your responses will be captured electronically and automatically stored for processing.

POTENTIAL RISKS AND DISCOMFORTS

There are no foreseeable harmful risks for you as a participant. However, the completion of the questionnaire will require some of your time and energy.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Your participation could potentially greatly benefit the field of Industrial Psychology and the practice of Human Resource Management. Your participation could help to deepen our understanding of the factors that influence employees' decision

to voluntarily resign from their current position and how they combine to influence turnover intention.

This in turn could aid in the derivation of interventions aimed at the improvement of influential determinants of turnover intention like for example in terms of job satisfaction, psychological empowerment, human capital etc, with the purpose of decreasing the levels of intention to quit of employees, benefiting both the employees and the organisation.

PAYMENT FOR PARTICIPATION

There is no offer of payment for participation in this study. This extends to both the organisation and you as the participant.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by several means, briefly described below:

- Coding and access to questionnaire data

The questionnaires utilise a system that cleans the sending information. This means that the researcher will not be able to identify the source of the questionnaire data. You will additionally not be asked for any information that directly links to your identity, such as your name or a physical address. The information you supply will therefore be anonymous.

Furthermore, the data received will only be accessible by Islari Reitz and Professor Theron of the Department of Industrial Psychology at Stellenbosch University. Any access to the data will be controlled by the use of a password protected computer to which only the researcher will have access.

- Questionnaire results

Upon completion of the thesis feedback of the results will be given via an open-source electronic thesis open to the public, (the thesis is available online via the Stellenbosch Library E-thesis portal) and to participating organisations. All feedback will only be supplied on an aggregate basis. The results of the study are published in order to inform organisational interventions and to strengthen the body of knowledge available on the psychological mechanism that regulates turnover intention within the academic field of Industrial Psychology.

PARTICIPATION AND WITHDRAWAL

It is your choice whether you wish to participate in this study. It would be of great value if you chose to, but participation is purely voluntary. If you volunteer to be in this study, you may withdraw at any time without negative consequences, to yourself, of any kind.

IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact:

- Islari Reitz on islarireitz@gmail.com
- Professor Callie Theron, at the Department of Industrial Psychology, ccth@sun.ac.za

RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development, Stellenbosch University.

***INFORMED CONSENT**

After proper consideration please select the statement that applies to you.

- ○ I have read and understand the information that was provided to me regarding my participation in the intention to quit study. I would like to PARTICIPATE and therefore voluntarily consent to further participation.
- ○ I have read and understand the information that was provided to me regarding my potential participation in the intention to quit research study. I would NOT like to further participate in this survey.

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Thank you for your willingness to complete this Intention to Quit Survey. The below questions or statements cover information pertaining to demographic information. This information will be used for statistical purposes only.

****Please indicate your age group from the drop down list.**

****Please indicate your race from the drop down list.**

***Please indicate your gender from the drop down list.**

Select:

***Please indicate your field of work/industry from the drop down list.**

Select:

****Please indicate your current job level from the drop down list.**

****Please indicate how long you have been with your current organisation from the list below.**

- Less than one year
- 1-2 years
- 3-5 years
- 6-10 years
- 11-15 years
- 16-25 years
- More than 25 years

****Please indicate how long you have occupied your current job from the list below.**

- Less than one year
- 1-2 years
- 3-5 years
- 6-10 years
- 11-15 years
- 16-25 years
- More than 25 years

****Please indicate you highest qualification achieved, from the drop down list.**

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*PSYCHOLOGICAL EMPOWERMENT

Listed below are a number of statements that describe a person's view of themselves on the job. Please indicate the EXTENT TO WHICH YOU AGREE OR DISAGREE with the statement about your views of yourself on the job by selecting the relevant box. Please respond to all the statements.

	Strongly disagree		Undecided		Strongly agree
	1	2	3	4	5
I am confident about my ability to do my job.					
The work that I do is important to me.					
I have significant autonomy in determining how I do my job.					
My impact on what happens in my unit is large.					
My job activities are personally meaningful to me.					
I have a great deal of control over what happens in my unit.					
I can decide on my own how to go about doing my own work.					
I have considerable opportunity for independence and freedom in how I do my job.					
I have mastered the skills necessary for my job.					
The work I do is meaningful to me.					
I have significant influence over what happens in my department.					

*INTENTION TO QUIT

For the following statements, please indicate HOW FREQUENTLY you consider the following: Indicate your response by clicking on the radio button in the relevant column. Please respond to all of the statements.

	Never		Some-times		Always
	1	2	3	4	5
Wanting to leave the organisation.	○	○	○	○	○
Searching for another position.	○	○	○	○	○
Planning to leave this organisation.	○	○	○	○	○
Actually leaving this organisation within the next year.	○	○	○	○	○

*PERCEIVED DEVELOPMENT OPPORTUNITIES

For the following statements, please indicate the extent to which the statements describe your PERCEPTION of your organisation: Indicate your response by selecting the relevant option. Please respond to all of the statements.

	Strongly disagree		Undecided		Strongly agree
	1	2	3	4	5
My line manager provides me with development opportunities.	○	○	○	○	○
Opportunities to enhance my competence is available within the organisation.	○	○	○	○	○
Opportunities to enhance my competence is accessible within the organisation.	○	○	○	○	○
I am very familiar with the development opportunities available to me.	○	○	○	○	◉

*PERCEIVED HUMAN CAPITAL

For the following statements, please indicate the extent to which the statements describe your competent potential to outperform competitors in the market: Indicate your response by placing selecting the relevant option. Please indicate all of the statements.

	Strongly disagree		Undecided		Strongly agree
	1	2	3	4	5
If I had to apply for another job I would have a good chance to get the job above someone else because of my qualifications, skills and experience.					
If I apply for another job, I have my education and work experience as an advantage over another applicant for the same job.					
My qualifications, experience and abilities would make me a strong contender when competing with others for employment.					
My resume/CV would make me a strong contender for a job if I had to apply for another job.					

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*ORGANISATIONAL COMMITMENT

Listed below is a series of statements that represent feelings that individuals might have about the organisation for which they work. With respect to your own feelings about the particular organisation for which you are now working PLEASE INDICATE YOUR AGREEMENT OR DISAGREEMENT WITH EACH STATEMENT.

	Strongly disagree		Undecided		Strongly agree
	1	2	3	4	5
I would be very happy to spend the rest of my career with this organisation.					
I really feel as if this organisation's problems are my own.					
I do not feel a strong sense of "belonging" to my organisation.					
I do not feel "emotionally attached" to this organisation.					
I do not feel like "part of the family" at my organisation.					
This organisation has a great deal of personal meaning for me.					
Right now, I am staying with my organisation because I have to and because I want to.					
It would be very hard for me to leave my organisation right now, even if I wanted to.					
Too much of my life would be disrupted if I decided I wanted to leave my organisation now.					
I feel that I have too few options to consider leaving this organisation.					
If I had not already put so much of myself into this organisation, I might consider working elsewhere.					
One of the few negative consequences of leaving this organisation would be the scarcity of available alternatives.					

I do not feel any obligation to remain with my current employer.	○	○	○	○	○
Even if it were to my advantage, I do not feel it would be right to leave my organisation now.	○	○	○	○	○
I would feel guilty if I left my organisation now.	○	○	○	○	○
This organisation deserves my loyalty.	○	○	○	○	○
I would not leave my organisation right now because I have a sense of obligation to the people in it.	○	○	○	○	○
I owe a great deal to my organisation.	○	○	○	○	○

*PERCEIVED ALTERNATIVE OPPORTUNITIES

Listed below are a number of statements that describe a person's view of the availability of possible alternative employment opportunities. Please indicate the EXTENT TO WHICH YOU AGREE OR DISAGREE with each statement as an accurate description of your views regarding the availability of alternative employment by selecting the relevant circle.

	Strongly disagree		Undecided		Strongly agree
	1	2	3	4	5
There are many jobs being advertised that I can apply for.	○	○	○	○	○
If I have to leave this job, I would have another job as good as this one within a month.	○	○	○	○	○
I regularly see jobs being advertised that are looking for a person with my qualifications and experience.	○	○	○	○	○
If I had too find alternative employment tomorrow there would have many alternative job opportunities for which I could apply.	○	○	○	○	○
Jobs in my line of work are not hard to find.	○	○	○	○	○
If I would resign today there would be many alternative jobs I could apply for.	○	○	○	○	○

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*PERCEIVED UTILITY OF MOVEMENT

Listed below are a number of statements that describe a person's view of the possible utility, i.e. benefit of leaving their current organisation for another. Please indicate the EXTENT OF WHICH YOU AGREE OR DISAGREE with each statement about your views regarding the possible outcomes of quiting your current job and searching for alternative employment by selecting the relevant circle.

	Strongly disagree		Undecided		Strongly agree
	1	2	3	4	5
I believe that it would benefit me to start looking for alternative employment.	○	○	○	○	○
I believe that the opportunity in other organisations are more favourable that in my current organisation.	○	○	○	○	○
I believe that I will find alternative employment opportunities that will be better suited for my specific needs.	○	○	○	○	○
I believe that my skills will be more appreciated in another organisation.	○	○	○	○	○
Leaving my current job for another, similar to or better than this one will have a positive influence on my career success.	○	○	○	○	○
The possibility of being happier in any other organisation than the one I am currently working for is high.	○	○	○	○	○
The possible benefits associated with leaving outweigh the cost of leaving the current organisation.	○	○	○	○	○
The probability of receiving a higher salary at another organisation is high.	○	○	○	○	○
The benefits at another organisation are most likely better suited for my personal needs.	○	○	○	○	○
Other organisations most probably offer a better balance between work and life than the one I am currently employed with.	○	○	○	○	○

*PERCEIVED EMPLOYABILITY

Listed below are a number of statements that describe a person's view of their employability when they leave their current organisation. Please indicate the EXTENT TO WHICH YOU AGREE OR DISAGREE with each statement about your views regarding the possible chances of finding alternative employment just as good, or better, than your current job if you would quit your current job by selecting the relevant circle.

	Strongly disagree		Undecided		Strongly agree
	1	2	3	4	5
If I quit my current job, the changes that I will find another job just as good, or better than the job that I currently have, is high.	○	○	○	○	○
If I have to leave my current job, I will get another job as good or better within the next month.	○	○	○	○	○
There is no doubt in my mind that I can find a job that is at least as good as the one I now have.	○	○	○	○	○
If I resign the chances of attaining a suitable position in some other organisation is good.	○	○	○	○	○
It would be easy to find acceptable alternative employment.	○	○	○	○	○

*PERCEIVED SATISFACTORINESS OF PERFORMANCE

Listed below are a number of statements that describe a person's view of their own performance in the organisation. Please indicate the EXTENT TO WHICH YOU AGREE OR DISAGREE with each statement about your views regarding the manner in which your current performance is perceived by your employer by selecting the relevant box.

	Strongly disagree		Undecided		Strongly agree
	1	2	3	4	5
I believe my current employer is extremely satisfied with my work.					
I am doing exceptionally good in my current job.					
I am doing exactly what is expected from me to do in my job, and even more.					
I am a valued employee.					
My employer has indicated that they are happy with the level of my current performance.					
My employer has formally warned me about my level of performance.					
My employer does not regard me as one of their star players.					

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***JOB SATISFACTION**

*This section aims to determine an employee's level of satisfaction with the current employer, based on an evaluation of your perception of the people you currently work with. In each case PLEASE SELECT ONE OF THE THREE OPTIONS (yes, no or ?) next to each of the words or phrases listed below each section. **Please note that there are SIX separate fields that all fall under Job Satisfaction.*

(Due to the nature of the agreement entered into with the intellectual property owner of the Job Satisfaction questionnaire the items of the questionnaire could not be reproduced here)

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Thank you for taking the survey.