

**The relationship between career management and  
organisational commitment:  
The moderating effect of openness to experience**

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## **DECLARATION**

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## ABSTRACT

Career management has received a significant amount of research attention because of its known effects on important work-related outcomes such as organisational commitment (De Vos, Dewettnick & Buyens, 2007). However, the modern world of work has brought fresh challenges for both individuals and organisations when it comes to the management of careers. Rapid economic, technological and societal change imply that, on the one hand, organisations face the challenge of retaining and motivating talented employees through the judicious use of career management systems. On the other hand, these influences indicate a growing awareness of the individual's responsibility for career development. However, the way in which individuals respond to organisational initiatives through their work-related attitudes is not well known. Despite previous research that has successfully investigated the relationship between career management and organisational commitment, the possible role that individual differences may play in this regard has received scant research attention.

This research study firstly investigates the direct relationships between career management (i.e., both individually and organisationally driven activities) and affective organisational commitment, and secondly, it aims to explore the role of individual differences in this process by examining the moderating role of personality (in the form of openness to experience) in this relationship. For this purpose, quantitative data were collected by means of a survey questionnaire administered to a South African public sector organisation ( $N = 311$ ) and analysed with correlation and moderated multiple regression analysis to test the hypothesised relationships. The results indicated that employees' perceptions regarding the organisation's career management activities influence whether individuals initiate internally or externally oriented career self management activities. Where respondents perceived receiving high levels of organisational career management, they also reported increased organisational commitment. More committed individuals, on their part, were found to be more likely to engage in internally oriented individual career management and less likely to practice career management activities aiming at leaving the organisation. Results showed that openness to experience did not moderate the relationship between organisational career management and commitment. However, openness to experience did moderate the effect

of commitment on individuals' career self-management activities (both internally and externally oriented activities). The implications of these results are discussed and limitations of the present study, as well as recommendations for future studies, are presented.

## OPSOMMING

Loopbaanbestuur ontvang tradisioneel aansienlike navorsingsaandag weens die bewese effek daarvan op belangrike werksverwante uitkomst soos organisasie-verbondenheid (De Vos, Dewettnick & Buyens, 2007). Die modêrne werkswêreld bied egter vars uitdagings met betrekking tot loopbaanbestuur vir beide individuele werknemers én vir organisasies. Snelle verandering in die ekonomiese, tegnologiese en sosiale landskap veroorsaak dat, op hul beurt, organisasies, die uitdaging in die gesig staar om talentvolle werknemers te behou en te motiveer deur die oorwoë toepassing van loopbaanbestuurstelsels. Op die keersy, veroorsaak hierdie invloede 'n groter bewustheid van die verantwoordelikheid van die individu vir sy/haar eie loopbaanbestuur. Die wyse waarop individue reageer op organisasie-inisiatiewe in terme van hul werkshoudings is egter relatief onbekend. Ten spyte van vorige navorsing wat suksesvol die verbandskap tussen loopbaanbestuur en organisasieverbondenheid ondersoek het, het die moontlike rol van individuele verskille in hierdie proses egter betreklik min navorsingsaandag ontvang.

Hierdie navorsingstudie ondersoek eerstens die direkte verwantskap tussen loopbaanbestuursaktiwiteite (d.w.s., beide individuele en organisasiegedrewe aktiwiteite) en organisasieverbondenheid, en tweedens, word die bemiddelende rol van individuele verskille in hierdie proses verken deur die rol van persoonlikheid (in die vorm van oopheid tot ervaring) te ondersoek. Vir hierdie doeleinde is kwantitatiewe data ingesamel deur middel van vraelyste afgeneem binne 'n Suid Afrikaanse openbare sektor organisasie ( $N = 311$ ). Hierdie data is ontleed met korrelasie-ontledings en meervoudige regressie-analise ten einde die gehipotiseerde verbandskappe te toets. Die resultate toon dat werknemers se perspepsies van die organisasie se loopbaanbestuuraktiwiteite bepaal tot watter mate hulle intern- of ekstern gefokusde loopbaanselfbestuuraktiwiteite onderneem. Waar respondente hoë vlakke van organisasiegedrewe loopbaanbestuur gerapporteer het, was hoë vlakke van organisasieverbondenheid teenwoordig. Meer verbonde individue, op hulle beurt, was meer geneig om intern-geöriënteerde loopbaanbestuur toe te pas en minder geneig om aktiwiteite te onderneem gerig op uittrede uit die organisasie. Die resultate toon verder dat, alhoewel oopheid tot ervaring nie die verband tussen organisasie-loopbaanbestuur en verbondheid modereer nie, dit wél die effek van verbondheid op individue se selfgedrewe loopbaanbestuursaktiwiteite

(beide intern- en ekstern-geöriënteerde aktiwiteite) modereer. Die implikasies van die resultate word vervolgens bespreek en die beperkinge van die huidige studie word uitgelig. Ten slotte, word aanbevelings vir toekomstige studies gemaak.

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## **CHAPTER ONE: RESEARCH PROBLEM AND RESEARCH OBJECTIVES**

### **1.1. Introduction**

Career management remains to be a crucial topic for most organisations in the modern world of work, primarily because of its known effects on important work-related outcomes. There are, however, a number of challenges that both individuals and organisations face with regard to the practice of career management. These challenges have been highlighted in recent career management literature and are all of significance for the present study.

One of these challenges is the different meanings that *work* and *careers* constitute for individuals. There are a number of reasons for why individuals decide to engage in some kind of work, including, amongst other things, experiencing a sense of belonging, being a part of a power structure, and developing status, interests and competencies (Schreuder & Coetzee, 2006). A career is, furthermore, seen as a central part of an individuals' life in that it contributes to the development of one's identity, and it is suggested that individuals, to a larger extent today than before, are looking for personal development and growth in their working environments and careers (Baruch, 2004). This increasing emphasis placed on individuals' career related needs can be argued to constitute new challenges for employers with regard to the choice and delivery of human resource management (HRM) activities such as career management.

Another recurring theme in the contemporary career management literature is an increasing need for adaptability placed as a burden on both organisations and individual employees. A need for successfully being able to handle changing circumstances is more prominent in today's organisations, and is seen as a crucial competency for individuals to hold in the modern world of work (Schreuder & Coetzee, 2006). In other words, entering the work field and starting a career is not as predetermined and secure as it was before. Technological, organisational, and societal changes are characterising the contemporary organisation, which have resulted in the development of new forms of careers

(Coetzee, 2006), e.g., the *protean career* (Hall, 1996) and the *post-corporate career* (Peiperl & Baruch, 1997). These career concepts emphasise a move away from organisational control over the career management process towards more individual responsibility, which consequently also has had an impact on the nature of the employment relationship. Organisations are, to a larger extent today than before, stepping away from the traditional view of offering job security and promotional opportunities in exchange of employees' loyalty, trust, and commitment to the organisation (Thite, 2001). A new perspective on the relationship between organisations and individuals has instead evolved, indicating a shift away from the view of having a "job for life" toward a need for being "employable". Subsequently, the psychological contract between the relevant parties in the employment relationship has been rewritten and new job duties and responsibility areas for both employers and employees have been considered (Rousseau, 1996). The new psychological contract can be argued to emphasise the importance for both parties taking responsibility for, and being proactive in, the development of one's career. Whereas the individual no longer can be passive and rely on the employer to ensure a future within the organisation, the employer should make sure that effective career management strategies are implemented with the objective of motivating, developing, and retaining employees in pursuit of critical business objectives.

However, although one can identify a shift towards more individual career management responsibility, the organisational career management functions still constitute a central part of HRM. Instead of handing over full responsibility for career management to the individual employee, organisations should rather ensure they can respond to different career demands in a competent and flexible way (Lips-Wiersma & Hall, 2007). The changing nature of the employment relationship described above can be illustrated anecdotally by the following advert which was posted in an organisation that experienced lay-offs in the mid-nineties.

*We can't promise you how long we'll be in business*

*We can't promise you that we won't be acquired*

*We can't promise that there'll be room for promotion*

*We can't promise that your job will exist when you reach retirement age*  
*We can't promise that the money will be available for your pension*  
*We can't expect your undying loyalty, and we aren't sure we want it*  
(Hall & Mirvis, 1996, p. 20)

Despite this emerging balance of responsibility for career management, questions have been raised whether the changes in the nature of careers and employment relationships, such as those mentioned above, imply that neither organisations nor individuals should be attached or committed anymore (Meyer & Allen, 1997). Although it may seem as if the importance of commitment has become less essential in today's working life, the authors conclude that there are a number of reasons why the study of commitment still constitutes an important role in understanding the employment relationship. First, since organisations are becoming smaller, the employees remaining in these organisations become more important and the organisation should be able to trust and rely on them. Second, the large numbers of organisations that are making use of consultants are still interested in knowing how commitments develop and are maintained, even if this kind of commitment might last for a shorter period of time. Lastly, commitment is a natural part of life and people will always be committed to something, whether this is an employer, industry, occupation or career.

The fact that organisational commitment still is considered to be important in contemporary organisational theory and practice has resulted in a number of studies investigating the relationship between this specific work-related outcome and different HRM activities. Previous literature has, for instance, examined the relationship between career management and organisational commitment, and suggested that this relationship also should be the objective for future research (e.g., Chang, 1999; Sturges, Guest, Conway & Mackenzie Davey, 2002; Tansky & Cohen, 2001). This well investigated association has, however, been made more complicated and unpredictable by the aforementioned macro-level changes, resulting in the need for research and practice approaches that acknowledge the inherent complexity of environment-attitude-behaviour linkages such as those studied in the present research. In this regard, Schreuder and

Coetzee (2006) argue that specific personality dispositions and traits, e.g., the Big Five personality dimensions, affect the way in which career related problems are being approached. Organisations are therefore encouraged to acknowledge the fact that, depending on what type of person is involved, different coping strategies might be chosen, which in turn can result in various work-related outcomes such as job burnout, work engagement, and organisational commitment.

It is with this in mind that the present study aims to investigate the effects of career management activities (individual and organisational) on organisational commitment in a time and context characterised by work and career related changes and their concomitant challenges. The possibility of a moderating effect of a specific personality dimension will furthermore be examined in order to more thoroughly explicate the proposed relationship between career management and commitment.

### **1.2. Justification for and Value of Study**

From a talent management perspective it is important that research investigates the effect of individual (ICM) and organisational career management (OCM) on work-related attitudes and behaviours because it could lead to the development of competitive advantage for organisations (Eby, Allen & Brinley, 2005; Orpen, 1994; Sturges et al., 2002). In particular, the influence of career management on work-related behaviours such as organisational commitment seems important. For example, in a study of the causal relationship between different forms of career management and affective organisational commitment, Sturges et al. (2002) found that high organisational commitment had a positive influence on graduates' intention to further their career within the organisation, while low commitment was closely related to activities aimed at furthering the career outside the organisation.

Even though these findings make practical and theoretical sense, one disadvantage of present models (e.g., Sturges et al., 2002) is that they do not take into consideration the possible effects of individual differences. In other words, it can be argued that the suggested relationships may be affected by the type of person involved, i.e., the

characteristics of the individual employee. In a similar vein, past studies (e.g., Sturges, Conway, Guest & Liefoghe, 2005; Sturges, Guest, & Mackenzie Davey, 2000) have mainly focused on the effect of career management on employees in general, but failed to investigate how individual differences of employees affect aspects of career management participation. It is likely that the abilities, attitudes and personalities of employees determine how they perceive and engage in career management activities and how they respond to organisational career management strategies. Employee characteristics such as personality have been argued to influence the utilisation of career management strategies since personality determines the degree to which one is proactive towards career enhancement (Guthrie, Coate & Schwoerer, 1998).

The role of individual differences in the development of commitment are highlighted by Meyer and Allen (1997), who point out how earlier research suggests the way in which specific personality characteristics, and their interaction with particular work experiences, affect the degree to which an employee becomes affectively committed to an organisation. The present study attempts to build on the work of Meyer et al. (1997) and Sturges' et al. (2002) by investigating whether a specific personality trait could act as a moderator between career management (OCM and ICM) and affective organisational commitment. For this purpose, we<sup>1</sup> selected one of the personality dimensions in the Five Factor Model (FFM) (McCrae & Costa, 1987) called *openness to experience*. This dimension of personality has (in previous research) been related to specific behaviours that lead to the attainment of self-actualisation through self-development or the searching for an organisational climate that provides challenge, autonomy, personal growth, and flexibility (Schreuder & Coetzee, 2006). These are in turn individual needs which career management practices can be expected to fulfil.

In order to investigate the relationship between career management and organisational commitment, Social Exchange Theory will be used as a guiding theoretical framework. From this point of view, an employment relationship can be regarded as an exchange

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<sup>1</sup> Where second or third person plural are used, it refers to the principal researcher and the study leader.

relationship (Aryee, Budhwar & Chen, 2002), implying responsibilities and expectations from both parties. A social exchange can furthermore be described as a voluntary action that can be initiated by an organisation's treatment of its employees, with the expectation that such treatment at some time will be reciprocated (Blau, 1964). From a social exchange perspective, therefore, employees are expected to display positive attitudes toward their organisation when their employer offers them something they regard as valuable, such as developmental opportunities (Maurer & Lippstreu, 2006).

By applying the principles of social exchange to individual differences, career management and organisational commitment, it follows that the perceived responsibility for reciprocating career management activities with positive work attitudes such as commitment would vary depending on the characteristics of the individual employee, e.g., such as their level of openness to experience. Since previous research on the relationship between career management and organisational commitment omitted to investigate the possible moderating effects of individual differences such as personality (Maurer & Lippstreu, 2006) the present study will use social exchange theory to investigate (1) the relationship between career management and organisational commitment, and more specifically (2) the moderating role of openness to experience in this relationship. In other words, we will attempt to determine whether OCM and ICM are related to organisational commitment, and if so, to which extent this relationship is affected by the degree of openness to experience of the individual employee. In this way, the study could make important contributions to an unexplored area of the career management literature, namely that of understanding the importance of individual differences when investigating the relationships between career management (organisational and individual) and work-related attitudes such as organisational commitment.

By explicating the model of the suggested relationships between OCM, ICM, organisational commitment, and openness to experience, relevant information is provided for both researchers and HR practitioners that can increase their knowledge of how to influence specific employees' commitment levels through the application of

organisational career management activities. The present study can furthermore contribute to a better understanding of how the implementation of career management practices can help the organisation to develop a competitive advantage. Information obtained from the present study can in this regard be useful for organisations that wish to save costs by recruiting employees who are generally interested in developmental opportunities and a future career within the organisation. Furthermore, we expect our results to shed light on the process by which commitment acts as an antecedent to individual career management activities directed at either/or advancement within, or outside of, the employing organisation.

### **1.3. Research Initiating Question**

Based on the discussion above, the research initiating question that will constitute the basis for the present study is:

*Why does organisational commitment vary across employees, do career management-related variables have a meaningful role to play in explaining variance in commitment, and how do these combine to affect commitment?*

### **1.4. Research Objectives**

It is in the present study contended that HRM activities related to the management of individuals' careers are correlated with the degree of organisational commitment displayed by the employees. It is furthermore suggested that this relationship is moderated by the level of openness to experience characterising the individual employee. However, to successfully investigate these propositions, a number of objectives need to be stated. Therefore, in the pursuit of answering the above research question, focus will be placed on the following research objectives:

1. To investigate the nature of organisational and individual career management.
2. To investigate the nature and antecedents of affective organisational commitment.

3. To identify possible relationships between career management (organisational and individual) and affective organisational commitment.
4. To elaborate on the personality trait openness to experience and its relationship to career management.
5. To investigate the moderating effect of openness to experience on the relationship between career management and organisational commitment.

### **1.5. Chapter Outline**

The present study is mainly based on secondary research presented in chapter 2, which provides an extensive presentation of the large amount of existing literature on personnel psychology relating to the variables included in the present research. All variables, i.e., career management, organisational commitment, and openness to experience, are presented and defined in detail. Relationships between the study variables are furthermore hypothesised based on relevant information provided from the literature within the field, as well as inducted from systematically reasoned argumentation.

Chapter 3 provides readers with the research design and methodology applied in this study, including descriptions of the sample, measuring instrument, research procedure, and analysis techniques. Thereafter, chapter 4 presents the results from the analysis of the collected data followed by a discussion of these results in chapter 5. Chapter 5 additionally includes a presentation of the limitations of the present study, as well as recommendations for future studies.

### **1.6. Summary**

Individuals and organisations face key challenges when it comes to the management of careers in contemporary organisations. The emphasis on the responsibility of career management activities has shifted away from strictly organisational to being more individually focused. This does not, however, exclusively imply that organisations should step away from supporting employees in their career management activities. They should rather take an active role in assisting employees in developing a career management

program that are of benefit to both the organisation and the individual employee. Based on findings of Sturges et al. (2002) it is clear that greater insight into how individual and organisational career management activities affect work-related behaviours such as organisational commitment is required, as well as the possible moderating role of individual differences to this relationship. The role of individual differences has generally been neglected in the career management literature so far, hence the focus of the present study.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1. Introduction**

Career management has received considerable research attention (Maurer & Lippstreu, 2006) because of its positive effect on desired employee attitudes such as organisational commitment (De Vos, Dewettnick & Buyens, 2007). In order to fully understand this relationship, a review of the nature and process of both career management and organisational commitment is required. This chapter aims to provide an outline of career management and the role this human resource practice plays in the development of employees' organisational commitment in a time characterised by different organisational changes and challenges. For this purpose, this chapter will initially investigate the role of career management within the Human Resource Management (HRM) context, followed by a summary of the nature and forms of this HR practice.

Secondly, social exchange theory will be introduced as a theoretical framework for examining the exchange relationship between career management and organisational commitment. Organisational commitment, with specific focus on affective organisational commitment, will in this instance also be explicated in more detail with regard to its background and antecedents.

Lastly, in order to extend previous research on the topic, emphasis will be placed on the moderating role individual differences play in the relationship between the management of careers and employees' commitment levels. Possible relationships between career management (individual and organisational), affective organisational commitment, and the specific personality trait openness to experience will be discussed and presented in a model, which will be the objective for statistical analyses in later chapters.

## 2.2. Career Management

### 2.2.1. *The Human Resource Management Approach and Career Management*

A human resource approach to the management of individuals became popular in the 1970s and has been proven beneficial for organisations in two ways: it increases organisational effectiveness, and satisfies the needs of individual employees (Grobler, Wörnich, Carrell, Elbert & Hatfield, 2006). One can in the literature on HRM find different approaches to the understanding of the concept, but one common way of characterising the HRM system within an organisation is through the distinction between “hard” and “soft” HRM (Legge, 2005; Maund, 2001). Whereas the hard approach suggests that employees are resources that can be hired and used without consequences for thoughts and feelings, the soft perspective on HRM implies a more human approach to the management of employees that values individuals as important assets (Maund, 2001).

Distinctions between hard and soft HRM can be illustrated by Walton’s (1985) way of classifying the HR systems within an organisation. The author suggests that one can identify two different strategy forms within HR, namely “control” and “commitment”. The control, and also the more traditional, approach to the HR system is based on an organisational hierarchy where roles, symbols and authority are associated with different levels in the organisation. According to Arthur (1994), this strategy uses the enforcement of rules and policies with the objective of reducing labour costs and improving work place efficiency. A commitment strategy on the other hand, emphasises the importance of employees as human beings with a developmental capacity, minimized status differences and lower levels of control (Walton, 1985), and aims to improve the effectiveness and productivity by using more “soft” HR approaches that invoke involvement with the organisational goals and the accomplishment of these (Arthur, 1994). HR practices included in the high commitment, or soft HR management strategy, are amongst others, recruitment, developmental appraisal, training and development (Ichniowski, Shaw & Prennushi, 1997; MacDuffie, 1995). This approach to managing individuals aims at affecting employees’ commitment and motivation (Ichniowski et al., 1997), and the committed employees are in turn thought to work

beyond the established contract with the objective of gaining the organisation a competitive advantage (Legge, 2005).

One can find increasing evidence supporting the proposition that desirable work outcomes in form of higher productivity and effectiveness will be achieved in organisations which exert HR practices that focus on investing in employees, and which value individual contributions (Arthur, 1994; Huselid, 1995; Ichniowski et al., 1997). The HR practice to be investigated in this study is career management which according to Grobler et al. (2006) has become an important part of HRM due to major changes in the employment relationship over the past number of years. Career development and management require that a number of individual aspects are taken into consideration if one is to establish a well functioning career management system. These aspects include the individual's skills and achievements, knowledge and learning style, and values and interests (Maund, 2001). Based on the emphasis that is placed on individual development and characteristics, the present study argued that career management activities can be placed within the category of high commitment HR practices explained above. The continuation of this thesis will therefore focus on the management of employees' careers, with the objective of investigating if, and if so how, perceptions of an organisation's career management system are related to important work-related outcomes.

### ***2.2.2. The Importance of Career Management***

The management of careers is important and has benefits for both organisations and individuals. From an organisational perspective, the management and structuring of employees' careers enable the organisation to take care of, and further develop, its most important and valuable assets. By developing a well structured system for, amongst other things, filling job openings and moving employees to managerial positions, the need for high potential employees can more easily be fulfilled (Herriot as cited in Adamson, Doherty & Viney, 1998). Consequently, one can argue that the management of careers increases the chances for organisations to achieve their objectives by ensuring a competent work force that experiences high job satisfaction and commitment to its employer.

Not only organisations benefit from an effective career management system, but also the individual employee. Adamson et al. (1998) suggest that a career can assist individuals in the way that it offers structure, direction, meaning, and purpose to daily activities. Having a career can furthermore imply other important consequences such as the financial return after having invested time and labour in the employing organisation. A well functioning career management system will therefore to some extent ensure both an organised working environment as well as the satisfaction of basic economic needs and other higher needs such as for example self-actualisation and personal development needs.

### ***2.2.3. Defining Career Management***

In the vast amount of literature presented within the field of career management, several definitions of the concept can be found. Some of these are outlined below:

“Career management is a process by which individuals develop, implement, and monitor career goals and strategies” (Greenhaus & Callanan, 1994, p. 5).

“Career management is the process by which individuals develop insight into themselves and their environment, formulate career goals and strategies, and acquire feedback regarding career progress” (Eby, Allen & Brinley, 2005, p. 567).

“Career management is the process of designing and implementing goals, plans and strategies that enable HR professionals and managers to satisfy workforce needs and allow individuals to achieve their career objectives” (Grobler et al., 2006, p. 246).

A number of similarities can be found in the above mentioned definitions, e.g., the emphasis placed on the developmental perspective of an individual, and the fact that it is a process taking place over a period of time. However, the definitions express differences in the importance they place on organisational versus individual responsibility taken for this development. Whereas the first two definitions place emphasis on the activities

individuals are to perform in their career management, the third include HR professionals as important participants in the process.

The meaning and content of career management is argued to have been affected by the rapid developments within HRM the last few decades (Baruch, 1996). A traditional approach to the way careers are managed has been given up in favour of a more contemporary alternative due to the different roles and expectations that have developed. Today one should analyse career management at two different levels, i.e. the organisational and the individual. At the organisational level, careers are seen as a process by which the organisation develops itself. The individual level of analysis on the other hand portrays careers as a number of choices between different opportunities employees make. This distinction between organisational and individual approaches is fundamental to the study of careers and should be taken into consideration when one investigates the changing nature of careers and the effects of these changes (Gunz, 1989).

The present study will acknowledge both the employee and organisational approach to the management of careers, including the different responsibility areas held by the two parties. Whereas the individual should make decisions regarding available work-role opportunities, the organisation has the responsibility of making such opportunities available for specific employees. In other words, employees are responsible of taking control over their careers, whereas the employer should play a supportive role, making sure that the necessary facilities are provided (Schreuder & Coetzee, 2006). The nature of careers and career management, and the responsibilities that come with it, have however not been as clear and consistent throughout the years. Major environmental changes on macro and micro levels have implied challenges for both organisations and individuals.

#### ***2.2.4. Changes within the Area of Career Management***

The extensive environmental and organisational developments that are taking place have led to a shift in meaning and content of the career concept. New definitions need to capture both what the organisation is requesting and the fact that individuals should be more in charge of their own career and career management (Adamson et al., 1998).

Changes on the macro level with implications for careers include, amongst other things, more technology intensive workplaces and unpredictable economical and political markets. These advancements have in turn resulted in both organisational and individual responses, e.g., competency-based outsourcing and a decrease in loyalty to organisations (Thite, 2001).

With the wider environmental developments, new concepts within the career literature have evolved, implying changes to the existing employment relationship. Some examples are the *protean career* emphasising that the career no longer is driven by the organisation but by the individual (Hall, 1996), the *post-corporate career* characterised by the independent nature of work and the integration of work with home and family (Peiperl & Baruch, 1997), and the *boundaryless career* characterised by mobility and movement between different organisational contexts as well as the breaking down of traditional and hierarchical advancement principles (Arthur, 1994).

The concept of “the new career” has been used as a term including all these different career concepts, emphasising the move away from organisational control over the career management process towards more individual responsibilities (Lips-Wiersma & Hall, 2007). Baruch (2002) argues that the traditional bureaucratic framework, with its emphasis on long-term career planning, no longer is as feasible in the contemporary organisation as it was in the traditional. Focus has shifted from strictly organisational control toward more individual choices, and a question regarding the degree of organisational responsibility for career management has arisen.

Although a shift towards higher levels of individual responsibility over career management activities can be identified, the organisational functions relating to career management still constitutes a central and important part of HRM (Lips-Wiersma & Hall, 2007). Several authors have suggested that organisations should adjust their existing career management systems to be more in line with the contemporary views on organisations and careers, and not completely place all the responsibility on one of the parties (Baruch, 2002; Gunz, 1989; Orpen, 1994). One should rather adopt a

participating approach to the management of individuals and their careers to make sure one can respond to the different career demands in a competent and flexible way (Lips- Wiersma & Hall, 2007). This kind of organisational involvement in career management planning is expected to be beneficial for both organisations and individuals by reducing employees' uncertainties and hence increasing the possibilities for positive work outcomes (Granrose & Portwood, 1987).

A dualistic perspective on career management as described above, emphasising both organisational and individual responsibilities, should be able to expand our knowledge of how to best possibly handle the challenges organisations and employees meet with regard to their careers. For this purpose, the different responsibility areas should be clearly outlined, i.e. which responsibilities should be assumed by the organisation, the individual, and which are best shared (London & Stumpf, 1982).

One way of clarifying the different responsibilities is to divide activities into either individual career planning or organisational career management programmes (Guttridge, 1986; Iles & Mabey, 1993). Guttridge (1986) distinguishes between the concepts of career management and career development. The author argues that there are two interrelated functions in a career development system, namely career planning which refers to an individual process of making informed choices regarding occupation, job opportunities and self-development, and career management which is the institutional process in career development. The institutional, or organisational, functions include specific HR activities performed with the aim of helping employees find organisational opportunities in line with their individual interests, needs and capabilities. From this point of view, career development is seen as the result of an individual's career planning and the organisational career management process.

An extensive amount of research performed within the area of career management, has attempted to describe different career related activities performed by individuals and organisations (e.g., De Vos, Dewettnick & Buyens, 2007; London & Stumpf, 1982; Orpen; 1994;). Two types of career management can be found in this literature review,

i.e., individual and organisational career management, each of which will be elaborated on in the following sections.

### ***2.2.5. Individual Career Management***

Individual career management (ICM), also called career self-management, refers to the degree of effort employees put into managing their own careers (Orpen, 1994). In a broad sense, ICM includes practices relating to information gathering regarding career problem solving and decision making, and is focusing on either the improvement of one's current job or on the search for new job opportunities (Kossek, Roberts, Fisher & Demarr, 1998).

On a more detailed level, there are specific individual characteristics and activities that are of importance for effective career progression. These include a realistic view of one's current position, a personal idea of what is regarded as career success, and the planning and implementation of actions performed with the aim of moving one self from the current position to the desired position. These three essential elements of ICM furthermore require the assessment of one's skills, interest and potential, the identification of career objectives, the attainment of necessary training and developmental experiences to prepare oneself for future positions (London & Stumpf, 1982), and the evaluation of available career opportunities (Guttridge, 1986). This kind of necessary information can be obtained either individually through the study of workbooks, personal conversations with supervisors or external counsellors, or with the help from colleagues or other participants through a number of group or organisational based activities, such as assessment centres, workshops, and business simulations (London & Stumpf, 1982).

Organisations may benefit from encouraging their employees to perform the self-management activities described above. Formally developed ICM programs, based on organisational initiatives, have however raised critical questions regarding their effectiveness and operation. One of these questions concerns whether the training and developmental activities should be compulsory or voluntary. Whereas mandatory participation in development and training programs can lead to major positive changes in an organisation, voluntary involvement in such activities can similarly be argued to foster

positive career self-management initiatives. Another issue to be taken into account is the challenges individuals can face with regard to the programs implemented by the organisation in unstable and unpredictable times with the objective of encouraging more ICM activities. Employees who already are experiencing pressure, anxiety, or role overload in their current position may find these interventions as creating even more anxiety and insecurity, which in turn can make the interventions less effective. Questions regarding who such formal development programs will be beneficial for should therefore be taken into consideration (Kossek et al., 1998).

The above arguments illustrate the importance for organisations to be mindful when they encourage their employees to take more responsibility and action regarding their careers, since these interventions can also lead to negative affects on individuals' career development. Another possible problem emphasised by a number of authors, implies that this kind of encouragement for specific individuals can result in behaviours promoting their careers outside the organisation rather than inside, and one should therefore aim at establishing a well functioning career management system which benefits both the organisation and the individual employee (Sturges et al., 2002; Granrose & Portwood, 1987).

Although the ICM approach, emphasising more individual responsibility for career management activities, may result in unwanted reactions, it is a perspective that is regarded as beneficial for individuals since it emphasises personal characteristics that are of importance for career success, e.g., skills, motivation, and abilities. However, to better understand employee related behaviours, such as turnover and willingness to adjust to organisational changes, the individual perspective should be supplemented with an understanding of how organisational characteristics and activities influence the nature of careers (Campbell & Moses, 1986). The following section will therefore place emphasis on the second form of career management, namely that of organisational career management (OCM).

### ***2.2.6. Organisational Career Management***

The organisational perspective on careers is important because of its effects on the achievement of an organisation's objectives. Insight into organisational career management demonstrates how organisations must consider both internal and external pressures and adjust their career systems simultaneously as the organisation changes. By investigating the organisational perspective of career management, one gains insight into how the careers of individuals are affected by organisational activities and transformations (Campbell & Moses, 1986), and how the organisation continuously utilizes specific practices to develop and improve human resources that will benefit both the individual and the organisation (Byars & Rue, 1997).

OCM practices are implemented by the organisation with the purpose of planning and managing the careers of its employees (Orpen, 1994). These practices also aim at satisfying the needs of both the organisation and the individual (De Vos et al., 2007), and involves, amongst other things, the founding of mentoring programmes and the establishment and implementation of development and training plans for the employees (Noe, 1996). OCM also includes other HRM activities such as filling vacancies with qualified individuals, relocating personnel within the organisation, providing challenging tasks to employees (London & Stumpf, 1982), and carrying out performance and potential appraisals (Guttridge, 1986).

A number of authors have structured the variety of OCM practices into different categories. Sturges et al. (2002) suggest that the different organisational activities can be classified into formal and informal interventions. Whereas the experience of formal practices entails being given training to develop one's career or being given a personal plan for development, the more informal activities involve impartial career advice and the introduction of employees to individuals who are capable of assisting them with their career development. London and Stumpf (1982) furthermore suggest that formal support systems include establishing promotion policies, job matching, and job posting, whereas the informal system concerns offering mentorships, role modelling, and sponsorship.

Baruch and Peiperl (2000) present another way of structuring OCM activities that captures the complexity and multi-dimensionality of the processes involved. They developed a model in order to illustrate how the various practices are related to each other, as well as to different organisational characteristics. The practices included in the model are collected from several sources containing lists of different forms of OCM activities. The final model includes 17 of these practices which in turn are divided into five categories, i.e. basic (e.g., job postings and formal education), active planning (e.g., performance appraisal for career planning and counselling by manager), active management (e.g., assessment centres and formal mentoring), formal (e.g., books and written career plans), and multi-directional (e.g., peer appraisal and upward appraisal). The model has been proven beneficial for both practitioners and research in that it illustrates the available OCM tools and practices, as well as a foundation for comparing organisations and their OCM systems.

As discussed in the previous sections, it is anticipated that an integrative approach to career management, including both organisational and individual career management practices, will be beneficial for both parties included in the employment relationship. However, the type of organisation, as well as the specific employees involved in a particular situation, determines what kinds of activities are considered the most effective. Greenhaus and Callanan (1994) argue that the ongoing nature of career management makes it possible for individuals and organisations to have a more informal approach to the management of careers, and that this approach may be considered the most effective one, e.g., when you suddenly face a challenge or decision that has to be made regarding your career. In this case it may not be possible to join a seminar or a new training course, and the informal advice from a near supervisor or support from an established network can be thought to be the most successful alternative. Another situation may on the other hand require a different kind of approach where more formalised activities are included. In either case, the individual and the organisational perspective are dependent on each other to work efficiently and the process of how they both can be incorporated in the organisation's career management system needs to be investigated further.

### ***2.2.7. Linking Organisational and Individual Career Management***

One of the objectives of career management in today's modern organisations is to find the right balance between empowering individuals to explore their future opportunities, and give the support to maintain and direct their careers. The organisation is not interested in developing their employees to the benefit of someone else, but to retain talented individuals that are of importance for the organisation in question (Baruch, 1999). One of the challenges for organisations today is therefore to distinguish between employees, and look after those who are committed to the organisation and willing to manage their own careers in a way that benefits both parties (Sturges et al., 2002). If this is to be possible, a strong and well functioning link between individual and organisational career management must be present.

Hall (1986) suggests a way to unite individual and organisational career management activities which requires that both the organisation and the individual employee proceed through a number of basic steps. Individuals cannot progress into new positions, no matter how many ICM activities she or he are performing, unless the organisation contributes with its share and make such career movements available. In other words, individual and organisational needs and activities should be interrelated.

The first step involves the assessment of the *context* in which the career management is taking place. At the individual level this implies making sure that the individual employee has the motivation to explore his or her career alternatives. If the person is satisfied with the current position held, the process of career management stops already here. The organisation should in turn map the job market, both internally and externally, and make sure that proper training and development programs are in place.

In the second step, both parties should *seek out relevant information* to ensure a person-career opportunity fit. The individual should in this instance assess his or her values, skills, interests and experiences both through self-assessment and external assessment (e.g., performance appraisals and assignment records), with the help from an internal career counsellor or supervisor. The organisation has the responsibility to ensure a well

established information system and clear policies for internal promotions so that new openings can be communicated effectively.

The third and fourth steps include *formulating career goals* and *developing a specific plan* for the achievement of these goals. In these steps, the information gathered in the second step comes to use. The organisation should in this stage help the individual employee to set realistic goals and develop a plan that has a reasonable time limit. Furthermore, one should be aware of the possible needs regarding staffing issues one can expect to face in the future within different organisational areas.

After a career plan is developed, the career management process should make sure that the individual *implements* the career plan. This fifth step is facilitated if the individual can establish personal contacts with central managers, peers, and larger networks. For this implementation to be possible, the organisation should make sure that there actually are openings appropriate for the employee, if not at once, at least in the nearest future, to remain the employee motivated to pursue his or her career goal. Finally, *performance* in the new position should in the last stage be assessed to find out whether the employee is in the right position, and even further, can be considered for later career movements.

In line with Hall's (1986) basic steps for interrelating individual and organisational career management, other authors have similarly argued for the importance of linking the two career management forms. Orpen (1994) suggests that OCM and internally focused ICM can be seen as two forms of complementary career management activities. These two forms of activities are argued to help the individual in his or her career development (Sturges et al., 2002), and it is suggested that support for employee development from the employer can help individuals to better handle their own career management (Noe, 1996). Granrose and Portwood (1987) similarly emphasise that the more employees receive career information and guidance from their employer, the more they are expected to investigate their career options through the use of different career management strategies.

The previous sections aimed at describing the nature of both individual and organisational career management, and clarifying how the two forms of career management and their respective activities should be interrelated to constitute an effective career management system. Based on this information, the present study hypothesises that the experience of organisational career management support will encourage employees to practice individual career management activities aimed at furthering the career within the organisation (internally focused ICM). Conversely, the absence of OCM activities can be argued to increase the probabilities of employees engaging in ICM activities with the aim of furthering their career in another organisation (externally focused ICM).

*Hypothesis 1: Employees who perceive they are being offered career management help from their employer are more likely to practice internally focused ICM activities.*

*Hypothesis 2: Employees who perceive that their employer does not offer them career management help, are more likely to practice externally focused ICM activities.*

As a logical reaction to the high amount of attention directed towards career management the last number of years, an important question has been raised regarding the effects of these HRM activities on important work-related outcomes such as organisational commitment. Already in the late 80's, emphasis was placed on the fact that more work should be directed toward investigating what individuals and organisations should do to maintain employees with high levels of commitment and productivity when conditions are changing in a rapid pace both internally and externally to the organisation (Campbell & Moses, 1986). Employers are in the contemporary world displaying less commitment to their employees because of major redundancies and downsizing processes. In turn, it is suggested that employees' level of organisational commitment is decreasing and the importance of the concept is being questioned (Baruch, 1998). In order to more thoroughly understand the relationship between career management and

organisational commitment in the modern world of work, the theoretical framework for the present study, i.e., social exchange theory, will now be presented.

### **2.3. Social Exchange Theory**

The career relationship between individuals and organisations is characterised by continuous exchanges. Social exchange theory (SET) provides a unitary framework for explaining a number of different organisational behaviours (Cropanzano & Mitchell, 2005) and can be used as a basis for understanding the employment relationship (Shore & Barksdale, 1998). More specifically, SET may be applied to explain the relationships between different human resource practices and employees' commitment to the organisation (Eisenberg, Fasolo & Davis-LaMastro, 1990), and one can identify an increasing interest in applying this theory to studies aiming at investigating the motivation behind employees' work attitudes and behaviours (Aryee, Budhwar & Chen, 2002).

The social exchanges taking place in organisations and other settings can be described as “voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others” (Blau, 1964, p. 91). What is to be exchanged in these relationships can be something tangible or intangible, e.g., tools, recipes, assistance, favours or ideas, and the overall objective of the social exchanges is to establish relationships or superordination over others (Blau, 1964).

From a traditional point of view, exchanges were often assigned an economic value and regarded as having strictly material properties (Cropanzano & Mitchell, 2005). The exchanges taking place in today's organisations are on the contrary of a more social type and it is important to distinguish the traditional economic exchanges from such social exchanges. Whereas the economical exchanges are based on a formal contract and a specific amount given that is to be exchanged, a social exchange does not imply any specified obligations, but rather an expected return of a favour. Since the social exchange return cannot be guaranteed, this kind of relationship relies on feelings of personal obligation, gratitude and trust between the parties (Blau, 1964).

The trust and obligation that develops with social exchanges can from a human resource approach seen as important building stones in the employment relationship. It is suggested that social exchanges may be initiated by an organisation's treatment of its employees, and that this treatment is followed by expectations that such actions at some time will be reciprocated by the employees (Blau, 1964). Stated differently, by viewing the employment relationship as an exchange relationship (Aryee et al., 2002), one expect that employees will reciprocate with positive attitudes towards their organisation when their employer offers them something they regard as valuable, as for example development opportunities (Maurer & Lippstreu, 2006). It is furthermore argued that employees will be more willing to perform at a higher level and less likely voluntarily terminate their membership in the organisation, if they feel that their efforts and contributions are appreciated by their employer (Gould-Williams, 2007).

Earlier studies have examined the exchange mechanisms of different social exchange relationships in the workplace (Eisenberger, Huntington, Hutchison & Sowa, 1986). Amongst these relationships is perceived organisational support, which is argued to create trust that the organisation will fulfil its obligation of acknowledging and rewarding employee efforts made on behalf of the organisation (Eisenberg et al., 1990). It is however suggested that not all individuals will value support for employee development to the same extent. For instance, an organisation's values and culture may positively affect specific employees that have values similar to those of the organisation by increasing their organisational commitment. On the other hand, the same organisational aspects may have negative consequences for other employees who do not share the values of the organisation (Maurer & Lippstreu, 2006). This highlights the importance of acknowledging individual differences in social exchanges taking place in an organisation, which will be further elaborated on later in this chapter, where the personality trait openness to experience will be included in the study to investigate its effects on a specific organisational exchange relationship.

The theory of social exchange will in this study be empirically tested and constitute the foundation for examining how a specific HRM practice, i.e., career management, may help to promote positive employee attitudes, such as increased commitment to the organisation. As a logical continuation, the present study will therefore proceed by in-depth investigation of the background, nature, and antecedents of organisational commitment, and discuss how this work-related outcome can be affected by an organisation's career management system.

## **2.4. Organisational commitment**

### **2.4.1. *Commitment***

Commitment has received a considerable amount of interest in the industrial/organisational psychology literature, both as an antecedent and a consequence of other work-related behaviours and attitudes (Mathieu & Zajac, 1990). It is an extensively investigated concept mainly because of its known implications for employees, organisations, and society as a whole (Mowday, Porter & Steers, 1982). Large amounts of research have in more detail also investigated the effects of career management on organisational commitment (e.g., Aselage & Eisenberger, 2003; Chang, 1999; Eisenberg et al., 1986; Eisenberg et al., 1990; Sturges et al., 2002), which is the central theme for the present study. However, before this relationship is further examined, the background and nature of commitment need to be presented.

Commitment is a complex construct that can take many different forms, and it is therefore important to clarify what form of commitment one is interested in when one is carrying out research on the topic. One of the most investigated forms of commitment is that of commitment to one's employer, also called organisational commitment (Meyer, Allen & Smith, 1993). The concept of organisational commitment became a central focus point in the management literature in the beginning of the 20<sup>th</sup> century. At this point in time one discovered the importance of employees' feelings toward their organisation, union, and workgroup, and that these feelings or commitment levels could be related to the individual's identification with and tendency to stay in the organisation. Similarly to individuals, the other party of the employment relationship, i.e. the

organisation, can display a number of different commitments, e.g., to shareholders, customers, suppliers, and the community (Baruch, 1998) that also may affect the outcomes of the relationship.

Commitment is however a much wider concept than only comprising the employment relationship. Relationships outside the workplace, like for example those evident in families, sport activities, the state, and religion, also involve levels of commitment (Baruch, 1998). However, commitment experienced in a work-related context is the most well known and investigated form and research have resulted in other commitment concepts such as *career commitment*, which can be described as an employee's attitude toward his or her career (Chang, 1999), and *occupational commitment* which was suggested as an alternative to career commitment by Meyer et al. (1993). They suggested the term occupational commitment as a more suitable term because of reported deficiencies of the meaning of the career concept. Occupational commitment is argued to represent commitment to a specific field of work and the concept was developed as an extension to Meyer and Allen's (1991) Three Component Model of commitment which is presented in a subsequent section.

#### **2.4.2. Background to Organisational Commitment**

Two main perspectives on organisational commitment can be found, i.e. the attitudinal and the behavioural. Whereas the attitudinal perspective focuses on outlining the factors that have contributed to the development of commitment, the behavioural approach have focused on identifying the conditions where behaviours tend to be repeated and how these behaviours affect attitude change (Meyer & Allen, 1991). Mowday et al. (1982, p. 27) further emphasise the differences between the two approaches by describing them as follows:

“Attitudinal commitment focuses on the process by which people come to think about their relationship with the organization. In many ways, it can be thought of as a mind set in which individuals consider the extent to which their own values and goals are congruent with those of the organization. Behavioral commitment, on the other hand,

relates to the process by which individuals become locked into a certain organization and how they deal with this problem.”

This study will focus on the attitudinal approach to commitment which according to Meyer and Allen (1991) mainly has focused on identifying the antecedents and consequences of commitment. Within the attitudinal approach, where the organisation is the object, the degree to which an individual identifies and involves him or her self with a specific organisation is of central importance (Mowday et al., 1982). From this point of view, organisational commitment is furthermore argued to be categorised by three different factors, i.e. “(a) a strong belief in and acceptance of the organisation’s goals and values, (b) a willingness to exert considerable effort on behalf of the organisation, and (c) a strong desire to maintain membership in the organisation” (Mowday et al., 1982, p. 27).

#### ***2.4.3. The Importance of Organisational Commitment***

In addition to the attitudinal and the behavioural approach, the concept of organisational commitment can be seen from another two different perspectives, i.e. the organisational and the individual. This approach highlights the reasons why the study of commitment is important and emphasises the possible advantages and disadvantages of the construct (Meyer & Allen, 1991).

From an organisational perspective, the benefits of having committed employees may be obvious. The more committed the employees, the more probable it is to have a workforce that contributes to the benefits of both the individual and the organisation (Meyer & Allen, 1991). More specifically, it is suggested that employees’ organisational commitment is important for employers in that it reduces the risks of voluntary turnover and absenteeism, yet increases the likelihood for positive work outcomes (Mowday et al., 1982). However, Randall (1987) suggests that a committed workforce may not only be to the advantage of the organisation. The author goes on to argue that a so called “blind” commitment from the employees may result in a stagnating organisation not able to adapt to changing circumstances.

From an individual point of view, displaying high levels of commitment to one's employing organisation can increase the chances of obtaining both extrinsic and intrinsic rewards such as for example money and job satisfaction (Mathieu & Zajac, 1990). On the other hand, time and energy spent on being a committed employee may have negative effects on other areas of life, e.g., family and hobbies. Being too committed can furthermore turn out to be a disadvantage for the individual if continuous development of personal skills and knowledge are put aside. This can in turn result in individuals who are of less interest to the outside labour market in the case of a termination of relationship with the current employer (Meyer & Allen, 1991).

Despite the possible disadvantages associated with organisational commitment, previous research has focused on the positive consequences and importance of increased commitment (e.g., Eby, Freeman, Ruch & Lance, 1999; Meyer, Stanley, Herscovitch, Topolnytsky, 2002; Stallworth, 2003; Winterton, 2004). Seen from a wider perspective, high commitment levels may also imply positive outcomes for the society at large by for example increasing national productivity and/or work quality (Mathieu & Zajac, 1990). It is therefore anticipated that organisations will benefit from knowing how they can increase their employees' commitment levels to an extent that is beneficial for all parties involved in the employment relationship. To further investigate this proposition, the following sections will explore the dimensions of organisational commitment further.

#### ***2.4.4. Defining Organisational Commitment***

Various multidimensional frameworks have been developed with the purpose of explicating the concept of commitment, which in turn have made it difficult to establish a general model of workplace commitment. However, two different frameworks have received considerable attention and created an extensive amount of research, i.e. those developed by Meyer and Allen (1997), and O'Reilly and colleagues (1980). Although the authors present two different conceptualisations of commitment, some similarities can be found. Both approaches distinguish between the different forms of commitment by characterising them as different mind-sets. Furthermore, these mind-sets often take the

form of a desire, perceived cost, or obligation to continue a course of action (Meyer & Herscovitch, 2001).

Similarly to the different frameworks, Meyer and Allen (1991) argue that a number of definitions of commitment can be found. These definitions are also argued to reflect three different general themes: affective attachment to the organisation, perceived costs associated with leaving the organisation, and obligation to remain within the organisation. Common to all these definitions is the stance that “commitment is a psychological state that (a) characterizes the employee’s relationship with the organization, and (b) has implications for the decision to continue or discontinue membership in the organization” (p. 67).

The different themes or dimensions of commitment outlined above are incorporated in the Three Component Model developed by Meyer and Allen (1991).

#### ***2.4.5. A Three Component Model of Organisational Commitment***

Research on organisational commitment has resulted in a model highlighting three different approaches to the concept. The three approaches all include a link between the employees and the organisation that has implications for probability of turnover, and have been referred to as *affective*, *continuance* and *normative* commitment (Allen & Meyer, 1990; Meyer & Allen, 1991). It is suggested that affective, continuance and normative commitment is best understood as different components of commitment, rather than types, since individuals can experience all of these three to various degrees (Allen & Meyer, 1990).

Affective commitment is the most widely investigated dimension of organisational commitment (Chang, 1999) and refers to an employee’s emotional attachment to, identification with, and involvement in an organisation. Continuance commitment is related to the cost that employees associate with leaving the organisation (Meyer & Allen, 1991). Lastly, normative commitment contains a strong moral

component and has been described as feelings of being obliged to stay with an organisation because it is the right thing to do (Allen & Meyer, 1990).

The three approaches can shortly be summarised as follows: an individual with strong affective commitment stays in the organisation because he or she *wants* to, individuals with strong continuance commitment because they *need* to and those with strong normative commitment because they feel they *ought* to (Allen & Meyer, 1990). This study will henceforth focus on affective commitment as the primary dimension of organisational commitment. In order to investigate the relationships between career management, affective commitment, and individual differences, antecedents and consequences of this dimension will now be elaborated on.

#### ***2.4.6. Affective Commitment***

##### ***2.4.6.1. Antecedents of Affective Commitment***

Affective commitment is argued to be characterised by a mind-set of desire. It is therefore suggested that the development of affective commitment is affected by “any personal or situational variable that contributes to the likelihood that an individual will (a) become involved (intrinsically motivated, absorbed) in a course of action, (b) recognize the value-relevance of association with an entity or pursuit of a course of action, and/or (c) derive his or her identity from association with an entity, or from working toward an objective” (Meyer & Herscovitch, 2001, p. 316).

More specifically, a study by Steers (1977) found that the antecedents of organisational commitment are many and differ in terms of nature and origin. Commitment were in the mentioned study found to be influenced by the need for achievement, group attitudes toward the organisation, education, organisational dependability, perceived personal importance to the organisation, and task identity. These influences on commitment can furthermore be divided into three categories of antecedents, i.e., personal characteristics, job characteristics, and work experiences.

A comparable categorisation of the determinants of the affective component of organisational commitment can be found in a study by Meyer and Allen (1991). This study found that the antecedents of affective commitment could be divided into three categories: personal characteristics, structural characteristics, and work experiences. Personal characteristics include variables that help to define the individual (Steers, 1977) and can be divided into two types, i.e. demographic variables (e.g., gender, age, and tenure), and dispositional variables including, amongst others, need for achievement, affiliation and autonomy. Structural characteristics comprise the level of formalisation of policy and procedures, whereas work experiences relates to employees' experiences that satisfy their needs to feel comfortable in the organisation (Meyer & Allen, 1991). These work experiences also include the opportunity for advancement (O'Reilly & Caldwell, 1980) and organisational support (Eisenberg et al., 1990).

The strongest empirical support has been found for the work experience antecedents. In this regard Meyer and Allen argue that it is the work experiences that satisfy employees' psychological needs such as feeling competent and comfortable in his or her work role that provide the strongest link to affective commitment (as cited in Allen & Meyer, 1990). Yet, it is anticipated that all three groups of above mentioned antecedents to affective commitment are of importance in the present study, in that they all are argued to be influenced by an organisation's career management system, and which in turn influence the level of affective commitment experienced by the employee.

#### **2.4.6.2. *Consequences of Affective Commitment***

Not only have the antecedents of organisational commitment been the focus point for numerous researchers, but also its consequences. In a number of studies, affective commitment has been found to relate to in-role job performance, extra-role behaviour, and job satisfaction (Wong, Ngo & Wong, 2002). Affective commitment has furthermore been found to have consequences for intention to quit (Allen & Meyer, 1990; Meyer et al., 1993), motivation, and productivity (Lingard & Lin, 2004), which are all important work-related outcomes for an employer.

Based on the large amount of existing research evidence, affective commitment is included in the present study to investigate whether employees' commitment levels are related to an organisation's use of OCM activities. Furthermore, the relationship between affective commitment and ICM will be explored. In this regard it will be argued that the level of affective commitment is related to two types of ICM activities, i.e., activities aimed at furthering the career inside or outside the organisation. In other words, it is anticipated that affective commitment can have consequences for individuals' initiative to practice both internally and externally focused ICM, which in turn constitute important consequences for the organisation.

### **2.5. The Relationship between OCM, ICM, and Affective Commitment**

A substantial amount of research has investigated the relationship between career oriented HRM activities and organisational commitment. One of these studies, performed by Chang (1999), argues that training opportunities provided by the organisation can affect employees' psychological states. The results of this study suggest that by being given training and career opportunities, individuals feel that the company are interested in developing their skills and abilities, and in return they become more attached to the company. This attachment, or commitment, has also been proven to reduce labour turnover.

The above findings are supported by a study performed by Taylor, Audia, and Gupta (1996), which indicates that employees' level of commitment to the organisation decreases, and the likelihood of turnover increases, when the employees feel that the organisation does not live up to its obligations. Consequently, one can assume that employees will show their appreciations and fulfil their obligations in form of loyalty and commitment when their organisation offers them developmental opportunities, internal promotion, and support (Chang, 1999).

A social exchange perspective to the relationship between career management and organisational commitment may help to substantiate the findings of the studies mentioned

above. Tansky and Cohen (2001) emphasise that an employment relationship implies transactions of either economic or social exchange characteristics. Employee development is viewed as a social exchange based on implicit obligation and trust that offers the individual certain opportunities and benefits. Based on these opportunities and benefits, employees can feel obliged to become more committed to the organisation. The experience of career management help, e.g., in form of career advice and training (Eisenberg et al., 1990; Gong & Chang, 2008), and perceived organisational support (Aselage & Eisenberger, 2003; Eisenberg et al., 1986), may in this way lead to employees feeling indebted to give something back in return, for example in the form of greater affective involvement in the organisation (Sturges et al., 2002). Research by Eisenberg et al. (1986) continues to suggest that a social exchange perspective can help to clarify the understanding of the affective dimensions of organisational commitment further. This approach emphasises employees' beliefs regarding the support and commitment offered to them by the organisation. When experiencing the commitment from the organisation, this tends to contribute to the commitment by employees to the organisation.

The discussion above suggests that the experience of certain HR practices, which focus on the development of employees and their careers, will contribute positively to the affective dimension of commitment by, amongst other things, increasing the possibilities of advancement opportunities and the positive feelings related to a future within the organisation. Based on the above arguments, the following hypothesis is formulated:

*Hypothesis 3: OCM is positively related to organisational commitment.*

As discussed in previous sections of this chapter, two different forms of career management can be identified, i.e., organisational and individual. Whereas hypothesis three emphasise the organisational perspective on career management and its relationship to organisational commitment, other researchers suggest a relationship between organisational commitment and more individually focused career management activities.

Herriot and Stickland (1996) emphasise that changes within the modern organisation have brought along a greater need for individuals to manage their own careers, instead of relying heavily on the organisation's management practices. This implies that employees have to be more proactive and gather necessary information, get in contact with the right people, and make their achievements visible, if they are to develop their careers further. Sturges et al. (2002) suggest that the relationship between the practice of such ICM activities and organisational commitment can take different forms depending on if the activities are performed with the aim of furthering the career inside or outside the organisation. Research has in this regards indicated that committed individuals display a stronger desire to remain with their current employer (Steers, 1977). In other words, individuals who are committed to their organisation are likely to display lower levels of intention to leave and absenteeism, and higher levels of positive behaviours valued by the organisation (Tansky & Cohen, 2001), like for example the initiative to perform individually focused career management activities aimed at developing the career within one's current organisation. Similarly, Meyer et al. (1993) suggest that a person who is affectively committed to the organisation to a larger extent will engage in activities to keep up with organisational development. These activities are anticipated to, amongst other things, focus on making sure one has the knowledge and skills needed, and the engagement in internally focused ICM such as gathering information regarding internal openings and contacting relevant people within the organisation that can assist the employee with advancement opportunities.

All the above mentioned studies suggest a relationship between organisational commitment and individual career management activities. Results from the Sturges' et al. (2002) study however only partially support the hypothesis suggesting that higher levels of organisational commitment will result in graduates performing more internally focused ICM activities. Despite this finding, the present study suggests that employees who experience a high level of commitment will be more satisfied with the thought of continuing their career within their present organisation, and consequently to a larger degree carry out ICM activities with the aim of staying in that organisation. On the contrary, a low level of commitment to the organisation is suggested to result in other

kinds of activities aiming at furthering the career within a new organisation, such as keeping updated with external markets and monitoring job advertisements (Sturges et al., 2002).

*Hypothesis 4: Higher levels of organisational commitment will result in employees practicing more internally focused ICM activities.*

*Hypothesis 5: Lower levels of organisational commitment will result in employees practicing more externally focused ICM activities.*

Previous studies, as referred to above, which have investigated the relationships between career management and organisational commitment, have contributed positively to the organisational commitment and career management field. Yet, these studies have generally failed in highlighting possible and important moderating factors into this relationship. It is for example suggested that individual differences play a role in employees' interest in participating in developmental opportunities (Maurer & Lippstreu, 2006), and the present study therefore proposes that a specific personality trait can help to determine the extent to which employees value career management activities, which consequently affects the relationship between career management and organisational commitment. Based on this argument, the study now incorporates the importance of acknowledging individual differences when one wishes to investigate relationships between career management and organisational commitment.

## **2.6. The Role of Individual Differences**

### ***2.6.1. Personality in the Workplace***

The employment relationship, and the work-related attitudes and behaviours that come with it, have been the subject of study for many years. A large amount of the literature within this field focuses on the possibility of predicting work-related attitudes and behaviours based on individuals' personal traits or characteristics (e.g., Barrick & Mount, 1991; Dougherty, Cheung & Florea, 2008; Erdheim, Wang & Zickar, 2006).

Personality can be defined as “an individual’s characteristic response tendencies across similar situations” (Hawkins, Mothersbaugh & Best, 2007, p. 378). Many different theories on personality can be found, but one common way of explaining personality is through the use of traits. This approach emphasises that personality is a form of an individual difference that helps us to understand the rationale behind individuals’ behaviours. The traits are furthermore argued to be relatively stable over time and are either inherited or formed during early life. Which traits are considered the most important ones is however an ongoing debate (Hawkins et al., 2007).

Specifically relevant for the present study is research that has investigated the predicting effect of personality on work performance (e.g., Barrick & Mount, 1991; Judge, Heller & Mount, 2002) and work-related behaviours. Specific work-related outcomes (e.g., burnout and job engagement) may be affected by personality dispositions such as the Big Five personality dimensions (Schreuder & Coetzee, 2006). It is also suggested that these personality characteristics can affect the way individuals choose to handle issues during their careers. Furthermore, personality, as an individual difference, has been proven to show strong and consistent associations with vocational choice (Costa, McCrae & Holland, 1984) and career advancement (Gelissen & De Graaf, 2006). Guthrie et al. (1998) similarly suggest that personality tests have become an important part of work, and that personality characteristics can be expected to have effects on for example job and career related outcomes.

According to Maurer et al. (2006), a vast interest in understanding how HRM strategies affect employees’ work-related behaviours such as organisational commitment can be identified. However, what so far have been neglected in the HRM literature, and should receive more attention, is the understanding of how individual differences can affect the relationship between HRM practices, with particular focus on support for development, and the specific work-related outcome organisational commitment. This study therefore extends the existing literature by including one of the Big Five personality dimensions as

a moderator to the relationship between career management and organisational commitment.

### ***2.6.2. The Five Factor Model of Personality***

According to Judge et al. (2002), an agreement has emerged during the last 20 years that five different super ordinate and robust factors of personality can be identified, although the interpretation of these factors may differ (Digman, 1990). These factors represent the Five Factor Model (FFM) of personality and adequately represent individuals' structure of traits. The model furthermore provides a set of broad dimensions that are useful when one is to characterise individual differences (McCrae & John, 1992), and has enabled researchers and practitioners to measure these dimensions in a reliable and valid way (Digman, 1990).

The Big Five factors can be summarised as agreeableness, conscientiousness, extraversion, emotional stability, and openness to experience. These personality dimensions can facilitate studying the relationships between individual differences and personnel related activities, e.g., performance appraisal, training and development, and others (Barrick & Mount, 1991). For the purpose of investigating the moderating role of personality in the relationship between career management and organisational commitment, the present study will henceforth focus on openness to experience. This is, according to McCrae (1996), the personality dimension that in many instances has been regarded as the most influential dimension on social and interpersonal phenomena, e.g., in interpersonal perceptions and interactions, at work and home, in political and social movements, and in cultural innovations.

From the research initiating question presented in chapter 1 and the discussion above, we suggest the following specific research problem, in as far as it relates to the role of individual differences in the relationship between commitment and career management:

*Does openness to experience moderate the relationship between career management and affective commitment, and if so, how?*

### **2.6.3. Openness to Experience**

#### **2.6.3.1. Defining Openness to Experience**

Although openness to experience is regarded as a highly influential personality facet, it is the Big Five dimension that is the most difficult one to identify and, hence has received many varying interpretations (Barrick & Mount, 1991). It is, however, suggested that the different explanations and definitions of the concept share some common characteristics, including amongst other things, being imaginative, cultured, curious, original, broad-minded, intelligent (Digman, 1990), empathetic, and flexible (Schreuder & Coetzee, 2006). People displaying high levels of openness to experience are furthermore argued to have a strong need for seeking out change and variety (Vinson, Connelly & Ones, 2007), whereas people who are low in openness to experience conversely prefer the familiar, routines, feelings of security, simplicity (McCrae, 1996), and tend to be conservative and resistant to change (Mignonac, 2008).

Amongst all the different definitions of openness to experience, McCrae (1996) provides an explanation that will serve as a basis for the understanding of this personality trait in the present study. The author argues that openness is best understood as “a fundamental way of approaching the world that affects not only internal experience but also interpersonal interactions and social behaviour” (p.323). In this study it is argued that open individuals appreciate and approach the management of one’s career differently from that of individuals who score low on this dimension. This way of approaching the world, is anticipated to affect the experiences (e.g., personal, social, and work-related development), relationships (e.g., with supervisors, peers, and networks), and behaviours (e.g., increased organisational commitment) resulting from participation in career management activities, as well as the degree to which one involves one self in such activities.

#### **2.6.3.2. Facets and Correlates of Openness to Experience**

A number of facets of openness to experience can be outlined which serve to further explicate the personality dimension in question. These facets are included in measurements of the Big Five factors, e.g., the International Personality Item Pool (IPIP)

instrument (Goldberg, 1999). Griffin and Hesketh (2004) present definitions of the six facets included in the NEO PI-R measurement (Costa & McCrae, 1992) (fantasy, aesthetics, feelings, actions, ideas, and values), and their corresponding IPIP facets (imagination, artistic interest, emotionality, adventurousness, intellect, and liberalism) as presented in Table 2.1.

Table 2.1

*NEO PI-R Openness to Experience Facets: Definitions and Corresponding IPIP Facets*

NEO PI-R facet	IPIP Facet	Definition of high scores
Fantasy	Imagination	Have a vivid imagination and fantasy life which they believe enhances life
Aesthetics	Artistic interest	Highly esteem and can be moved by art, music, poetry, and beauty
Feelings	Emotionality	Are receptive to inner feelings, deeply experience emotions, and see them as important
Actions	Adventurousness	Have a willingness to experience new activities, foods, places, and prefer novelty to routine
Ideas	Intellect	Open-mindedness and willingness to consider new ideas and pursue intellectual interests
Values	Liberalism	Willingness to re-examine social, political, and religious values

*Adapted from Griffin & Hesketh (2004)*

Research carried out with the purpose of identifying correlates between openness to experience and different behaviours and attributes are relevant for the present study in that they may provide a better understanding of how this personality dimension affects work-related activities and outcomes. A number of different studies can be identified that support the characterisations of all six facets presented by Griffin and Hesketh (2004). However, in order to illustrate the specific relationships between openness to experience, career management, and organisational commitment, research on three of these facets,

i.e., adventurousness, intellect, and liberalism, will be highlighted. These facets are argued to be particularly relevant in work-related situations and a number of studies emphasising this perspective will be presented in the following paragraphs.

A study by Mignonac (2008) investigates the influence of a set of individual differences, including openness to experience, on employees' willingness to accept intra-organisational job changes. The findings of the study support the hypothesis that older employees who score high on openness to experience to a larger extent will be willing to change their field of work and more often have a positive attitude towards opportunities regarding relocation.

In addition to a willingness to change one's field of work, individuals who score high on openness to experiences are also expected to be more tolerant for uncertainties. It can therefore be seen as reasonable to suggest that this personality dimension is highly important and valuable in today's fast developing world of work (Burke & Witt, 2002) where modernisation and westernisation are the central tendencies in cultural change (McCrae, 1996). The need for, or acceptance of, change, uncertainty and novelty can be argued to be in line with the adventurous and liberalistic facets of openness to experience presented in Table 2.1, as high scores on these facets are associated with being willing to experience new things, the preference of novelty to routine, as well as the willingness to re-examine social, political, and religious values.

A number of studies can also be related to another facet of openness to experience, i.e., that of intellect, which is defined as an open-mindedness and willingness to consider new ideas and pursue intellectual interests (see Table 2.1). Guthrie et al. (1998) found in their study a correlation between openness to experience and a tendency for employees to engage in activities related to self-development and the learning of new skills, as well as to the propensity of building both internal and external networks. Similarly, research has suggested that employees' level of openness serves as a predictor of training effectiveness (Barrick & Mount 1991) and advancement potential (Martin & Lekan, 2008).

Further research suggests that “individual characteristics can affect the perceived usefulness and desirability of seeking specific career information, and thus an individual’s interest in participation in career management programs” (Granrose & Portwood, 1987, p. 703). This proposition is supported by another study which indicated that three of the Big Five dimensions, i.e. openness to experience, extraversion and conscientiousness, were related to the importance individuals place on development and career opportunities. However, only openness to experience of these three showed a significant (positive) impact on this kind of opportunities given to employees by the employer (Vanderberghe, St-Onge & Robineau, 2008).

The purpose of the above discussion was to clarify the characteristics of the personality dimension openness to experience. Many studies can be found in which the definitions of the different facets of openness are supported, and a number of these are relevant for further research that wishes to investigate the effects of this personality dimension on different HR activities and work-related behaviours. As a logical continuation, the present study now continues to investigate the moderating role of openness to experience to the proposed relationships between career management (organisational and individual) and affective commitment.

### ***2.6.3.3. The Moderating Role of Openness to Experience***

Openness to experience has been found related to a number of personally and work-related attitudes and behaviours, which in turn are of importance for the relationship between career management and organisational commitment. A study by de Jong, van der Velde and Jansen (2001) indicates that the Big Five factor openness to experience was the personality dimension that had the highest correlation with an individual’s growth need strength. Their study furthermore resulted in the proposition that organisations who wish to retain talented employees who score high on openness to experience should make sure they provide adequate levels of skill variety for those individuals. Other studies have additionally found that openness to experience positively relates to the motivation of pursuing hopes and aspirations

(Vaughn, Baumann & Klemann, 2008), and correlates positively with flexibility of working conditions, development and career opportunities (Vandenberghe et al., 2008).

From a social exchange perspective, Blau (1964) suggests that employees are positively oriented toward an organisation to the extent that the organisation offers something valuable to the employees. However, Maurer and Lippstreu (2006) emphasise that this way of thinking about the employment relationship does not acknowledge the important notion that individuals differ in the extent to which they wish to take part in developmental opportunities. The concept of career plateauing may help to illustrate how individual differences may play a role in the degree of interest placed on developmental opportunities. Feldman and Weitz (1988) in this regard suggest that employees' need for career mobility can act as a source of career plateauing, which according to Schreuder and Coetzee (2006) can be defined as "the point in a person's career at which there is no longer any opportunity to progress in the organisational hierarchy" (p. 347). Feldman and Weitz (1988) go on to argue that there are employees who might be afraid of the requirements from a higher position, or who prefer the security of their present job in favour of the challenge of a higher level job, and therefore stand a higher risk of plateauing in their careers.

The foregoing arguments suggest that it is not unreasonable to anticipate that depending on an individual's level of openness to experience, employees can be more or less prone to participating in organisational career management activities, thus varying the effect of career management on their level of organisational commitment. In more detail, one could generally expect that individuals who score high on openness to experience, and thereby display a high need for variety and change, to a larger extent will appreciate career management initiatives from their employer, than those who prefer security and score low on this dimension. Consequently, highly open individuals are also expected to reciprocate with the display of higher levels of affective commitment after having participated in such career management practices because of the increased chances of fulfilling aspirations and needs for change and development. The following hypothesis is therefore suggested:

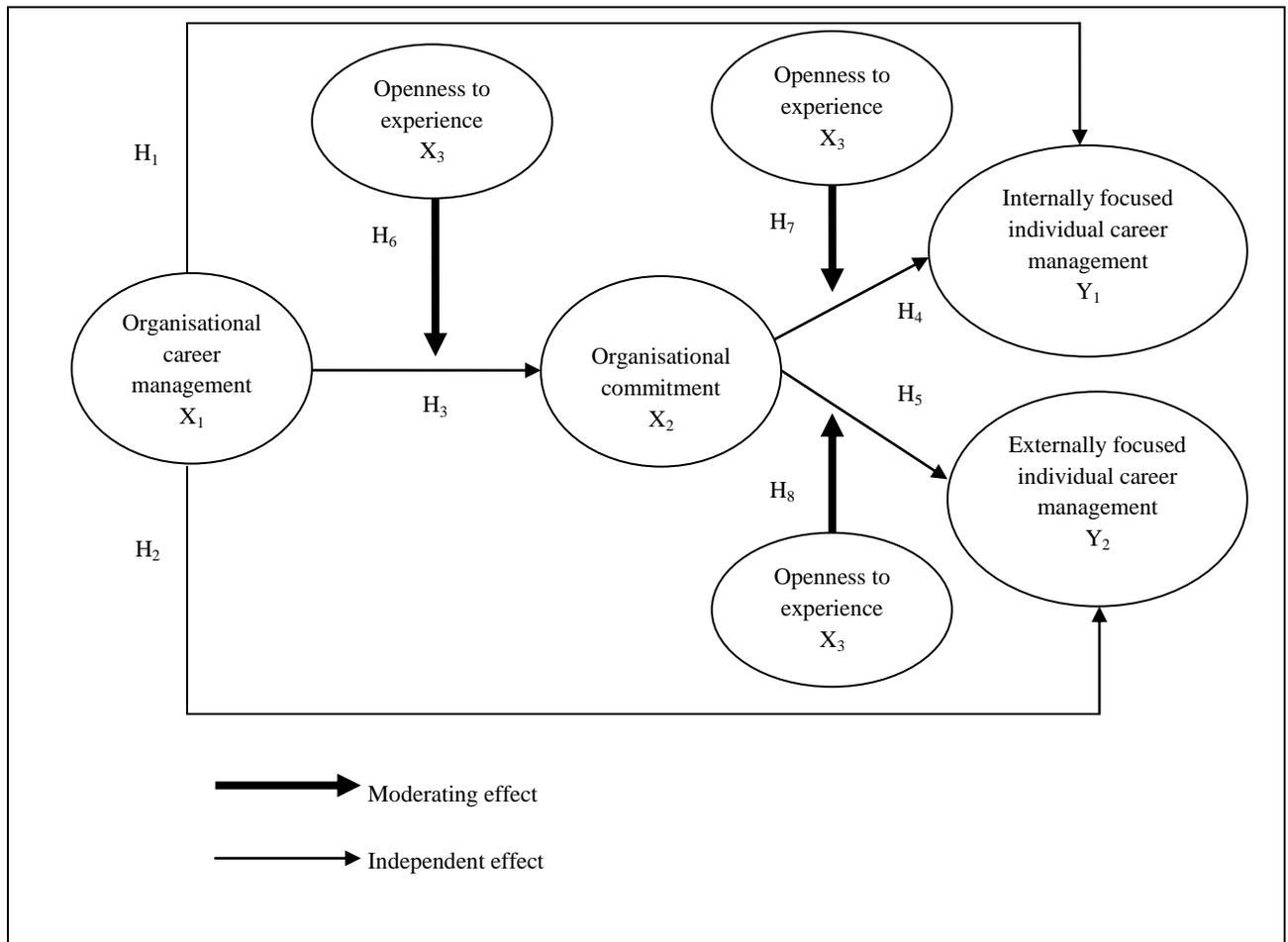
*Hypothesis 6: The interaction between OCM and openness to experience produces variance in organisational commitment not attributable to the main effect of OCM.*

Not only may openness to experience affect an employee's participation in and effect of OCM, but also his or her engagement in internally or externally focused ICM activities. Guthrie et al. (1998) suggest that the chances of engaging in self-developing activities are related to personality, and specifically the personality trait openness to experience. Therefore, it is in this study also hypothesised that openness to experience will moderate the relationship between organisational commitment and ICM. In other words, depending on the employee's levels of openness to experience and organisational commitment, the individual will more or less engage in the different forms of ICM activities, including both internally and externally focussed ICM. To test the second and third moderating effect of openness to experience, the following hypotheses have been formulated:

*Hypothesis 7: The interaction between organisational commitment and openness to experience produces variance in internally focused ICM not attributable to the main effect of organisational commitment.*

*Hypothesis 8: The interaction between organisational commitment and openness to experience produces variance in externally focused ICM not attributable to the main effect of organisational commitment.*

The research framework of this study, investigating the role of openness to experience as a moderator to the relationship between career management (organisational and individual) and organisational commitment is shown in Figure 2.1.



*Figure 2.1: Proposed Effects of Openness to Experience as a Moderator between Career Management and Organisational Commitment.*

## 2.7. Summary

Organisations and individuals are facing challenges with regard to the management of careers due to the major macro-environmental changes that have taken, and are taking place, in today's modern world of work. The extant literature on career management have generally agreed that there are two different forms of career management, i.e. individual and organisational, that should be integrated to work effectively and be beneficial for both the organisation and the individual employee. It is furthermore suggested that specific HR practices, e.g., career management, can result in changes in important work-related outcomes, such as increased organisational commitment. However, one should not

anticipate that all individuals or employees react in the same manner to developmental opportunities, thus individual differences should be taken into account.

Based on the review of relevant literature a model of the hypothesised interrelationships of the included variables has been developed (see Figure 2.1). It is anticipated that participation in organisational career management activities is likely to increase affective commitment by satisfying individuals' needs for personal development and stimulation. Furthermore, employees' level of affective commitment is suggested to affect the kind of ICM activities to be initiated, i.e. internally or externally focused activities. However, the effects of OCM on affective commitment, and of affective commitment on ICM, may be more prominent when individuals display a high level of openness to experience. These moderator hypotheses are based on detailed explications of the personality dimension openness to experiences, as well as numerous research carried out with the purpose of investigating correlates of this individual difference with work-related attitudes and behaviours.

## **CHAPTER 3: RESEARCH METHODOLOGY**

### **3.1. Introduction**

The review of relevant literature presented in chapter 2 constitutes the foundation for the research design and methodology presented in this chapter of the thesis. As argued in chapter 1, the intention of the present study is to elaborate on existing research performed within the area of career management by investigating whether openness to experience, as an individual difference, may moderate the relationship between career management (organisational and individual) and affective organisational commitment. The present chapter is meant to describe the methodology applied in order to pursue the objectives of this research and to derive at valid and credible conclusions (Babbie & Mouton, 2001). In more detail, this chapter will thoroughly describe the steps, tools and procedures applied in order to test the hypotheses formulated in the preceding chapter (which are subjected to empirical tests). For this purpose the participants, measuring instruments, data collection, and analysis methods will now be presented.

### **3.2. Research Problem and Research Hypotheses**

A hypothesis can be described as an assumed statement of the relationship between two or more variables. Hypotheses are considered to be important tools in research based on the fact that they are deduced from theory, can be tested to be proven either true or false, and work as an instrument for the advancement of knowledge (Kerlinger & Lee, 2000).

The research initiating question that lays the foundation for the present research is how openness to experience moderates the relationship between career management and affective organisational commitment. The main substantive research hypotheses, developed from this research question and tested in the present study, suggest that the relationship between career management (organisational and individual) and affective commitment is dependent on the level of openness held by the individual employees. In more detail, eight relationships were, based on the literature review, developed in chapter 2, which all will be subject for statistical analyses in the subsequent chapter. The

complete set of substantive hypotheses, each followed by its statistical hypothesis, is outlined below.

Hypothesis 1:

There is a significant positive relationship between organisational career management and internally focused individual career management activities.

$$H_{01}: \rho[X_1, Y_1] = 0$$

$$H_{a1}: \rho[X_1, Y_1] > 0$$

Hypothesis 2:

There is a significant negative relationship between organisational career management and externally focused individual career management activities.

$$H_{02}: \rho[X_1, Y_2] = 0$$

$$H_{a2}: \rho[X_1, Y_2] < 0$$

Hypothesis 3:

There is a significant positive relationship between organisational career management and affective organisational commitment.

$$H_{03}: \rho[X_1, X_2] = 0$$

$$H_{a3}: \rho[X_1, X_2] > 0$$

Hypothesis 4:

There is a significant positive relationship between affective organisational commitment and internally focused individual career management activities.

$$H_{04}: \rho[X_2, Y_1] = 0$$

$$H_{a4}: \rho[X_2, Y_1] > 0$$

Hypothesis 5:

There is a significant negative relationship between affective organisational commitment and externally focused individual career management activities.

$$H_{05}: \rho[X_2, Y_2] = 0$$

$$H_{a5}: \rho[X_2, Y_2] < 0$$

Hypothesis 6:

The interaction between organisational career management and openness to experience produces variance in affective organisational commitment not attributable to the main effect of organisational career management.

$$H_{06}: \beta[X_1 * X_3] = 0 | \beta[X_1] \neq 0$$

$$H_{a6}: \beta[X_1 * X_3] > 0 | \beta[X_1] \neq 0$$

Hypothesis 7:

The interaction between affective organisational commitment and openness to experience produces variance in internally focused individual career management not attributable to the main effect of affective organisational commitment.

$$H_{07}: \beta[X_2 * X_3] = 0 | \beta[X_2] \neq 0$$

$$H_{a7}: \beta[X_2 * X_3] > 0 | \beta[X_2] \neq 0$$

Hypothesis 8:

The interaction between affective organisational commitment and openness to experience produces variance in externally focused individual career management not attributable to the main effect of affective organisational commitment.

$$H_{08}: \beta[X_2 * X_3] = 0 | \beta[X_2] \neq 0$$

$$H_{a8}: \beta[X_2 * X_3] > 0 | \beta[X_2] \neq 0$$

### 3.3. Research Design

Research design refers to the planning of the research, presents a way to answer your research question, and guides the researcher in his or her collection and analysis of data (Christensen, 1985). The aim of this research is to evaluate the hypotheses developed in chapter 2, and in order to test their validity, an empirical quantitative research design will be applied.

This study applies a correlational research design, which is a non-experimental design that enables the researcher to study the variables as they appear in real life. This kind of design is therefore often used with the purpose of describing and establishing the strength and nature of relationships between variables that can be used for making predictions (Gravetter & Forzano, 2003).

One advantage of correlational studies is the fact that the researcher records what exist naturally, i.e. he or she does not manipulate or interfere with the variables in any way (Gravetter & Forzano, 2003), but rather describes the situation. According to Babbie and Mouton (2001), this so called *ex-post-facto* research design involves the development of hypotheses that will predict a relationship between two variables that have already been observed. Kerlinger (1973) furthermore argues that *ex-post-facto* research implies that the researcher does not have direct control of variance of the independent variables, and that random assignment cannot be used. This type of research design is therefore suitable when one wish to measure variables that would be impossible or unethical to manipulate (Gravetter & Forzano, 2003).

Although there are many advantages with the *ex-post-facto* research design, some limitations can be found that must be stressed. Kerlinger (1973) outlines three weaknesses with such a design: independent variables cannot be manipulated, there is a lack of power to randomise, and a risk of making inappropriate interpretations. Christensen (1985) furthermore points out that another disadvantage with the non-experimental method is the fact that the correlation between two variables can exist because of a third variable that caused both of them, and not because of their interpreted causal relationship.

Despite these weaknesses, *ex-post-facto* designs are widely used because of the large amount of problems in society that cannot be experimented with (Kerlinger, 1973). A good rule when applying this design is therefore to take the limitations into consideration, and to, whenever possible, predict both significant and nonsignificant relations (Christensen, 1985). In other words, one should treat the result and

interpretations of data obtained through this kind of design with great caution (Kerlinger, 1973).

### **3.4. Sample of Research Participants**

#### ***3.4.1. Sampling Design***

Several methods of sampling can be found. However, to obtain as many responses as possible from one organisation, the sampling technique used in the present study was a non-probability convenience sampling method. This technique implies selecting those cases that are easiest to obtain for the study in question (Welman, Kruger & Mitchell, 2005), and relies on the availability of people and their willingness to respond (Gravetter & Forzano, 2003). Convenience sampling is according to Gravetter and Forzano (2003) argued to be the most commonly used sampling method in psychological research. However, there are both advantages and disadvantages with such a technique that should be stressed. A non-probability sampling technique is argued to be a less complicated, cheaper (Welman et al., 2005), and more timely technique than probability sampling methods. Although this type of sampling is a widely used technique (Welman et al., 2005; Kerlinger, 1973), one can identify a number of drawbacks. According to Babbie (2005), the reliance on available subjects does not permit the researcher any control over the representativeness of the sample, and this method should therefore not be used for the purpose of generalising data to a larger population. These kinds of studies can therefore be used as pilots for other more structured samples (Welman et al., 2005).

Lack of representativeness was not regarded as an overly serious problem in the present study since the main objective of the research was not to make generalisations to the overall population, but rather to substantiate the proposed relationships between career management, organisational commitment, and openness to experience. However, to correct for some of the problems associated with convenience sampling, the present study ensured that the sample was *reasonably* representative by including a broad cross-section of participants of different gender, age, level of education, and position in the organisation. Another strategy was to provide detailed information regarding how the

sample was obtained. By doing so, people can get a clear understanding of who the participants are and be able to make judgements about the representativeness themselves (Gravetter & Forzano, 2003).

### **3.4.2. Sample Size**

When deciding on a sample size, a general rule for all research is the bigger the better, up to a certain point. One of the reasons for using a large sample is the implication it has for error, i.e. how much the sample deviates from the population. The larger the sample sizes the smaller the error, and the more accurate calculation of statistics (Kerlinger, 1973).

When planning the present research prior to the analysis, the required sample size for adequate statistical power in the case of moderated multiple regression was calculated. The significance test for assessing an interaction effect makes use of hierarchical multiple regression that compares two regression models, one including both predictors in the model, and the other adding an interaction term to the model to produce a saturated model (Jaccard, Turrisi, & Wan, 1990). Consequently, by using the  $R^2$  of the two models a minimum sample size is read off from the Jaccard et al. (1990) tables. For the purposes of this study, the researchers estimated the average  $R^2$  for the unsaturated models from published studies ( $R^2 = .11$ ; Erdheim et al., 2006 and  $R^2 = .03$ ; Sturges et al., 2002) and used a conservative estimate of  $R^2$  for the saturated models, which resulted in a required minimum sample sizes of  $N = 135$  for the OCM regression analysis and  $N = 188$  for the ICM regression analysis. For both these estimates, desired statistical power of .80 and Type 1-error rate of .05 was set (Cohen & Cohen, 1983). Post hoc calculations of statistical power are presented in chapter 4.

### **1.1.1. Participants**

The initial sample in the present study comprises 311 employees from a South African organisation within the public sector security cluster. The demographic profile of the sample is presented in Table 3.1. All participants in the study were between the ages of 18 and 59 ( $SD = 9.534$  yrs), whereof 74.0% was male respondents and 21.5% female.

The majority of the sample (74.0%) had Grade 10 as highest completed educational level, and the distribution of organisational work areas was as follows: support 11.3%, technical 10.0%, and operational 76.2%. The participants were furthermore distributed over five different organisational levels: level one 56.6%, level two 22.8%, level three 8.5%, level four 8.5%, and level five 2.3%. In terms of ethnic background, 46.3% of the sample was African, 26.7% White, 22.2% Coloured, and 2.6% Indian. Lastly, the average tenure of the employees who completed the questionnaire was 8.3 years ( $SD = 8.65$  yrs).

The information above characterises the sample under investigation in the present study. The demographic variables were included in the study due to their possible affects on the proposed relationships between career management, organisational commitment, and openness to experience. To determine the external validity of the results found in the present study, replications of the research however need to be performed on a number of additional samples in future research. Furthermore, the demographic composition of these samples must systematically deviate from the current sample in order to improve the representativeness of this research.

Table 3.1

*Demographic Details of the Sample*

Age		
Variable	Mean (years)	Std. Deviation
Age	28.66	9.534
Unreported	8	2.6
Gender		
Responses	Frequency	Percentage
Male	230	74.0
Female	78	25.0
Unreported	3	1.0
Ethnic Background		
Responses	Frequency	Percentage
Black <sup>1</sup>	144	46.3
White	83	26.7
Coloured	69	22.2
Indian	8	2.6
Unreported	7	2.2
Tenure		
Variable	Mean (years)	Std. Deviation
Tenure	8.292	8.6462
Unreported	10	

Table 3.1 Continued

Work Area		
Responses	Frequency	Percentage
Support	35	11.3
Technical	31	10
Operational	237	76.2
Unreported	8	2.6
Organisational Level		
Responses	Frequency	Percentage
1	176	56.6
2	71	22.8
3	26	8.5
4	26	8.5
5	7	2.3
Unreported	5	1.6
Education		
Responses	Frequency	Percentage
Grade 10	32	10.3
Grade 12 (national Senior certificate)	230	74.0
Bachelor	23	7.4
Diploma	18	5.8
Postschool certificate (Honours)	1	0.3
Postschool certificate (Masters)	3	1.0
Unreported	4	1.3

Table 3.1 Continued

English Reading Proficiency		
Variable	Mean	Std. Deviation
Reading proficiency	8.19	1.669
Unreported	8	

Note.  $N = 311$

<sup>1</sup>For convenience, the term ‘Black’ refers to Black African and is not used in a derogatory fashion.

## 1.2. Measuring Instruments

In order to investigate the proposed relationships in the present study, measurements of the included variables are required. A composite questionnaire, consisting of four different measurement instruments with altogether 51 items, was for this purpose distributed to the employees’ of the participating organisation (see Appendix A). The results from the CFA can be found in chapter 4. The questionnaire set comprised the following different measures:

### 1.2.1. Organisational Career Management (OCM)

Organisational career management was assessed using a 10-item measure of different career management interventions developed by Sturges et al. (2002). It is important to note that this scale does not measure the actual career management activities carried out by the organisation, but the employees’ perceptions regarding career management help in their organisation (Verbruggen, Sels & Forrier, 2007). The OCM scale measures two different components of OCM, i.e. formal and informal activities, which was acknowledged in the dimensionality analysis performed before the main analysis (see section 4.4.1.). In the present study it was however the respondents’ general perceptions regarding OCM activities that were of central importance, and not so much the categorisation into formal and informal activities. A total score on the Organisational Career Management subscale was therefore calculated for each respondent.

One possible weakness in terms of the response format was detected in that the response categories may negatively influence the responses given. Whereas participants in the Sturges' et al. (2002) study were asked to indicate to what extent they agreed with the statements in the questionnaire on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), the participants in the present study were asked to give their responses on a frequency scale, indicating how often they have been given the opportunity to participate in different OCM activities, ranging from 1 (*very seldom*) to 5 (*very often*). Cronbach alpha coefficients for the initial measuring instrument of formal and informal organisational career management have been reported to be 0.76 and 0.79, respectively (Sturges, Conway, Guest & Liefoghe, 2005).

To illustrate how the original response format could negatively influence the interpretation of the data, one item from the organisational career management scale will now serve as an example. If a person at one point in his or her career within an organisation has been given training to help develop the career further, the response on the item "I have been given training to help develop my career" is likely to be *strongly agree*. However, we are not interested in knowing if the employees have been offered this opportunity, but rather to what frequency they have been done so, and what effect this career management help has on employees' organisational commitment. Since the original Likert scale in the Sturges et al. (2002) study does not tell us anything about the rate of recurrence of OCM activities, we have in the present study decided to improve the quality of information given by adapting the scale to a frequency scale format.

### ***1.2.2. Individual Career Management (ICM)***

Individual career management activities were measured using altogether 16 items developed by Sturges et al. (2002). The 16 items are in turn divided into three different scales, whereof the first two measure activities most likely to be performed with the aim of furthering the career within the organisation. These two scales measure "networking" and "visibility" behaviour, and had Cronbach alpha coefficients reported to be 0.76 and 0.75 respectively. The third scale measures individuals' career management behaviour that is aimed at furthering the career outside the organisation, referred to as "mobility"

behaviour, and has obtained an internal consistency reliability of 0.67 (Sturges et al., 2002). In the present study, the Individual Career Management scale was divided into only two subscales, i.e., Internally Focused ICM and Externally Focused ICM. Reliability and dimensionality analyses of the two subscales are presented in chapter 4.

This measuring instrument was, for the same reason and in the same manner as the Organisational Career Management scale, modified to have responses given on a frequency scale. Responses were therefore given on a scale ranging from 1 (*very seldom*) to 5 (*very often*), instead of the original scale with responses given on a five-point Likert scale where *strongly disagree* (1) and *strongly agree* (5) were the alternatives.

### ***1.2.3. Affective Organisational Commitment***

A well-used instrument for measuring organisational commitment is the 18-item scale developed by Meyer et al. (1993). This is a revised version of the original measurement instrument developed by Allen and Meyer in 1990. Since the focus of the present study concerns only one of the dimensions of organisational commitment, i.e., affective organisational commitment, and not all three traditionally used subscales, the one single subscale representing the dimension in question was included in the composite questionnaire. This subscale consists of six items in the form of statements, and have responses given on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The measurement instrument has reported a Cronbach alpha for the affective commitment scale of 0.87 (Meyer et al., 1993).

### ***1.2.4. Openness to Experience***

To measure openness to experience, a shorter version of Goldberg's (1999) 50-item version of the International Personality Item Pool Five Factor Model (IPIP FFM) was applied. Ten items relating to the personality dimension openness to experience were extracted from the total list of 50 items from the IPIP Web site (International Personality Item Pool, 2007). The instructions asked the respondents to rate

how accurately each of the items describe them using a 5-point Likert scale ranging from 1 (*very inaccurate*) to 5 (*very accurate*).

Recent literature has investigated the structural equivalence of the 50-item IPIP FFM measure across gender and ethnic groups (Erhart, Roesch, Erhart, & Kilian, 2008). The internal consistency reliability values found for the overall sample and each subgroup (men, women, White, Asian American, Latino) were all adequate. The internal consistency reliability coefficient (alpha) for the openness to experience dimension, for the overall sample, was reported to be 0.78. The factor structure equivalence of the measure was furthermore found to be good.

### ***1.2.5. Control Variables***

#### ***1.2.5.1. Demographics***

The last section of the questionnaire incorporated questions relating to demographic characteristics of the respondents. This information was obtained so that the sample in question could be explicated in more detail. Furthermore, with the purpose of providing a strong test of the research hypotheses, and in view of the fact that different demographic details may be related to organisational commitment, career management activities, and openness to experience, this information was included to enable the researchers to control for such possible extraneous influences. Information regarding the respondents' demographic details were obtained through seven items (age in years, gender: 1=male, 2=female, ethnic background: 1 = Black, 2 = White, 3 = Coloured, 4 = Indian, work area: 1 = support, 2 = technical, 3 = operational, tenure in years, organisational level: five different levels ranging from 1 to 5, educational qualifications: 1= grade 10, 2=grade 12 (National Senior Certificate, 3=Diploma (National diploma, 3 yrs), 4=Bachelor's degree, 5=Postgraduate degree (Honours), 6=Postgraduate degree (Master's)).

#### ***3.5.5.2. Self-rated Language Proficiency***

The questionnaire was formulated in English and answered in a South African organisation with a heterogeneous composition in terms of culture and language. Due to

the fact that English was not the mother tongue for all respondents in the survey, two items related to self-reported language difficulties were included to enable screening these responses from the data set, if needed be. The first item asked the respondents to rate their own English language reading proficiency on a scale from 1 (poor) to 10 (home language). The second item was formulated as follows: “Did you experience any difficulties in understanding the questions in this questionnaire?” (1=Yes, 2= No). In this regard, the respondents also had the opportunity to indicate what question(s), if indeed so, they had problem with understanding. In this way, the researchers were afforded the option to remove individual cases who indicated serious language difficulties from the data set, since these responses could not be expected to represent meaningful indications of their work-related attitudes.

### **3.6. Data Collection Procedure**

The data used to test the hypotheses in this study were employees’ self-reported data collected by the means of an investigator-administered questionnaire, i.e., the questionnaires were completed with the researcher present. Some of the advantages with such a survey are that a large number of respondents can be surveyed at the same time and the investigator has the opportunity to clarify any questions that the respondents might have. Furthermore, the researcher’s presence encourages participants to respond, resulting in a higher response rate than the use of self-administered questionnaires normally does (Mitchell & Jolley, 2001).

Although one can find a number of advantages of having the investigator present at the time for data collection, there is a weakness with such a procedure that should be stressed. The investigator-administered questionnaire may reduce the respondents’ perceived anonymity, which consequently may result in less open and honest responses (Mitchell & Jolley, 2001). In order to correct for this possible drawback, it was emphasised during the introduction to the survey that any information obtained in connection with the survey, which could be identified with any of the respondents, would be kept confidential and disclosed only with their permission.

Another decision that had to be made before the data collection could be initiated was whether the data should be collected by means of a paper-and-pencil based or a web-based questionnaire. A study by de Beuckelaer and Lievens (2005) investigated the measurement equivalence between web-based and paper surveys. Their findings provide strong support for the measurement equivalence of the multi-item survey instrument across Internet and paper-and-pencil surveys in several countries. Since no evidence was found for differential effects between the two forms of data collection, data obtained through a combination of Internet and paper-and-pencil surveys was considered legitimate. For the purpose of reaching as many respondents as possible, as well as for convenience purposes, the current study only made use of a paper-and-pencil based survey questionnaires since this form of administration suited the participating organisation better.

To avoid general misunderstanding of any of the questions and items, a small pilot study was carried out in advance of the survey. The questionnaire was administered to a limited number of individuals from the same population as that to which the final survey was intended. The purpose of such a pilot study is to conduct an item sensitivity review, i.e. to map whether there are any obscurities in the questionnaire relating to item content, clarity, and inadequate time limits (Welman et al., 2005). The pilot study included individuals with different home languages in order to detecting possible difficulties relating to cultural content or language difficulties in items. After completion of the pilot study and a meeting with the contact person in the participating organisation, a number of small changes to the initial questionnaire were done. These changes included some adjustments of the wording of specific questions that would better suit the organisation in question.

Data collection took place on the 20<sup>th</sup> of August, 2009, under standardised conditions on the participating organisation's premises. The available group of potential participants in the present study had been gathered for the purpose of participating in a training program in their organisation. After having consulted the contact person in the organisation, it was made clear that the available group of employees would represent, amongst other things,

a wide age span and different organisational positions and lines of work. The employees in question were in advance of the study informed by their supervisor that they were going to get the opportunity to participate in a survey. At the time for data collection, they were all assembled in a big lecture hall and given the opportunity to voluntarily participate in the survey. Information regarding the purpose of the study, procedures, anonymity, confidentiality, and rights as participants were additionally communicated by the researchers (see Appendix B). The same information was given to all participants simultaneously and was, in addition to the oral communication, presented on a projector screen in the lecture hall where the completion of the questionnaires took place. Participants were asked to tick a box and provide their signatures at the top of the questionnaire, which would indicate their consent to participate in the study, that they agreed that they had been informed about their rights as research participants and understood the information provided to them. All procedures in this study adhered to the guidelines for research ethics proposed by the American Psychological Association (2001).

### **3.7. Statistical Analysis**

The objective of quantitative research is to provide valid inferences from the sample data available to some larger population to which one wishes to generalise. It can, however, not be expected that random samples from a population will yield sample values (i.e., statistics) that are exactly equal to the population values (i.e., parameters). For this purpose, statistical methods have been developed which make it possible to determine the confidence with which such inferences can be drawn. The two most commonly used methods of statistical inference are a) estimation using confidence intervals, and b) null hypotheses testing (Cohen, Cohen, West & Aiken, 2003). The present study made use of the latter (i.e., null hypothesis testing) in order to test the hypotheses that were formulated.

Prior to the statistical analysis of the data, all questionnaires were checked for possible incorrect completion by respondents (i.e., by means of visual inspection the questionnaires were checked for unanswered questions or multiple answers provided per

question). Consequently, we analysed the data by utilising various quantitative techniques. First, descriptive statistics were presented and analysed, which, according to Gravetter and Forzano (2003), helps the researcher to organise, summarise, and simplify the results one has obtained from the data collection. Specifically, descriptive statistics in form of means, standard deviations, skewness, kurtosis, and normality statistics of the study variables were computed.

Second, assumptions of form and distribution of data underlying the statistical techniques were considered. The psychometric measurement properties of the instruments were, in the third step, assessed with item analysis (for internal consistency reliability) and confirmatory factor analysis (to assess dimensionality) using SPSS and LISREL. According to Gorsuch (1997), item analysis is performed with the objective of identifying and evaluating those items that are most related to their own construct, as well as other associated or similar constructs. The desired result is “that all items measuring the same construct are associated together to give the best estimate of each person’s score on that construct” (Gorsuch, 1997, p. 533). The item analysis furthermore provides us with information regarding the sensitivity of the different items. In other words, means, standard deviations, and correlations between items enable researchers to detect potentially poor items that should be deleted. The purpose of factor analysis is to determine what measures are measuring the same thing, and to what degree they are doing so (Kerlinger, 1973). Stated differently, by performing factor analysis, one seeks to identify how many constructs (as few as possible) are needed to reproduce the original data (Gorsuch, 1997).

Fourth, in order to test the research hypotheses, various inferential statistical techniques were used (in this case, correlation and moderated multiple regression analysis). Tabachnick and Fidell (2001) argue that the terms correlation and regression often are being used interchangeably. However, *regression* is often used when the intention of the analysis is to make predictions, whereas *correlation* is used when the intention is to assess the relationship between the dependent variable and the independent variables. The result of making a regression analysis is the development of an equation that represents

the best prediction of a dependent variable from several continuous (or dichotomous) independent variables. A number of different regression techniques can be applied, including standard multiple regression, sequential (hierarchical) regression, and statistical (stepwise) regression. What distinguishes these different techniques from each other is the way in which the variables enter the equation, and the method chosen depends on the specific research situation.

In the present study, intercorrelations between the study variables were computed to see whether support was found for hypotheses 1 to 5. To test the moderating effects of openness to experience (hypotheses 6 to 8), three moderated multiple regression analyses were applied (one including OCM and the other two including ICM). The demographic variables gender and ethnic background were included in a second series of regression analysis as potential controls to reduce possibilities of spurious relationships based on these types of characteristics.

Relevant for the selection of statistical analysis in the present study was the fact that a moderating effect was to be tested statistically. In this regard, Baron and Kenny (1986) lament the fact that the use of the terms moderator and mediator are frequently (and erroneously) used interchangeably in social science research. The authors go on to argue for the importance of distinguishing between these two different types of variables, and suggest that a moderating effect implies that the relationship between two variables changes as a function of a third variable's value, whereas a mediator accounts for the relationship between a predictor and the criterion. In other words, a moderating effect exists when the relationship between two variables varies as a function of a third variable, labelled a moderator (Zedeck, 1971).

A preferred statistical technique for testing moderating effects is moderated multiple regression (MMR) (Aguinis, 1995) which implies comparing two least-square regression equations (Cohen & Cohen, 1983). The first equation tests the model of the main effects for predicting  $Y$  (dependent variable) from  $X$  (predictor) and  $Z$  (second predictor hypothesised to be a moderator). In the second equation a new variable is created, i.e., the

product between the two predictor X and Z ( $X*Z$ ) which is included as a third term in the regression (Aguinis, 1995).

To test the hypotheses involving a moderating effect of openness to experience to the relationship between, either OCM and affective organisational commitment, or affective organisational commitment and ICM (internally and externally focused), this study made use of hierarchical moderated regression, in two steps. This regression technique implies that the variables are entered into the equation in an order specified by the researcher, thus enabling the researcher to control the advancement of the regression analysis, and assess what each of the independent variables adds to the equation at its own point of entry. The type of research question asked in this strategy is therefore: “How much does this IV add to multiple  $R^2$  after IVs with higher priority have contributed their share to prediction of the DV?” (Tabachnick & Fidell, 2001, p. 142).

In the present research study, the independent variable was included in the first of the two steps as the only main effect, whereas the second step included the moderating variable (openness to experience) in addition to the variable of the first regression. For a variable to act as a moderator, it must display an interaction effect with the independent variable (Chang, 1999).

The last analysis technique to be applied in the present study was Structural Equation Modelling (SEM), which tested the fit of the final proposed structural model<sup>2</sup>. This analysis technique describes the relationships between the latent variables in addition to indicating the amount of variance that is left unexplained (Diamantopoulos & Siquaw, 2000).

As a final note to this section of the present chapter, it should be pointed out that when applying the statistical technique of multiple regression analysis, a number of specific assumptions are made about the nature of the data used in the analyses. Prior to the main

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<sup>2</sup> The original structural model was modified based on the results of the MMR which allowed single-group SEM to be used.

analyses, the data were therefore also screened for normality, multicollinearity, singularity, and homoscedasticity (Tabachnick & Fidell, 2001). For the purposes of transparency, these results are briefly reported in the Results chapter. In order to perform the different statistical analyses of the data in the present study, The Statistical Package for the Social Sciences (SPSS 17.0, 2008) and LISREL 8.80 (Jöreskog & Sörbom, 2006) were used.

### **3.8. Summary**

In chapter 3, the plan and methodology for the research process were explicated. This included a description of the applied research design, formulation of hypotheses, sample design and characteristics, information regarding the measuring instruments, and the way in which data were collected. Finally, an outline of the different statistical techniques used to analyse the data were presented.

In more detail, the literature review in chapter 2 laid the foundation for the development of the hypotheses that would serve as a guide for the following research project. An *ex-post-facto* correlational research design was furthermore applied to describe the relationships between the variables included in the study.

The sample consisted of 311 employees at a South African organisation within the public sector. For the purpose of investigating the proposed relationships between the study variables, a composite questionnaire was distributed to the employees, which included measures of organisational and individual career management, affective organisational commitment, openness to experience, and a number of control variables. The primary analysis techniques applied to test the formulated statistical hypotheses were correlation and moderated multiple regression analyses. Consequently, the results of the data analyses will be presented in chapter 4.

## **CHAPTER FOUR: PRESENTATION OF RESEARCH RESULTS**

### **4.1. Introduction**

A number of statistical techniques were used to determine the relationships between the measures of constructs in the present study. These analysis techniques are accounted for in chapter 3, whereas the results of these analyses are presented in this chapter. Firstly, univariate descriptive statistics will be presented to test certain assumptions underlying multivariate statistical analyses. Secondly, the results of item and dimensionality analysis, as well as CFA of the measurement models, will follow in order to determine the psychometric qualities of the measurement instruments. Thirdly, hypotheses one to five will be tested using Pearson product-moment inter-correlations, whereas moderated multiple regression will be applied in order to test the moderating effects of one of the Big Five personality factors, i.e., openness to experience (hypotheses six to eight). Lastly, the absolute fit of the proposed structural model will be tested using Structural Equation Modelling (SEM).

### **4.2. Descriptive Statistics**

The first step in most statistical analyses involves investigating the nature of the collected data (Field, 2005). Descriptive statistics are used to describe samples of subjects in terms of variables or combinations of variables (Tabachnick & Fidell, 2001). The researchers of the present study initiated the analysis by calculating the univariate descriptive statistics of the variables, including amongst other things, means, medians and frequencies (see Table 4.1). Table 4.2 additionally presents the frequency distributions of the demographic variables (gender and ethnicity) used as control variables in the multiple regression analysis.

Table 4.1

*Analysis of Univariate Descriptives for all Variables*

Descriptive Statistics											
	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
Subscale	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
OCM	296	40	10	50	27.04	9.205	84.727	.187	.142	-.568	.282
ICM	296	59	19	78	51.23	11.099	123.193	-.067	.142	-.224	.282
AC	296	30	5	35	18.97	6.757	45.654	.100	.142	-.046	.282
OTE	296	28	22	50	37.00	5.095	25.963	-.003	.142	-.005	.282
ICM_Int	296	28	7	35	20.42	5.797	33.606	-.096	.142	-.452	.282
ICM_Ext	296	36	9	45	30.81	8.209	67.388	-.235	.142	-.504	.282
Valid N (listwise)	296										

*Note.* OCM – Organisational Career Management, ICM – Individual Career Management, AC- Affective Organisational Commitment, OTE – Openness to Experience, ICM\_Int – Internally Focused ICM, ICM\_Ext – Externally Focused ICM.

Descriptive statistics represent unweighted linear composite total values calculated for each of the variable subscales, where the maximum possible scores for each scale was 50 for the OCM and OTE subscales, 80 for the ICM subscale, 42 for the AC subscale, 35 for the ICM\_Int subscale, and 45 for the ICM\_Ext subscale.

The table presents univariate descriptive for all variables after imputation.

Table 4.2

*Frequency Distributions for Gender and Race across the Sample*

<b>Statistics</b>		
	Frequency	%
<b>Gender</b>		
Male	220	74.3
Female	76	25.7
Total	296	100.0
<b>Ethnicity</b>		
Black	136	45.9
White	84	28.4
Coloured	68	23.0
Indian	8	2.7
Total	296	100.0

As indicated by Table 4.1, the sample responded above the scale mid points on all subscales. Table 4.2 furthermore indicates that the majority of the sample was male (74.3%) and African (45.9%).

In the following sections the results of tests of the various assumptions underlying multivariate statistics are presented.

### **4.3. Assumptions Underlying Multivariate Statistical Analysis**

The objective of research is, in many circumstances, to provide valid inferences from the sample data available to some larger population. One can however not expect that random samples from a population will yield sample values that are exactly equal to the population values. For this purpose, statistical methods have been developed, which make

it possible to determine the confidence with which such inferences can be drawn. The two most commonly used methods of statistical inference imply either the estimation using confidence intervals or null hypotheses testing (Cohen, Cohen, West & Aiken, 2003). The present study made use of the latter in order to test the assumptions underlying multivariate procedures.

Coakes, Steed and Price (2008) argue that the validity of the results are dependent, among other considerations, on different data screening techniques because it assures that data have been correctly entered and that the distributions of the variables that are to be used in the analysis are normal. Tabachnick and Fidell (2001) furthermore suggest that it is essential to test the assumptions underlying multivariate procedures since violation of these can lead to erroneous conclusions. All the assumptions underlying multivariate procedures addressed in the present study are discussed in the following paragraphs. In this regard, a number of issues were attended to in order to assure an honest analysis of the collected data before the main analysis was initiated. These included:

- a) the accuracy of data entered into the data file
- b) missing values
- c) ratio of cases to independent variables
- d) outliers (univariate and multivariate)
- e) normality, linearity and homoscedasticity
- f) multicollinearity and singularity

The critical assumptions and decision-rules that we adopted a priori in testing each assumption will first be discussed, followed by a presentation of the results of our comparison of the present data set to these assumptions.

#### ***4.3.1. Accuracy of Data File and Missing Values***

To assure accuracy of the data file, a random sample of ten percent of cases were selected and the responses from the primary source documents (i.e., questionnaires) were compared to the data entered into the computerised data file. No (0%) coding errors were detected. Furthermore, to screen for possible miscoding, frequency statistics were

requested (using the SPSS FREQUENCY procedure) (SPSS 17.0, 2008) for each of the items and scrutinised in terms of minimum and maximum values, means and standard deviations. No problematic items were identified since all of the items showed values that fell within the possible range of values. Consequently, the data set was deemed acceptable for further scrutiny.

Presence of missing data in the data set was subsequently addressed. Missing data can result in serious problems in data analysis. Its severity depends on the amount of missing data, the reasons for the missing data, and most importantly, the patterns of missing data (Tabachnick & Fidell, 2001). In the present study, missing values presented a minimal problem that had to be addressed before the main analysis could be initiated. For this purpose, analysis of patterns of missing values was first performed in SPSS MVA, a missing values analysis (MVA) application (SPSS 17.0, 2008).

There are a number of different ways to handle missing data. These include, amongst others, deletion of cases or variables with missing values, as well as the estimation (imputation) of missing values (Tabachnick & Fidell, 2001). The appropriateness of each technique to handle missing values depends on various factors (e.g., the amount of missing values and the distribution of missing values across cases and variables) (Tabachnick & Fidell, 2001), which are outside of the scope of the present research. In the present research, cases with many (more than nine) missing values were firstly deleted, followed by imputation by matching to correct for the remaining missing values in the present data set. The procedure of imputation by matching involves substituting missing values with real values where the substitute values are obtained from one or more other cases that have a similar response pattern over a set of matching variables (Jöreskog & Sörbom, 1996). In order to execute the imputation procedure, the data were exported to PRELIS (Jöreskog & Sörbom, 2006) and imputation was carried out using a number of variables, all without any missing values, as matching variables for the imputation procedure.

#### 4.3.2. *Ratio of Cases to Independent Variables*

Determination of sample size is necessary in research in order to achieve adequate statistical power (MacCallum, Browne & Sugawara, 1996). When planning the present study, *a priori* estimation of desired sample size was used to determine the minimum sample size required for adequate statistical power. According to Tabachnick and Fidell (2001) the required sample size depends on a number of different things, including, the desired power, alpha level, number of predictors, and expected effect sizes. However, a simple rule of thumb when calculating the required sample size for the testing of a multiple correlation coefficient is  $N \geq 50 + 8m$  (where  $m$  is the number of independent variables), and  $N \geq 104 + m$  for testing individual predictors in the model. In these equations, the standard conventional alpha level and medium-size relationships between the independent and dependent variables were assumed, i.e.,  $\alpha = .05$  and  $\beta = .20$ . In the present study there were 3 predictors in the intended regression models, resulting in a required sample size of  $N = 74$  for the first equation, and  $N = 107$  for the second. Based on the rule of thumb presented above, the obtained sample size of  $N = 296$  in this study was considered highly satisfactory for achieving adequate statistical power for detecting effects by means of the correlation and regression analyses to be performed. Observed power for each of the analyses is presented in Table 4.23.

#### 4.3.3. *Outliers*

An outlier is a case with such an extreme value on one variable or such a strange combination of scores on two or more variables that it unjustifiably influences statistics obtained from analyses (Tabachnick & Fidell, 2001). Stated differently, an outlier is a score that is very different from the rest and consequently biases the mean and standard deviation (Field, 2005). One can identify two different types of outliers, i.e., univariate and multivariate outliers. Whereas univariate outliers are cases with extreme values on one variable, multivariate outliers are cases with an unusual combination of scores on two or more variables (Tabachnick & Fidell, 2001).

Univariate outliers were detected by visually inspecting boxplots of standardised normal scores ( $z$ -scores) for each variable, where cases with standardised scores in excess of 3.29

(i.e.,  $p < .001$ ) were identified as significant outliers (Field, 2005). To identify multivariate outliers, Mahalanobis distance, which presents the distance of a case from the centroid of the remaining cases where the centroid is the point created at the intersection of the means of all the variables, were investigated. By comparing the distance value against  $p < .001$  and a  $\chi^2$  value for five degrees of freedom (one degree of freedom for each independent variable), multivariate outliers were sought. The critical chi-square for five independent variables, at an alpha level of .001, is 20.515. In other words, any case with a Mahalanobis distance greater than 20.515 is a multivariate outlier (Tabachnick & Fidell, 2001).

#### ***4.3.4. Normality, Linearity and Homoscedasticity***

One of the main assumptions underlying various multivariate statistical procedures is multivariate normality. Multivariate normality is the assumption that each variable, and all linear combinations of the variables, are normally distributed. When this assumption is met, it means that the residuals of analysis are also normally distributed and independent (Tabachnick & Fidell, 2001). Bradley (as cited in Tabachnick & Fidell, 2001) argues that statistical inferences become less and less robust as distributions depart from normality. Bradley elaborates by stating that, even when statistics are used purely descriptively, normality, linearity, and homoscedasticity of variables enhance the analysis, and it is therefore recommended that one improves the normality of variables unless one can find a convincing reason not to do so.

Normality of variables can be assessed by different methods. The present study assessed skewness and kurtosis values, followed by the Kolmogorov-Smirnov test, which tests the null hypothesis that a sample comes from a particular (i.e., normal, in this case) distribution. A significance value of  $p > .05$  indicates a distribution that is not significantly different from a normal distribution, i.e., it is probably normal. If the test, on the other hand, is significant ( $p < .05$ ) it means that the distribution of variables deviates significantly from that of a normal distribution, i.e., it is non-normal. Other characteristics of a normal distribution are that the values for measures of shape, i.e., skewness and kurtosis, are zero (Field, 2005).

When testing for linearity, one tests the assumption that there is a straight-line relationship between two variables (Tabachnick & Fidell, 2001) when a line is fitted to the X and Y-values on a bivariate scatterplot. To verify that such a linear relationship exists between the variables in the present study, all possible bivariate scatterplots were examined by means of visual inspection (Coakes et al., 2008). In this regard, the cloud of data points that is created should take the shape of an ellipse, where the longer axis slopes upwards from left to right, and where the thinner the ellipse, the stronger the degree of linear relationship (Kinnear & Gray, 2000).

The assumption of homoscedasticity for ungrouped data, as in the present case, holds that the variability of scores for one continuous variable is roughly the same at all values of another continuous variable. This assumption is related to that of normality, because when the assumption of multivariate normality is met, the relationships between variables are homoscedastic (Tabachnick & Fidell, 2001). In order to assess linearity and homoscedasticity, bivariate scatterplots for all possible variable pairs were again investigated by means of visual inspection, and no problems were detected.

#### ***4.3.5. Multicollinearity and Singularity***

Multicollinearity and singularity occurs when variables are too highly correlated. Whereas the problem of multicollinearity refers to the fact that variables are very highly correlated (.90), singularity indicates that the variables are perfectly correlated and that one of the variables is a combination of one or more of the other variables. In other words, if variables are multicollinear or singular, they do not contain any additional information that is needed in the analysis, but the correlation matrix rather contains fewer variables than initially expected (Tabachnick & Fidell, 2001). Multicollinearity and singularity can be created by either bivariate or multivariate correlations. If a bivariate correlation is too high, it is indicated in the correlation matrix as a correlation above .90 (Tabachnick & Fidell, 2001). Collinearity diagnostics in form of the tolerance, VIF, eigen-values and condition indices, were in the present study investigated in order to test the assumptions of multicollinearity and singularity. Unless otherwise indicated, it can be

assumed that neither multicollinearity nor singularity were problematic in the respective statistical analyses.

#### **4.4. Data Screening Results**

Based on the guidelines and decision-rules outlined in the preceding section, we confronted our data with a test of adherence to the assumptions underlying the multivariate statistical analysis used in the present study. The results are subsequently reported.

The amount and patterns of missing values, resulting from the SPSS MVA procedure, were firstly investigated in order to determine the seriousness of the missing value problem. The pie charts in Figure 4.1 illustrate that 47 of the 51 variables had at least one missing value on a case. Furthermore, 76 of the 311 cases had at least one missing value on one variable, and 256 (1,6%) of the 15 861 values were missing. In order to correct for these missing values, a number of procedures were followed. Firstly, an acceptance limit of nine missing values for each case was set. All cases with missing values above this limit were deleted from the data set manually. This procedure resulted in 11 deleted cases and a remaining sample size of  $N = 300$ . Secondly, in the sample of 300 cases, four cases were found to have nine missing values each, all within one of two variables (i.e., all on the Openness to Experience scale or the demographic variables). It was, for this reason, decided to also delete these four cases, resulting in a sample size of  $N = 296$ .

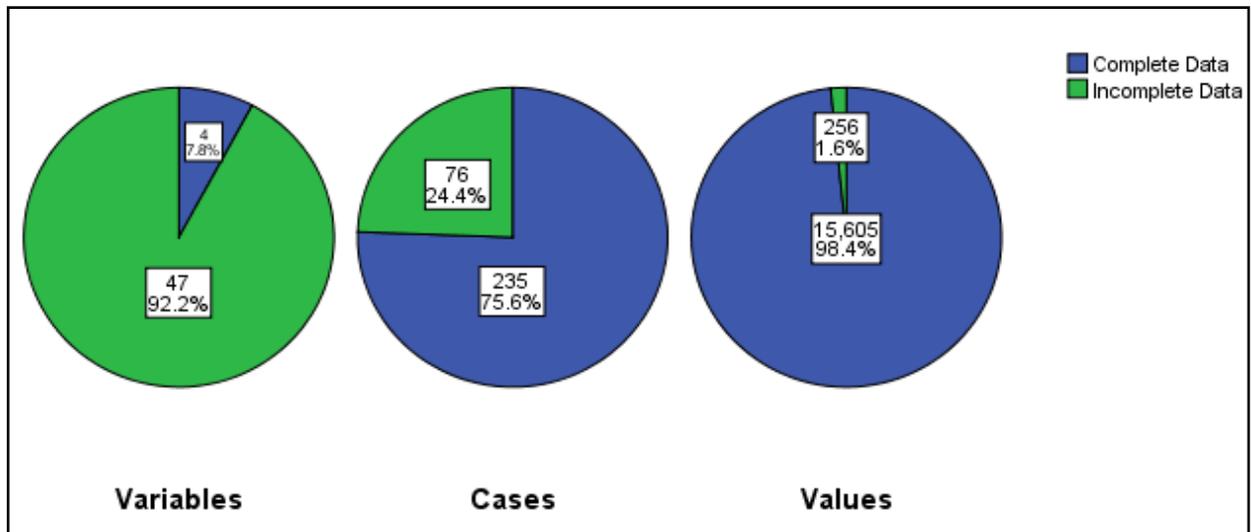


Figure 4.1. Overall Summary of Missing Values.

Thirdly, 10 variables, all without any missing values, were defined in PRELIS (Jöreskog & Sörbom, 2006) as matching variables for the imputation procedure. After the imputation was executed, no additional cases had been deleted due to missing values, and the final sample size consequently comprised of 296 cases with values on all variables.

The data screening procedure (i.e., inspection of bivariate outliers) identified a total of eight cases that were considered as potential outliers. An attempt was made to interpret the collection of outliers for a clear pattern, with no such pattern emerging. None of the outliers were found to have  $z$ -scores in excess of the critical value of 3.29 ( $p < .001$ ) (Tabachnick & Fidell, 2001) and were consequently retained in the data set. No multivariate outliers were identified through Mahalanobis distance (using the critical value of 20.515, i.e., the  $\chi^2$  of  $df = 5$ ), leaving all 296 cases for analysis.

Our second set of analyses involved an investigation of the normality assumption. Examination of the frequencies of the demographic variables indicated poor splits on gender (male: 220 to female: 76) and ethnicity (African: 136 to white: 84 to coloured: 68 to Indian: 8). The poor splits truncate the correlations between the demographic variables in question with other variables, but were still retained for analysis since these variables were considered as potential controls in the regression analysis.

Test of the normality assumptions indicated one normally (individual career management) and three non-normally (i.e.,  $p < .05$ ) (organisational career management, affective organisational commitment, and openness to experience) distributed variables, using the Kolmogorov-Smirnov test. Skewness and kurtosis values for all variables were consequently investigated to confirm these results and to explore the reasons for the few significant Kolmogorov-Smirnov statistics. The results revealed skewness and kurtosis values that deviated slightly from the assumption of normality. However, none of these values were indicated as significant (i.e., no values were found beyond the  $p = .001$  criterion for standardised skewness and kurtosis values of  $z > 3.29$ ).

The affective organisational commitment variable did, however, present a potential problem with the distribution of scores that needed to be investigated further. In addition to the Kolmogorov-Smirnov test, which indicated a non normal distribution ( $p < .05$ ), the histogram for the variable in question identified a cluster of cases at the lower end of the scale, separated from the majority of the other cases. In an attempt to explain this particular cluster, case summaries were subsequently performed on the affective organisational commitment variable and the demographic variables gender, age and ethnicity. The results revealed a small group of young African employees who reported generally lower levels of affective commitment. A consultation with the participating organisation helped the researchers reveal a possible explanation to these idiosyncratic affective commitment scores. It had become evident in this particular organisation that motives for joining the organisation seemed to differ across groups of employees. The specific group of employees indicated in the analysis, i.e., young African employees, to a larger extent than other groups, joined the organisation for instrumental purposes, i.e., for the purpose of fulfilling the specific need of earning a living, and not so much for the emotional meaning of the job. This decision had furthermore resulted in a higher occurrence of voluntary terminations when other opportunities, outside the organisation, made themselves available. These courses of action can in turn be argued to be related to lower levels of affective commitment to the organisation. The information provided by the organisation illustrated a possible reason for the non-normal distribution of the

commitment scores and the decision to retain this variable untransformed was deemed justified, since this cluster of respondents were not deemed as an anomaly.

Based on the above findings that did not indicate severe deviations from the assumptions of normality, it was decided not to perform any transformations to reduce deviations from normality. In support of this decision, it has been suggested statistical analyses such as multiple regression are relatively robust, meaning that moderate deviations from the assumption of normality often result in little error of inferences (Cohen et al., 2003).

In the next step, bivariate scatterplots of all possible combinations of the variables were inspected to test the assumption of linearity and homoscedasticity. No evidence of non-linearity or heteroscedasticity was found. Lastly, collinearity diagnostics were investigated in order to check the assumptions relating to multicollinearity. The results indicated no problems of multicollinearity in terms of neither the tolerance, VIF, eigen-values, nor with the condition indices. In conclusion, the data set was deemed acceptable for the chosen statistical analyses for the present study and the researchers proceeded with item and dimensionality analysis of the measuring instruments.

#### **4.5. Item Analysis**

Reliability refers to the notion that individual items (or sets of items) should produce results consistent with the overall questionnaire. In other words, a scale should consistently reflect the construct that is being measured (Field, 2005). One of the most common ways of measuring reliability is through the use of Cronbach's alpha, which reports the average correlation of items within a test where the items are standardised (Coakes et al., 2008). Field (2005) suggests that a value of .7 to .8 is considered an acceptable value for Cronbach's alpha, whereas values substantially lower indicate an unreliable scale. This value is supported by Nunnally (1978), who emphasises that a minimum of .7 is an acceptable reliability coefficient in most applications of basic research. However, higher values should be used in specific test score applications where the purpose is to use test scores for selection decision making. Based on the above

arguments, the present study will make use of a Cronbach's alpha value of .7 as the criterion for acceptable reliability coefficients.

Item analyses were performed in the present study both before and after imputation on all subscales, by means of the SPSS Reliability Procedure (SPSS 17.0, 2008). This was done for the purpose of identifying and eliminating possible items that were not contributing to an internally consistent description of the latent variables measured by the subscales in question (Anastasi & Urbina, 1997). Reflected items are in the following sections indicated by an r preceding the item name, due to negative coding. Table 4.3 shows a summary of the results of the item analyses performed before and after imputation, and indicates that three of the four main subscales obtained a generally accepted internal consistency coefficient above .7 (Field, 2005). The Internally and Externally Focused Individual Career Management subscales furthermore obtained satisfactory coefficients of .76 and .84 respectively.

Table 4.3

*Reliability of the Subscale Measures*

Scale	Sample after imputation (N = 296)			Sample before imputation			
	Alpha	Mean	Variance	Sample size (n)	Alpha	Mean	Variance
Organisational Career Management	.902	27.04	84.727	285	.906	27.17	86.380
Individual Career Management	.817	51.23	123.193	279	.819	51.38	123.208
Organisational Commitment	.753	23.18	66.828	288	.759	23.07	67.758
Openness to Experience	.667	37.00	25.963	278	.674	37.16	26.228
Internally Focused ICM	.764	20.42	33.606	287	.758	20.50	32.859
Externally Focused ICM	.838	30.81	67.388	287	.837	30.86	66.652

*Note.* ICM – Individual Career Management

The Openness to Experience subscale must, as an exception, be pointed out as somewhat problematic, with an obtained Cronbach's alpha of .67. It is furthermore indicated (in Table 4.3) that the imputation of missing values to a very small extent impaired the internal consistency of the different subscales.

A more detailed presentation of the results of the subscale analyses on the imputed data set are presented in separate sections below and in Tables 4.4 to 4.7. In addition to the interpretation of Cronbach's alpha, a number of guidelines will in these sections be followed in order to determine the acceptability of the different items constituting the subscales, and the decision-making regarding the retention or deletion of individual items. These guidelines imply investigating the strength of inter-item correlations and item-total correlations, as well as looking for extreme item means and changes in standard deviations if items are deleted.

#### ***4.5.1. Organisational Career Management***

The reliability coefficient for the Organisational Career Management subscale revealed a good internal consistency,  $\alpha = .902$ , indicating that approximately 90% of the variance in the items is systematic score variance, whereas the remaining 10% can be ascribed to random error variance. The analysis furthermore indicated that all items appeared to be worthy of retention. In other words, deletion of any of the items did not lead to an increase in alpha and all items correlated with the total subscale to a satisfactory degree (lower  $r = .565$ ). None of the items had extreme means or substantially smaller standard deviations, and all items correlated satisfactory with each other (mean inter-item correlation of .478). The results of the item analysis of the Organisational Career Management subscale are presented in Table 4.4.

Table 4.4

*Reliability Analysis of the Organisational Career Management Subscale*

<b>Item-Total Statistics</b>					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OCM1	23.67	71.078	.565	.537	.898
OCM2	23.93	68.070	.713	.605	.888
OCM3	23.68	71.832	.568	.456	.897
OCM4	24.96	71.433	.612	.440	.895
OCM5	23.97	67.586	.682	.500	.890
OCM6	24.14	69.715	.596	.421	.896
OCM7	24.57	69.894	.670	.511	.891
OCM8	24.51	66.861	.744	.627	.886
OCM9	24.99	68.834	.679	.598	.890
OCM10	24.98	68.477	.710	.648	.888

*Note.* Reliability Coefficients

$N = 296$

N of Items = 10

Alpha = .902

#### **4.5.2. Individual Career Management**

The examination of the items comprising the Individual Career Management subscale indicated a satisfactory Cronbach's alpha for the overall scale ( $\alpha = .817$ ). This reliability coefficient should however be interpreted with some caution, since it is a function of the relatively high number of items comprising the scale (16). Item 7 had a relatively low mean compared to the other items, and the inter-item correlation matrix revealed low correlations for this item with the remainder of the items (higher  $r = .239$ , where the mean inter-item correlation was  $.218$ ). Item 7 furthermore had the lowest corrected item-total correlation ( $.253$ ) and was consequently flagged as a somewhat problematic item.

The nature of the item, i.e., “I have refused to accept a new role because it would not help me develop new skills”, can be argued to slightly deviate from the other items. In the particular sample we used to collect our data, “refuse” is a rather powerful word – in the employment sector of the participating organisation, employees have very little discretion to refuse assignment to new roles - that could have had an impact on the responses given, and consequently also lowered the mean for this item in the specific sample. Although, as depicted in Table 4.5, removal of ICM7 would not lead to an improvement in Cronbach’s alpha, it was nonetheless decided to delete this item.

The reliability coefficient reported above refers to the total Individual Career Management subscale. For the purpose of the present study, where it was hypothesised that various levels of organisational commitment may result in two different types of ICM activities, i.e., internally or externally focused, the ICM subscale was split into two constituent parts. The first factor was named Internally Focused Individual Career Management and comprised of the items ICM1, ICM2, ICM3, ICM4, ICM5, and ICM6. Item analysis of this scale yielded an internal consistency reliability coefficient of .777. All items, except for ICM6, obtained a satisfactory corrected item-total correlation above .4. The deletion of ICM6 would furthermore result in a small increase in alpha (from .777 to .781). It was however decided to retain the item in question for the confirmatory factor analysis.

The second factor, Externally Focused Individual Career Management, comprised of the items ICM8, ICM9, ICM10, ICM11, ICM12, ICM13, ICM14, ICM15, and ICM 16. The Cronbach’s alpha for this scale was reported to be .838, and all of the included items were worthy of retention after having investigated the means, corrected item-total correlation and Cronbach’s alpha after deletion.

Table 4.5

*Reliability Analysis of the Individual Career Management Subscale*

<b>Item-Total Statistics</b>					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
ICM1	48.16	113.015	.304	.398	.814
ICM2	48.49	111.824	.338	.402	.812
ICM3	48.29	110.269	.391	.495	.809
ICM4	48.47	111.667	.351	.344	.812
ICM5	47.81	112.547	.368	.352	.810
ICM6	47.92	110.292	.427	.368	.807
ICM7	49.03	114.935	.253	.167	.817
ICM8	48.19	108.167	.375	.432	.811
ICM9	47.63	107.950	.411	.442	.808
ICM10	47.41	107.442	.496	.457	.802
ICM11	47.76	103.274	.581	.599	.796
ICM12	48.00	107.936	.490	.366	.803
ICM13	47.69	105.252	.593	.586	.796
ICM14	47.85	105.935	.581	.474	.797
ICM15	47.89	111.428	.391	.406	.809
ICM16	47.81	111.587	.385	.380	.809

**Reliability Coefficients**

N of Items = 16

N of Cases = 296

Alpha = .817

#### ***4.5.3. Affective Organisational Commitment***

Through the item analysis for the Affective Organisational Commitment subscale, item AC2 was flagged as somewhat problematic and was therefore considered for deletion. As depicted in Table 4.6, deletion of this item would increase the scale variance substantially. Furthermore, this item reported a poor corrected item-total correlation ( $r = .275$ ) with the scale overall, indicating a poor reflection of the latent variable construct.

Nunnally (1978) indicates that the magnitude of the obtained Cronbach's alpha values is dependent on the number of items comprising a scale; where a small number of items (less than 10) can result in a quite small Cronbach's alpha. Due to the small number of items included in the Affective Organisational Commitment subscale, it was therefore decided to more thoroughly examine the inter-item correlation matrix in order to make a decision regarding item AC2. This matrix revealed relatively low correlations for this particular item in comparison with the other items in the scale (lower  $r = .074$ ). The other five items had at least three or four correlations around or above the mean correlation of .334, whereas AC2 only had two.

The abovementioned findings, in addition to the fact that the deletion of AC2 increased alpha from .753 to .771, were supportive of the decision to delete the item from the Affective Organisational Commitment scale.

Table 4.6

*Reliability Analysis of the Affective Organisational Commitment Subscale*

<b>Item-Total Statistics</b>					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
AC1	19.76	47.600	.510	.351	.712
AC2	19.97	55.111	.275	.155	.771
AC3r	18.80	47.706	.522	.490	.709
AC4r	18.97	46.812	.577	.518	.694
AC5r	18.97	45.654	.598	.475	.687
AC6	19.45	49.326	.478	.343	.721

## Reliability Coefficients

N of Items = 6

N of Cases = 296

Alpha = .753

**4.5.4. Openness to Experience**

The reliability coefficient for the Openness to Experience subscale was reported to be .667, which was a somewhat unsatisfactory result. As indicated in Table 4.7 three items, OTE2r, OTE3, and OTE4r were flagged as problematic due to their corrected item-total correlations (.195, .160, and .210 respectively). Furthermore, Cronbach's alpha would increase if OTE2r and OTE3 were to be removed (an increase of .002 for OTE2r, .016 for OTE3), whereas no changes in the reliability coefficient was indicated for the removal of OTE4r. The three items were deleted one at the time to see changes in reliability, and the best increase was achieved by deletion of all three items. This resulted in a satisfactory increase in Cronbach's alpha from .667 to .699 and it was therefore accepted that the removal of these items was warranted.

Table 4.7

*Reliability Analysis of the Openness to Experience Subscale*

<b>Item-Total Statistics</b>					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OTE1	33.24	21.281	.471	.284	.619
OTE2r	33.40	22.973	.195	.209	.669
OTE3	33.67	22.603	.160	.140	.683
OTE4r	33.71	22.757	.210	.169	.667
OTE5	32.91	22.243	.383	.316	.636
OTE6r	32.90	21.824	.263	.122	.658
OTE7	32.86	21.039	.495	.346	.614
OTE8	34.04	21.446	.324	.191	.644
OTE9	33.29	20.961	.424	.253	.624
OTE10	33.00	20.949	.504	.401	.612

**Reliability Coefficients**

N of Items = 10

N of Cases = 296

Alpha = .667

**4.6. Dimensionality Analysis**

Dimensionality analysis, in form of principal component analysis (PCA) or factor analysis (FA), is performed with the objective of identifying which variables form coherent subsets that are relatively independent of one another (Tabachnick & Fidell, 2001). A large number of variables can in this way be grouped into smaller numbers of underlying factors that summarise the essential information contained in the variables (Coakes et al., 2008). Two types of FA can be identified: exploratory and confirmatory. In exploratory factor analysis (EFA) the objective is to describe and summarise data by grouping together variables that are correlated, whereas one in confirmatory factor analysis (CFA) carefully chooses specific variables to test a theory

about latent processes or investigate differences in latent processes between groups of subjects (Tabachnick & Fidell, 2001).

Poor items that were detected in the item analyses were removed before the dimensionality analysis were initiated in the present study. Thereafter, confirmatory factor analyses were performed on all subscales including all items remaining from the reliability analysis. The initial CFA results can be found in Appendix D, whereas the modified measurement models are presented in separate sections below. All measurement models are presented as standardised solutions.

For the purpose of testing the assumption that each of the subscales included in the questionnaire reflected an underlying uni-dimensional latent variable, principal axis factoring with Varimax rotation was performed by means of SPSS FACTOR (SPSS 17.0, 2008). According to Tabachnick and Fidell (2001) factor loadings of .30 and above should be interpreted, where the greater the loading, the more the variable is a pure measure of the factor. Factor loadings were in this regard investigated and items with insufficient factor loadings ( $< .30$ ) were consequently removed. The eigenvalue-greater-than-unity rule of thumb was furthermore used to identify heterogeneous subscales and the number of factors to be extracted. However, in our case, where the only heterogeneous subscale were hypothesised to be so from the beginning (i.e., the Individual Career Management scale), it was split accordingly with oblique rotation (assuming that the factors themselves were correlated) (Tabachnick & Fidell, 2001). In all cases, when eigenvalues were considered, we also scrutinized the respective scree plots for confirmation of the number of factors. Unless indicated, it can be accepted that the scree plot results confirmed the greater than unity rule results.

Confirmatory factor analyses were subsequently performed in LISREL 8.80 (Jöreskog & Sörbom, 2006) on all subscales in order to test the hypothesised measurement models, using the items that remained after poor items were culled resulting from the EFA. The purpose of assessing a model's fit is, according to

Diamantopoulos and Siguaw (2000), “to determine the degree to which the model *as a whole* is consistent with the empirical data at hand” (p. 80). The number of different fit indices is many and one should consult more than one when reaching a judgement concerning the fit of a measurement model. However, no established rule exists regarding which indices to consider, but it is suggested that a combination of the Chi-square test, RMSEA, ECVI, standardised RMR, GFI and CFI indices should be more than sufficient to reach an informed decision (Diamantopoulos & Siguaw, 2000). In order to make decisions regarding the fit of the measurement models included in the present study, the Satorra-Bentler Scaled Chi-square statistics, Root Mean Square Error of Approximation (RMSEA), the Root Mean Square Residual (RMR), and the absolute fit indices Goodness-of-Fit Index (GFI) and Adjusted Goodness-of-Fit Index (AGFI) were interpreted.

The Chi-square statistic is a traditional measure which provides a test of perfect fit where the null hypothesis states that the model fits the population data perfectly. A statistically significant Chi-square leads to the rejection of the null hypothesis and implies an imperfect model fit. The aim is consequently *not* to reject  $H_0$ , in contrast to other conventional hypothesis testing procedures (Diamantopoulos & Siguaw, 2000). In other words, when interpreting the statistical significance of Chi-square we do not want the  $p$ -value for the  $\chi^2$  test to be small (statistically significant). We rather want a small  $\chi^2$ -value and a corresponding large  $p$ -value if the test is to support our theory (Hair, Black, Babin, Anderson & Tatham, 2006).

The RMSEA expresses the difference between the observed and estimated sample covariance matrices, where RMSEA values below .05 indicate a good fit and  $RMSEA < .08$  a reasonably good fit. RMSEA values between .08 and 0.1 indicate a mediocre fit and  $> .10$  a poor fit (Diamantopoulos & Siguaw, 2000). The RMSEA is therefore rather a badness-of-fit index in contrast to other indices where high values indicate a better fit (Hair et al., 2006).

The RMR represents a summary measure of fitted residuals. Standardised residuals are often interpreted to avoid problems relating to un-standardised residuals which may vary with the unit of measurement. A standardised RMR with values below .05 are indicative of an acceptable fit (Diamantopoulos & Siguaw, 2000).

Absolute fit indices are indications of how well the model specified by the researcher reproduces the observed data (Hair et al., 2006). Whereas the GFI is an indicator of the relevant amount of variances and covariances accounted for by the model, the AGFI is the GFI adjusted for the degrees of freedom in the model. GFI and AGFI values should range between 0 and 1 where higher values ( $> .90$ ) indicate a good fit to the data (Diamantopoulos & Siguaw, 2000).

Interpretations of the EFA and CFA for all subscales included in the questionnaire are presented in separate sections below.

#### ***4.6.1. Organisational Career Management***

The first scale that was subjected to EFA and CFA was the Organisational Career Management (OCM) subscale. It was suggested earlier (in section 3.5.1.) that the OCM subscale should be split into two underlying components of OCM, i.e., formal and informal organisational career management activities. According to the theoretical model of Sturges et al., (2002), these two components of OCM are inter-correlated ( $r = .63$  in time 1, and  $.62$  in time 2), and principal axis factoring with oblique rotation was therefore in the present study carried out on all the items of the OCM scale in question. The result of the analysis supported this decision by indicating a two-factor structure of this construct in terms of the eigenvalue-greater-than-unity rule. One of these two factors explained 53% of the variance in the items comprising the Organisational Career Management subscale, whereas the other factor explained an addition of 13%.

As indicated in Table 4.8 all items had satisfactory loadings on one of the two factors ( $.506 < \lambda < .903$ ). However, item OCM4 did not load on the initially suggested factor Formal Organisational Career Management. The content of this item was therefore

investigated in order to find an explanation for the unexpected factor loading. Item OCM4 regards personal development plans, and during a meeting with the contact person of the participating organisation, it was made clear to the researchers that personal development plans do not form part of the organisation's career management activities and would, naturally, be mostly unfamiliar to the respondents, which can explain the result from the dimensionality analysis. Based on the discussion above it was decided to delete item OCM4 before CFA was performed.

Table 4.8

*Principal Component Loadings for the Organisational Career Management Dimensions*

	Factor	
	Informal	Formal
OCM1	-.089	.853
OCM2	.166	.726
OCM3	-.003	.738
OCM4	.589	.110
OCM5	.305	.511
OCM6	.506	.176
OCM7	.727	.030
OCM8	.740	.113
OCM9	.891	-.119
OCM10	.903	-.093

Extraction Method: Principal Axis

Factoring.

Rotation Method: Oblimin with Kaiser

Normalization.

a. Rotation converged in 5 iterations.

The fit indices from the confirmatory factor analysis on the Organisational Career Management subscale can be found in Table 4.9. The RMSEA for this scale, comprising of the two factors Formal and Informal OCM, indicated a reasonable fit of the measurement model (RMSEA = .075). The Satorra-Bentler Scaled  $\chi^2$ -value of 69.26, with 26 degrees of freedom, however indicated a highly significant result ( $p < .01$ ), implying that our model is not adequate. The RMR and standardised RMR were furthermore reported to be .098 and 0.059 respectively. Since both values exceeded the critical value of .05 it raises further doubts regarding the model's fit. Lastly, the absolute fit indices GFI and AGFI (.94 and .90 respectively) both indicated a good fit and were not as negative as that highlighted by the Chi-square and standardised RMR.

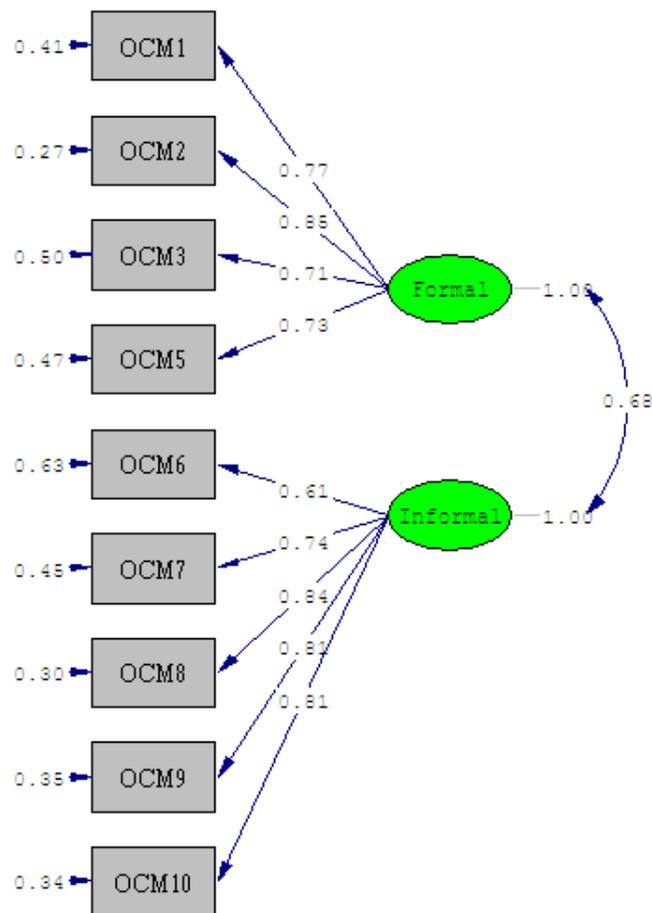
After having interpreted all the fit indices, it can be concluded that the organisational career management measurement model fit the data reasonably well, but not perfectly. The final organisational career management measurement model is depicted in Figure 4.2. In the present study, we summed the items for both the formal and informal dimensions of OCM into one scale total score, thereby implying that they measure a single underlying variable. Since we wanted a general indicator of someone's impression of organisational career management activities, we considered adding items linearly (unweighted) to be acceptable, although the EFA did not show strong support for a single underlying factor. Furthermore, the CFA on the initial OCM measurement model provided some support for adding items linearly by indicating that all items loaded on the latent variable (see Appendix D).

Table 4.9

*Fit Indices for the Organisational Career Management Measurement Model*

Degrees of Freedom	26
Minimum Fit Function Chi-Square	86.79 (P = 0.00)
Normal Theory Weighted Least Squares Chi-Square	82.15 (P = 0.00)
Satorra-Bentler Scaled Chi-Square	69.26 (P = 0.00)
Chi-Square Corrected for Non-Normality	86.89 (P = 0.00)
Estimated Non-centrality Parameter (NCP)	43.26
90 Percent Confidence Interval for NCP	(22.32 ; 71.86)
Minimum Fit Function Value	0.29

Population Discrepancy Function Value (F0)	0.15
90 Percent Confidence Interval for F0	(0.076 ; 0.24)
Root Mean Square Error of Approximation (RMSEA)	0.075
90 Percent Confidence Interval for RMSEA	(0.054 ; 0.097)
P-Value for Test of Close Fit (RMSEA < 0.05)	0.027
Expected Cross-Validation Index (ECVI)	0.36
90 Percent Confidence Interval for ECVI	(0.29 ; 0.46)
ECVI for Saturated Model	0.31
ECVI for Independence Model	8.94
Chi-Square for Independence Model with 36 Degrees of Freedom	2619.86
Independence AIC	2637.86
Model AIC	107.26
Saturated AIC	90.00
Independence CAIC	2680.07
Model CAIC	196.37
Saturated CAIC	301.07
Normed Fit Index (NFI)	0.97
Non-Normed Fit Index (NNFI)	0.98
Parsimony Normed Fit Index (PNFI)	0.70
Comparative Fit Index (CFI)	0.98
Incremental Fit Index (IFI)	0.98
Relative Fit Index (RFI)	0.96
Critical N (CN)	195.42
Root Mean Square Residual (RMR)	0.098
Standardized RMR	0.059
Goodness of Fit Index (GFI)	0.94
Adjusted Goodness of Fit Index (AGFI)	0.90
Parsimony Goodness of Fit Index (PGFI)	0.54



Chi-Square=69.26, df=26, P-value=0.00001, RMSEA=0.075

Figure 4.2: Organisational Career Management Measurement Model.

#### 4.6.2. Individual Career Management

Four factors were, based on their obtained eigenvalues, extracted in the initial EFA for the Individual Career Management subscale. In the present study, we selected relevant portions of Sturges' et al. (2002) theoretical model that were of importance for our research questions. Only two factors of ICM were in this regard of interest (i.e., internally and externally focused ICM), so the researchers forced the extraction of two factors through oblique rotation. Since all factor loadings were above the critical value of .3 (see Table 4.10) CFA was performed on the measurement model containing all 15 items remaining from the item analysis. The results in the form of the RMSEA however indicated a mediocre fit (.088) and it was therefore decided to scrutinise the EFA results again in order to investigate the different loadings in more detail. This

investigation indicated that items ICM6, ICM15 and ICM16 loaded slightly lower on their suggested factor than the remaining items did (.345, .422, and .382 respectively, whereas  $.518 < \lambda < .828$  for the remaining items). After having investigated the nature of the items ICM15 and ICM16 it was not sufficiently clear if these were characterising internally or externally oriented ICM activities, and it was consequently decided to remove them. Item 6 was also deleted because of its rather low loadings on both two factors (.263 and .345).

Table 4.10

*Principal Component Loadings for the Individual Career Management Dimensions*

	<b>Factor</b>	
	Externally focused	Internally focused
ICM1	-.072	.643
ICM2	-.012	.637
ICM3	-.052	.809
ICM4	-.016	.639
ICM5	.109	.500
ICM6	.263	.345
ICM8	.587	-.181
ICM9	.639	-.170
ICM10	.583	.092
ICM11	.828	-.085
ICM12	.518	.148
ICM13	.796	-.037
ICM14	.675	.092
ICM15	.422	.072

ICM16                    .382                    .121

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser

Normalization.

a. Rotation converged in 4 iterations.

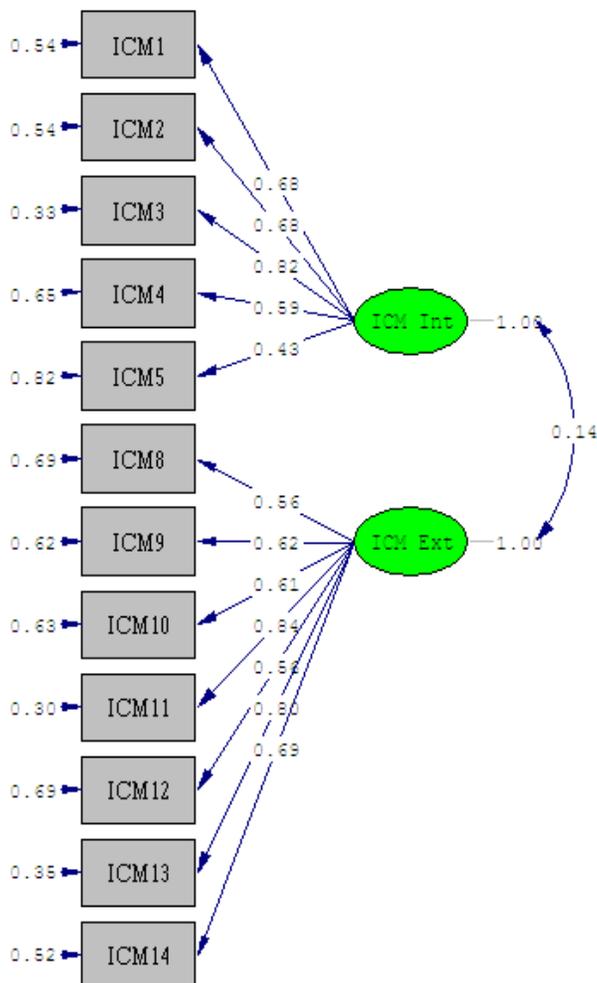
CFA was thereafter performed again with the remaining 12 items and the results are indicated in Table 4.11. The highly significant ( $p < .01$ ) result of the Satorra-Bentler  $\chi^2 = 132.11$ , and the high value of the standardised RMR (.0696) indicate, similarly to the responding values for the Organisational Career Management subscale, an inadequate fit of the model. The RMSEA value of .071 however represents a reasonably good fit together with the GFI index of .91. The results of the individual career management measurement model fit analysis can be found in Figure 4.3.

Table 4.11

*Fit indices for the individual Career Management Measurement Model*

Degrees of Freedom	53
Minimum Fit Function Chi-Square	159.75 (P = 0.00)
Normal Theory Weighted Least Squares Chi-Square	166.71 (P = 0.00)
Satorra-Bentler Scaled Chi-Square	132.11 (P = 0.00)
Chi-Square Corrected for Non-Normality	148.40 (P = 0.00)
Estimated Non-centrality Parameter (NCP)	79.11
90 Percent Confidence Interval for NCP	(49.08 ; 116.83)
Minimum Fit Function Value	0.54
Population Discrepancy Function Value (F0)	0.27
90 Percent Confidence Interval for F0	(0.17 ; 0.40)
Root Mean Square Error of Approximation (RMSEA)	0.071
90 Percent Confidence Interval for RMSEA	(0.056 ; 0.086)
P-Value for Test of Close Fit (RMSEA < 0.05)	0.012
Expected Cross-Validation Index (ECVI)	0.62
90 Percent Confidence Interval for ECVI	(0.52 ; 0.75)
ECVI for Saturated Model	0.53
ECVI for Independence Model	6.65
Chi-Square for Independence Model with 36 Degrees of Freedom	1938.54
Independence AIC	1962.54

Model AIC	182.11
Saturated AIC	156.00
Independence CAIC	2018.82
Model CAIC	299.37
Saturated CAIC	521.85
Normed Fit Index (NFI)	0.93
Non-Normed Fit Index (NNFI)	0.95
Parsimony Normed Fit Index (PNFI)	0.75
Comparative Fit Index (CFI)	0.96
Incremental Fit Index (IFI)	0.96
Relative Fit Index (RFI)	0.92
Critical N (CN)	179.29
Root Mean Square Residual (RMR)	0.13
Standardized RMR	0.069
Goodness of Fit Index (GFI)	0.91
Adjusted Goodness of Fit Index (AGFI)	0.87
Parsimony Goodness of Fit Index (PGFI)	0.62



Chi-Square=132.11, df=53, P-value=0.00000, RMSEA=0.071

Figure 4.3: Individual Career Management Measurement Model.

#### 4.6.3. Affective Organisational Commitment

The results from the principal axis factoring with Varimax rotation on the Affective Organisational Commitment subscale indicated that two factors could be extracted (based on the eigenvalue-greater-than-unity rule). However, whereas it was rather clear that one of these factors should be extracted (eigenvalue of 2.645), the other factor obtained an eigenvalue just above 1 (1.141). Since no reasonable argument could be found for dividing the five items into two different latent variables, the assumption on a single latent variable underlying the items comprising the Affective Organisational Career Management scale thus seemed reasonable. The factor loadings revealed two items (AC1 and AC6) with substantially lower loadings on one of the factors than the

remaining three items (see). These items were the only two items that were not reverse coded which can explain why they loaded on a second factor. It was consequently decided to delete these two items before performing the CFA in LISREL.

Table 4.12

*Principal Component Loadings for the Affective Organisational Commitment Subscale*

	Factor	
	1	2
AC1	.216	.629
AC3r	.796	.119
AC4r	.800	.182
AC5r	.694	.299
AC6	.128	.792

Extraction Method: Principal Axis

Factoring.

Rotation Method: Varimax with

Kaiser Normalization.

a. Rotation converged in 3 iterations.

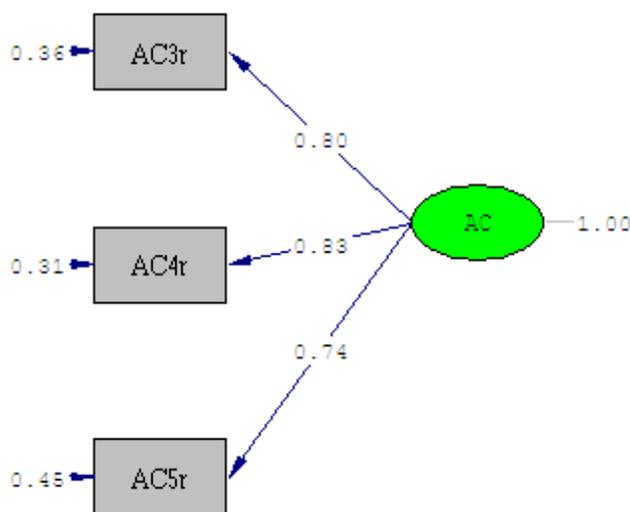
As indicated in Table 4.13 and Figure 4.4, the CFA indicated a saturated model and a perfect fit for the affective organisational commitment measurement model. According to Hair et al. (2006), a three-item indicator model is just-identified (*saturated*), meaning it includes just enough degrees of freedom to estimate all free parameters. All of the information is used, which means that the CFA analysis will reproduce the sample covariance matrix identically, therefore, leading to just-identified models having perfect fit. The resulting chi-square goodness-of-fit statistic is also 0. Hair et al. (2006) furthermore argues that, even though just-identified models are not especially interesting since their fit is determined by the circumstance, when specifying the number of

indicators per construct, having three indicators per construct is acceptable, particularly when other constructs have more than three.

Table 4.13

*Fit Indices for the Affective Organisational Commitment Measurement Model*

Degrees of Freedom	0
Minimum Fit Function Chi-Square	0.00 (P = 1.00)
Normal Theory Weighted Least Squares Chi-Square	0.00 (P = 1.00)
Satorra-Bentler Scaled Chi-Square	0.0 (P = 1.00)



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

Figure 4.4: Affective Organisational Commitment Measurement Model.

#### 4.6.4. Openness to Experience

The Openness to Experience subscale was first evaluated in SPSS by means of principal axis factoring and Varimax rotation. The extraction of one single factor was forced and the result revealed satisfactory factor loadings for all items except item OTE6r, which loaded below the critical limit of .3 (see Table 4.14) (Tabachnick & Fidell, 2001). This item was also the only reverse coded item in the scale and it was decided to delete the item before CFA was performed. The CFA on the remaining six items resulted in an

inadequate fit of the measurement model (RMSEA = 0.1) and it was therefore decided to also remove the item with the second lowest factor loading, i.e., item OTE8 ( $\lambda = .423$ ). After having interpreted the fit indices reported for the measurement model containing five items (see Table 4.15), the fit was still mediocre to poor according to some of the fit indices (Satorra-Bentler  $\chi^2 = 15.70$ ,  $p < .01$ , and RMSEA = 0.085). However, looking at the standardised RMR (.044), the GFI (.97), and the AGFI (.92), these values indicate an acceptable fit of the measurement model. Also keeping in mind that, traditionally, it is proven difficult for personality measures to meet conventional goodness-of-fit criteria in confirmatory factor analysis (Church & Burke, 1994), the results above were not considered too alarming. Church and Burke (1994) argue that it may be the limited simple structure of personality measures and the personality domain itself, as well as limitations of confirmatory factor analysis for testing personality structure models, that causes these problems. The final measurement model for the Openness to Experience subscale is depicted in Figure 4.5.

Table 4.14

*Principal Component Loadings for the Openness to Experience Subscale*

	Factor
	1
OTE1	.538
OTE5	.581
OTE6r	.230
OTE7	.664
OTE8	.423
OTE9	.498
OTE10	.701

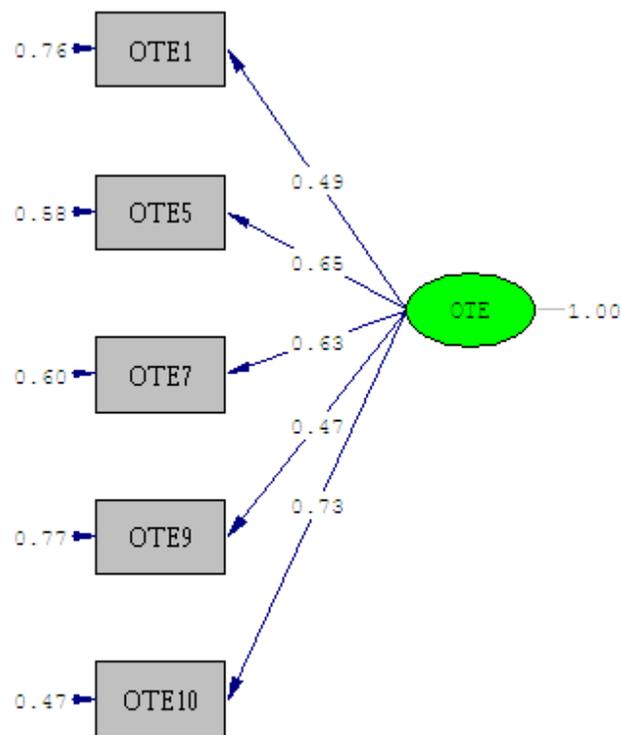
Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 6 iterations required.

Table 4.15

*Fit Indices for the Openness to Experience Measurement Model*

Degrees of Freedom	5
Minimum Fit Function Chi-Square	22.03 (P = 0.00052)
Normal Theory Weighted Least Squares Chi-Square	21.35 (P = 0.00069)
Satorra-Bentler Scaled Chi-Square	15.70 (P = 0.0077)
Chi-Square Corrected for Non-Normality	20.24 (P = 0.0011)
Estimated Non-centrality Parameter (NCP)	10.70
90 Percent Confidence Interval for NCP	(2.33 ; 26.66)
Minimum Fit Function Value	0.075
Population Discrepancy Function Value (F0)	0.036
90 Percent Confidence Interval for F0	(0.0079 ; 0.090)
Root Mean Square Error of Approximation (RMSEA)	0.085
90 Percent Confidence Interval for RMSEA	(0.040 ; 0.13)
P-Value for Test of Close Fit (RMSEA < 0.05)	0.093
Expected Cross-Validation Index (ECVI)	0.12
90 Percent Confidence Interval for ECVI	(0.093 ; 0.18)
ECVI for Saturated Model	0.10
ECVI for Independence Model	1.37
Chi-Square for Independence Model with 36 Degrees of Freedom	393.57
Independence AIC	403.57
Model AIC	35.70
Saturated AIC	30.00
Independence CAIC	427.02
Model CAIC	82.61
Saturated CAIC	100.36
Normed Fit Index (NFI)	0.96
Non-Normed Fit Index (NNFI)	0.94
Parsimony Normed Fit Index (PNFI)	0.48
Comparative Fit Index (CFI)	0.97
Incremental Fit Index (IFI)	0.97
Relative Fit Index (RFI)	0.92
Critical N (CN)	284.43
Root Mean Square Residual (RMR)	0.038
Standardized RMR	0.044
Goodness of Fit Index (GFI)	0.97
Adjusted Goodness of Fit Index (AGFI)	0.92
Parsimony Goodness of Fit Index (PGFI)	0.32



Chi-Square=15.70, df=5, P-value=0.00774, RMSEA=0.085

Figure 4.5: Openness to Experience Measurement Model.

#### 4.7. Results

The data screening presented above resulted in a data set that met the assumptions underlying statistical analyses, and subscale total scores were subsequently created for each variable by computing unweighted linear composite scores for each scales. The next step was to test the hypotheses formulated in chapter 3 using correlational and regression analyses techniques. Correlational analysis was in this regard used to measure associations between variables, whereas regression, and more specifically hierarchical moderated multiple regression, was applied in order to predict one variable from other variables (Tabachnick & Fidell, 2001).

Before the main analysis was initiated, the issue regarding mean-centering of variables – which can be described as a procedure where the mean is subtracted from a variable, leaving deviation scores (Jaccard, Wan & Turrisi, 1990) - in moderated multiple regression was addressed. It is argued that the study of moderators, where raw scores  $X$  and  $Y$  and their product are used as predictors, tend to result in multicollinearity, and consequently implies difficulties in interpreting the regression coefficient (Cronbach, 1987). As a result of this proposition, earlier views have encouraged centering as a possible solution to the multicollinearity problem (Aiken & West, 1991; Jaccard, Wan & Turrisi, 1990), and it is suggested that such a procedure will yield desired low correlations between the product term and the component parts of the term (Cronbach, 1987).

More recently, however, these views have been questioned. Echambadi and Hess (2007) presented evidence that the collinearity problem in moderated regression remained unchanged by mean-centering. Their study furthermore indicated that centering neither changed the computational precision of parameters, the sampling accuracy of main effects, simple effects, interaction effects, nor the  $R^2$ . These findings are supported by results from other studies, which indicated that mean centering had no effect at all on multicollinearity (Gatignon & Vosgerau, 2006; Kromrey & Foster-Johnson, 1998). In their study, Gatignon and Vosgerau (2006) sought to explain why mean-centering is a myth that does not help in better identifying moderator effects. The Monte Carlo simulation design was applied in order to investigate whether the introduction of a moderating term in the estimation model influences the likelihood of finding a significant constant and moderating effect. Data with and without moderating effects were for this purpose generated, which made it possible to compare the likelihood of finding a significant interaction when in fact there is none, with the likelihood of finding a significant interaction when there is one. The results of the study revealed that the model-inherent multicollinearity had very little effect on moderating or interaction estimates. However, it did have very strong effects on the ability to detect constant effects.

Even though Cohen et al. (2003) recommend that continuous predictors should be centered in almost every case, they also admit that doing so has no effect on the estimate of the highest order interaction in the regression equation. Consequently, since the primary concern in our study was to interpreting the interaction effect, and not the main effect, not centering the variable was considered legitimate.

Based on the above arguments, it was in the present research decided not to perform mean-centering of variables in advance of the moderated multiple regression analysis. However, as a control, we decided to conduct the analyses with using centered data too, which supported our decision not to conduct mean centering.

#### ***4.7.1. Inter-Correlations***

The first objective of the study was to determine whether relationships exist between the constructs OCM, Internally Focused ICM, Externally Focused ICM, and Affective Organisational Commitment. The Pearson product-moment correlation coefficient,  $r$ , is, according to Tabachnick and Fidell (2001), the most frequently used measure of association and expresses the average cross product of standardised  $X$  and  $Y$  variable scores. The value of  $r$  can range between -1.00 and +1.00 where a correlation coefficient of .00 indicates no relationship or predictability between the  $X$  and  $Y$  variables. Whereas the correlation represents the measure of size and direction of the relationship, the squared correlation is the measure of strength of association between them.

The convention proposed by Cohen (1988), and depicted in Table 4.16, was in the present study used to interpret the magnitude of the correlation coefficients. Cronbach (1984) however emphasises that the decision regarding whether a validity coefficient is large enough is highly arbitrary and depends on, amongst other things, the costs of the testing and the benefits obtained of making predictions. The author continues to argue that, in applied research, it is unusual to obtain a validity coefficient that rises above .60, and that a validity of .2 may in fact make a substantial practical contribution in some applications, like personnel selection.

Table 4.16

*Cohen's Interpretation of the Magnitude of Significant r*

<b>Correlation</b>	<b>Negative</b>	<b>Positive</b>
Small	-0.3 to -0.1	0.1 to 0.3
Medium	-0.5 to -0.3	0.3 to 0.5
Large	-1.0 to -0.5	0.5 to 1.0

(Cohen, 1988)

The non-experimental nature of the research design applied in the present study, i.e. ex-post facto research design, precluded the researchers to make any inferences about causality between independent and dependent variables. An identified systematic difference in a dependent variable associated with levels of an independent variable could therefore only indicate an existing relationship between the two variables, whilst the cause of the relationship remained unclear (Tabachnick & Fidell, 2001).

Hypotheses one to five are tested in the paragraphs below by firstly interpreting the Pearson product-moment correlation coefficients (one-tailed) in the correlation-matrix presented in Table 4.18. Secondly, the significance level of the correlation coefficients is investigated in order to determine the probability of the correlations being genuine and not due to chance. Lastly, the squared correlation coefficients,  $r^2$ , which indicates how much of the variability in one variable is explained by the other, will be interpreted. Descriptive statistics for all the subscales is presented in Table 4.17.

Table 4.17

*Descriptive Statistics for All Variables*

	Statistics										
	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
OCM	296	36	9	45	24.96	8.452	71.433	.133	.142	-.627	.282
AC	296	18	3	21	12.81	5.322	28.319	-.253	.142	-.796	.282
OTE	296	17	8	25	19.71	3.158	9.971	-.710	.142	.962	.282
Internally Focused ICM	296	20	5	25	14.91	4.757	22.632	-.130	.142	-.711	.282
Externally Focused ICM	296	28	7	35	24.05	7.113	50.594	-.265	.142	-.780	.282

*Note.* OCM – Organisational career management, ICM – Individual career management, AC- Affective organisational commitment, OTE – Openness to experience.

The table presents descriptive statistics for all variables after deletion of poor items.

*N* = 296

Table 4.18

*Descriptive Statistics and Intercorrelations of Study Variables*

Variable	M	SD	1.	2.	3.	4.	5.
1. Organisational Career Management (OCM)	24.96	8.452					
2. Affective Organisational Commitment (AC)	12.81	5.322	.194**				
3. Openness to Experience (OTE)	19.71	3.158	.020	-.028			
4. Internally Focused Individual Career Management ICM-I	14.91	4.757	.292**	.220**	.164**		
5. Externally Focused Individual Career Management ICM-E	24.05	7.113	-.191**	-.310**	.190**	.141**	

Note.  $N = 296$ . \*\* Correlation is significant at the 0.01 level (1-tailed).

#### **4.7.1.1. *The Relationship between Organisational Career Management and Internally Focused Individual Career Management***

Hypothesis one postulated that the experience of career management help from one's employer is correlated with the practice of internally focused ICM activities. In other words, there is a positive linear relationship between organisational career management and internally focused individual career management. As indicated in Table 4.18 a positive and significant relationship, approaching medium strength ( $r = .292$ ;  $p$  (one tailed)  $< .01$ ), between the two variables was found. Furthermore, approximately 8,5% ( $r^2 = 0.085$ ) of the variance in the internally focused ICM measure can be explained in terms of the variance in the OCM measure.  $H_{01}$  can consequently be rejected in favour of  $H_{a1}$ , thus confirming hypothesis one.

#### **4.7.1.2. *The Relationship between Organisational Career Management and Externally Focused Individual Career Management***

According to hypothesis two, organisational career management help is likely to be negatively related to employees practicing more externally oriented ICM. The results from the correlational analysis supported this hypothesis in terms of the Pearson product-moment correlation coefficient,  $r = -.191$ , and  $p$  (one tailed)  $< .01$  (see Table 4.18). This finding is consistent with the literature study, suggesting that organisations that do not actively support their employees' career development increase

the probabilities of employees engaging in individual career management activities with the aim of continuing their career outside their present organisation. Consequently  $H_{02}$  can be rejected in favour of  $H_{a2}$ , thus confirming hypothesis two.

#### **4.7.1.3. *The Relationship between Organisational Career Management and Affective Organisational Commitment***

Hypothesis three states that organisational career management has a positive linear relationship with affective organisational commitment. As seen in Table 4.18, the results indicate a small positive, yet significant, correlation between the two variables ( $r = .194$ ;  $p$  (one tailed)  $< .01$ ). Thus, employees indicating a high extent of experienced career management activities from their employer reported higher levels of affective commitment. The results furthermore indicate that approximately 3,7% of the variance in the affective organisational commitment measure can be explained by the variance in the organisational career management measure.  $H_{03}$  was, based on the above findings, rejected in favour of  $H_{a3}$ , confirming the hypothesised relationship. This result is consistent with the literature, which suggests that benefits and opportunities offered in form of organisational support for career development, result in employees' reciprocation of affective commitment to the organisation (Tansky & Cohen, 2001).

#### **4.7.1.4. *The Relationship between Affective Organisational Commitment and Internally Focused Individual Career Management***

As expected, the results of the correlational analysis presented in Table 4.18 revealed that there is a positive and statistically significant relationship between affective organisational commitment and internally focused individual career management, although relatively small in strength ( $r = .220$ ;  $p$  (one tailed)  $< .01$ ). The alternative hypothesis  $H_{a4}$ , suggesting that higher levels of affective organisational commitment will be related to employees practicing more internally focused ICM, was therefore supported, whereas  $H_{04}$  had to be rejected. This finding consequently supports the proposition suggested by the arguments in the literature study.

#### **4.7.1.5. *The Relationship between Organisational Commitment and Externally Focused Individual Career Management***

As proposed by hypothesis five, lower levels of organisational commitment is expected to correlate with employees practicing more externally focused ICM. In other words, a negative relationship between the two variables is expected. As seen in Table 4.18, there is a medium strength negative and significant relationship between affective organisational commitment and externally focused ICM ( $r = -.310$ ;  $p$  (one tailed)  $< .01$ ). This implies that approximately 9,6% of the variance in the externally focused ICM measure can be explained by the variance in the affective organisational commitment measure.  $H_{05}$  was consequently rejected in favour of  $H_{a5}$ . This finding was consistent with the literature stating that lower levels of affective organisational commitment is expected to result in employees practicing more ICM activities aiming at further the career outside the organisation (Sturges et al., 2001).

#### **4.7.1.6. *Additional Correlations Indicated by the Data Analysis***

During the analysis, a number of significant correlations appeared in the correlation matrix (Table 4.18) that had not been hypothesised in chapter 2. These relationships were found between internally and externally focused ICM, as well as between both these variables and the openness to experience variable. All three correlations were small and positive, though highly statistically significant, ranging from  $r = .141$  to  $r = .190$ , and  $p$  (one tailed)  $< .01$ . The literature study performed in advance of the statistical analyses presented no logical reason for observed relationship between internally and externally focused ICM. However, the indicated correlations between openness and these two dimensions of ICM were included in the structural model presented in section 4.5.4. These correlations were furthermore kept in mind when the results of the analyses were discussed in chapter 5.

#### 4.7.2. Regression Results

The second objective of the study was to investigate whether the personality trait openness to experience could function as a moderator to the relationship between career management (individual and organisational) and organisational commitment. In other words, the researchers wanted to investigate whether openness acted as a moderator in various regression models involving career management and commitment.

When performing moderated multiple regression, two least square regression equations are compared (Cohen & Cohen, 1983). The first equation includes the dependent variable  $Y$ , a predictor  $X$  and a second predictor  $Z$ , hypothesised to be a moderator:

$$Y = a + b_1X + b_2Z + e$$

where

$a$  = the least-squares estimate of the intercept

$b_1$  = the least-squares estimate of the population regression coefficient  $X$

$b_2$  = the least-squares estimate of the population regression coefficient for  $Z$ , and

$e$  = a residual term.

The second equation is developed by creating a new variable, i.e., the interaction term between the predictors ( $X * Z$ ). Hence, the following equation is formed:

$$Y = a + b_1X + b_2Z + b_3X*Z + e$$

where  $b_3$  is the sample-based least squares estimate of the population regression coefficient for the product term (Aguinis, 1995). The null hypothesis for moderated multiple regression is normally presented as follows:

$$H_0: \beta_3 = 0 \mid \beta_1 \neq 0; \beta_2 \neq 0$$

However, in the present study, a main effect between the moderator variable Openness to Experience and the dependent variables was not hypothesised. The null hypothesis for the

moderator multiple regressions in the present study consequently excludes the effect of the second predictor,  $Z$ , leaving:

$$H_0: \beta_3 = 0 \mid \beta_1 \neq 0$$

In order to test whether the moderating effect is statistically significant, the coefficients of determination, i.e. the squared multiple correlation coefficients  $R^2$ , are compared for the two equations (Aguinis, 1995). The  $R^2$  tells us how much of the variance in  $Y$  is accounted for by the regression model from our sample, whereas the  $R^2$  change indicates the unique contribution of new predictors entered into the model (Field, 2005). Because of the fact that  $R$  tends to be overestimated due to positive chance fluctuations that add to the magnitude of  $R$ , an adjustment is made for expected inflation in sample  $R$  (Tabachnick & Fidell, 2001). Consequently, the adjusted  $R^2$  tells us how much variance in  $Y$  would be accounted for if the model had been derived from the population from which the sample was taken. In other words, it gives us an idea of how well our model generalises. It is therefore ideally that the adjusted  $R^2$  is the same, or very close to, the value of  $R^2$  (Field, 2005).

The  $F$ -ratio presented in the results from the analysis of variance (ANOVA), represents the ratio of improvement in prediction that results from fitting the model, relative to the inaccuracy that still exists in the model (Field, 2005). Another  $F$ -statistic,  $F_{inc}$ , is furthermore interpreted to evaluate the statistical significance of adding additional independent variables to a prediction equation in hierarchical analysis (Tabachnick & Fidell, 2001).

Regression analyses, in form of hierarchical moderated multiple regressions in two steps, were performed using SPSS REGRESSION (SPSS 17.0, 2008). The order in which the variables are entered into the equation in hierarchical multiple regression is determined by the researcher, normally based on logical and theoretical considerations (Field, 2005; Tabachnick & Fidell, 2001). In the present study, Step 1 included (depending on which hypothesis to be tested) the independent variable proposed as the

predictor, i.e., organisational career management or affective organisational commitment. In Step 2, the moderator variable was entered, i.e., the interaction term between either openness to experience and organisational career management, or openness to experience and affective organisational commitment.

Table 4.19 summarises the results of the hierarchical moderated regression analyses, whereas the interpretations of these results are presented in the paragraphs below.

Table 4.19

*Results of Hierarchical Moderated Multiple Regression Analyses*

Criterion	Predictor	Step 1	Step 2
		$\beta$	$\beta$
Affective	Organisational Career Management	.194**	.273*
Organisational	Organisational Career Management $\times$ Openness to		-.088
Commitment	Experience		
	$R^2$	.037**	.039**
	$\Delta R^2$		.001
Internally	Affective Organisational Commitment	.220**	-.136
Focused	Affective Organisational Commitment $\times$ Openness to		.387*
Individual Career	Experience		
Management	$R^2$	.048**	.071**
	$\Delta R^2$		.023*
Externally	Affective Organisational Commitment	-.310**	-.704**
Focused	Affective Organisational Commitment $\times$ Openness to		.428*
Individual Career	Experience		
Management	$R^2$	.096**	.124**
	$\Delta R^2$		.028*

Note.  $N = 296$ . \* $p < .05$ . \*\* $p < .01$ .

#### 4.7.2.1. *Hierarchical Moderated Multiple Regression of Organisational Career Management and Openness to Experience on Affective Organisational Commitment*

The arguments in chapter two, which culminated in the structural model depicted in Figure 2.1, suggested that the extent to which OCM will affect employees' organisational commitment is dependent on the level of openness to experience displayed by the individual employee. As posited in hypothesis H<sub>a6</sub>, openness to experience was thus expected to moderate the relationship between OCM and affective organisational commitment. In order to determine whether the OCM main effect and the openness to experience interaction effect each significantly explain variance in organisational commitment, hierarchical moderated multiple regression was performed in two steps. Step 1 included the predictor score, i.e. the OCM score, whereas the interaction term (OCM\*OTE) was entered in the second step.

As depicted in Table 4.19, the results revealed that  $R$  was significantly different from zero at the end of both steps. After step 1, with only organisational career management in the equation,  $R = .194$ ,  $R^2 = .037$ ,  $F_{\text{inc}}(1, 293) = 11.441$ ,  $p < .01$ . The adjusted  $R^2$  value of .034 indicates that 3.4% of the variability in affective organisational commitment is explained by the independent variable organisational career management ( $\beta = .194$ ).

After the second and last step, with the independent variable and the interaction effect between organisational career management and openness to experience in the equation,  $R = .197$ ,  $R^2 = .039$ , adjusted  $R^2 = .032$ , the  $R^2$  change ( $\Delta R^2$ ) = .001,  $F_{\text{inc}}(1, 293) = .420$ ,  $p > .01$ . Hence, the addition of the interaction effect between organisational career management and openness to experience to the equation did not reliably improve  $R^2$ . In other words, the interaction between an individual's level of openness and perception of OCM did not help to explain any unique variance in affective organisational commitment that could not be explained by organisational career management in the present sample.

Consequently, H<sub>06</sub>, suggesting that openness to experience would not moderate the relationship between organisational career management and affective organisational commitment, was supported.

**4.7.2.2. Hierarchical Moderated Multiple Regression of Organisational Commitment and Openness to Experience on Internally Focused Individual Career Management**

Hypothesis H<sub>a7</sub> posits that openness to experience will moderate the relationship between affective organisational commitment and internally focused ICM. In other words, it is hypothesised that the interaction effect between openness and affective commitment will explain unique variance in the practice of internally focused ICM activities that cannot be attributed to the main effect of affective commitment.

The moderated multiple regression performed with the objective of testing this hypothesis revealed that  $R$  was significantly different from zero in both of the two steps of the regression analysis ( $R = .220$  and  $.267$  respectively). In the first step, which included the independent variable,  $R^2 = .048$ ,  $F_{\text{inc}}(1, 293) = 14.949$ ,  $p < .01$ . The adjusted  $R^2$  value of  $.045$  furthermore indicates that 4.5% of the variability in Internally Focused ICM can be explained by the independent variable in the model ( $\beta = .220$ ).

In step two, with both the independent variable and the interaction term entered into the equation,  $R = .267$ ,  $F(2, 293) = 11.258$ ,  $p < .01$ . The inclusion of the interaction term resulted in a significant increment in  $R^2$  ( $R^2 = .071$ ,  $\Delta R^2 = .023$ ,  $F_{\text{inc}}(1, 293) = 7.250$ ,  $p < .01$ ) (see Table 4.19), and H<sub>07</sub> could consequently be rejected in favour of H<sub>a7</sub>. In other words, the proposition that an interaction effect between openness to experience and affective organisational commitment would explain unique variance in internally focused ICM, not attributable to the main effect of affective organisational commitment, could be supported.

**4.7.2.3. Hierarchical moderated multiple regression of Affective Organisational Commitment and Openness to Experience on Externally Focused Individual Career Management**

Hypothesis H<sub>a8</sub> states that openness to experience would moderate the relationship between affective organisational commitment and externally focused ICM. Consistent with this hypothesis, results revealed a significant interaction between commitment and openness in predicting employees' practice of individual career management activities

performed with the objective of leaving the organisation ( $\Delta R^2 = .028$ ,  $p < .01$ ) (see Table 4.19).

In more detail, the first step of the hierarchical regression indicated  $R = .310$ ,  $R^2 = .096$ , adjusted  $R^2 = .093$ ,  $F_{\text{inc}}(1, 293) = 31.205$ , and  $p < .01$ , whereas the second step significantly improved  $R^2$  ( $R = .352$ ,  $R^2 = .124$ , adjusted  $R^2 = .118$ ,  $\Delta R^2 = .028$ ,  $F_{\text{inc}}(1, 293) = 9.413$ , and  $p < .01$ ). In other words, adding an interaction effect between openness to experience and affective organisational commitment to a model already containing affective commitment increased the predictive validity of the model. The null hypothesis  $H_{08}$  could consequently be rejected in favour of  $H_{a8}$ , supporting the hypothesis that openness to experience plays a moderating role in the suggested relationship between commitment and externally focused ICM.

#### **4.7.2.4. Regression Analysis When Controlling for Gender and Ethnic Background**

Although no substantive reason could be found for gender and ethnic background to affect the results obtained from the regression analysis, it was nonetheless decided to run the analysis with these demographic variables as controls. Hierarchical moderated multiple regression was for this purpose performed in three steps: step 1 included the control variables gender and race, step 2 the predictor, and step 3 the interaction effect.

The results from the three regression analyses testing the moderator hypotheses when controlling for gender and ethnicity are presented in Table 4.20. The results indicate that gender and ethnicity each played different roles in the three regression equations. In the first regression model, neither gender nor ethnicity obtained significant  $\beta$ -coefficients. However, in the third step of the second regression model, where the moderating effect of openness between commitment and internally focused ICM was measured, gender was the largest and only statistically significant contributor of the two control variables ( $\beta = .168$ ;  $p < .01$ ). On the contrary, ethnicity was the largest, and only significant, contributor of the two in the third regression model ( $\beta = -.183$ ;  $p < .01$ ) when all variables were entered in the third step. Worth noting is, however, the fact that the predictors

(either organisational career management or affective organisational commitment) each explained the largest proportion of variance (all highly significant) in all three regression analyses, supporting the hypotheses developed in chapter 2.

Table 4.20

*Results of Hierarchical Moderated Regression Analyses when Controlling for Gender and Ethnicity*

Criterion	Predictor	Step 1	Step 2	Step 3
		$\beta$	$\beta$	$\beta$
Affective	Gender	-.019	-.014	-.017
Organisational	Ethnicity	.102	.073	.074
Commitment	Organisational Career Management		.181**	.267
	Organisational Career Management $\times$ Openness to Experience			-.094
	$R^2$	.011	.043**	.044*
	$\Delta R^2$		.032**	.002
Internally	Gender	-.181**	-.177**	-.168**
Focused	Ethnicity	-.011	-.033	-.034
Individual Career Management	Affective Organisational Commitment		.220**	-.111
	Affective Organisational Commitment $\times$ Openness to Experience			.360*
	$R^2$	.033**	.081**	.101**
	$\Delta R^2$		.048**	.020*
Externally	Gender	-.049	-.055	-.044
Focused	Ethnicity	-.212**	-.182**	-.183**
Individual Career Management	Affective Organisational Commitment		-.292**	-.683**
	Affective Organisational Commitment $\times$ Openness to Experience			.425**
	$R^2$	.047**	.132**	.159**
	$\Delta R^2$		.084**	.028**

Note.  $N = 296$ . \* $p < .05$ . \*\* $p < .01$ .

### 4.7.3. *Assessing the Structural Model*

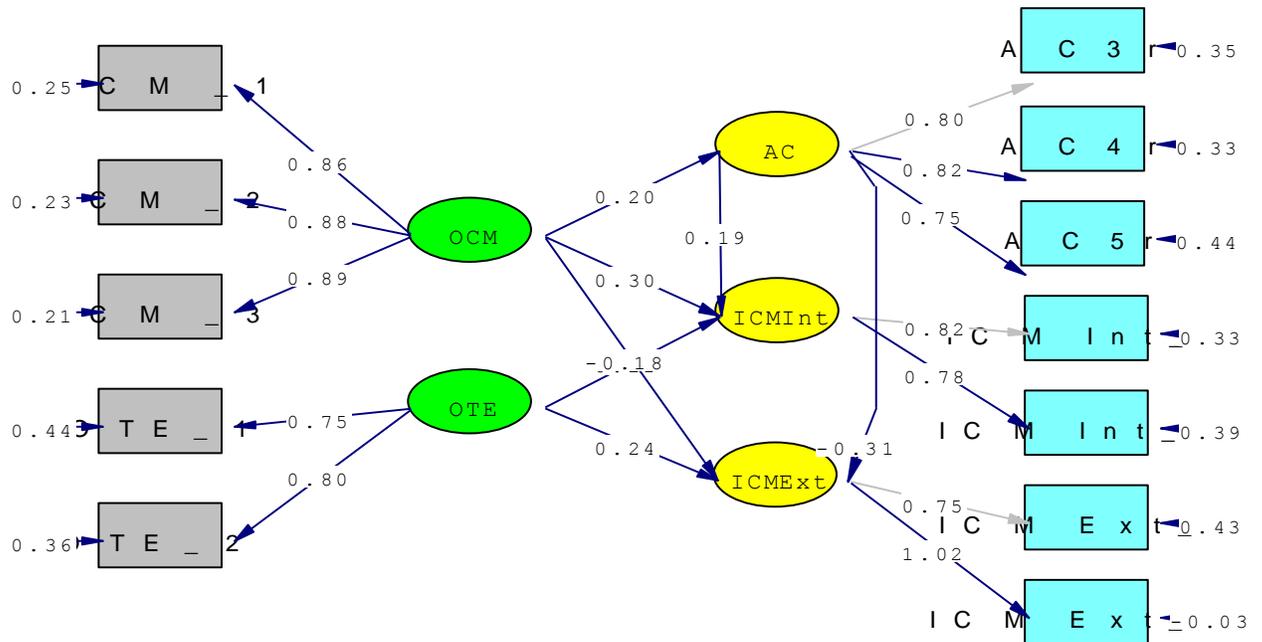
After having completed the correlation and regression analysis, it was decided to also fit the structural model in order to determine whether the theoretical relationships were indeed supported by the data (Diamantopoulos & Siguaaw, 2000). Another purpose of fitting the structural model was to visually portray the nature and strength of the disattenuated relationships between the variables in the study. Item parcelling (alternating items were summed into two parcels within each subscale) was applied in order to create the observed variables before the fit of the career management perceptions and affective organisational commitment structural model was evaluated in LISREL 8.80 (Jöreskog & Sörbom, 2006). The structural model is presented in Figure 4.6 and the goodness-of-fit statistics that were used to determine the fit of the model can be found in Table 4.21. The main effects between openness to experience and internally and externally focused ICM that were indicated in the correlation analysis, improved the overall structural model fit and were, for this purpose, also included in the model.

As indicated by Table 4.21, support was found for the reconfigured hypothesised model in terms of the Satorra-Bentler Scaled Chi-Square,  $\chi^2 = 56.13$  ( $p > .05$ ). The non-significant  $\chi^2$  indicates model fit in that the model can reproduce the observed covariance matrix (Kelloway, 1998). In other words, the  $H_0 : RMSEA = 0$  could not be rejected, thus indicating exact fit. The RMSEA of 0.027 reflects a very good fit of the model to the data and is supported by the goodness-of-fit index GFI = 0.96 and the adjusted goodness-of-fit index AGFI = 0.94, which both exceed the critical value of 0.9. The Root Mean Square Residual (RMR) (0.065) and standardised RMR (0.049) furthermore indicate a good fit with a standardised RMR value of less than 0.05 (Kelloway, 1998). The distribution of standardised residuals was slightly skewed to the right, although there were only a few (3) large positive standardised residuals altogether.

The modification indices showed one significant path between Internally Focused ICM and Externally Focused ICM that would improve the overall fit of the model. This relationship did not make any theoretical sense in the present study and it was consequently decided not to include it in the final structural model. However, future

studies can benefit from investigating this relationship in order to further understand how different forms of career self management activities appear to affect each other.

After having inspected all fit indices, the conclusion was drawn that the structural model fit the data very well<sup>3</sup>.



Chi-Square=56.13, df=46, P-value=0.14563, RMSEA=0.027

Figure 4.6: Career Management and Affective Organisational Commitment Structural Model.

Table 4.21

Goodness of Fit Statistics for Structural Model Fit

Degrees of Freedom	46
Minimum Fit Function Chi-Square	66.58 (P = 0.025)
Normal Theory Weighted Least Squares Chi-Square	65.55 (P = 0.031)
Satorra-Bentler Scaled Chi-Square	56.13 (P = 0.15)
Chi-Square Corrected for Non-Normality	65.72 (P = 0.030)
Estimated Non-centrality Parameter (NCP)	10.13
90 Percent Confidence Interval for NCP	(0.0 ; 33.24)
Minimum Fit Function Value	0.23

<sup>3</sup> For purposes of brevity, only relevant results are presented. For full presentation of results the author of the thesis can be contacted.

Population Discrepancy Function Value (F0)	0.034
90 Percent Confidence Interval for F0	(0.0 ; 0.11)
Root Mean Square Error of Approximation (RMSEA)	0.027
90 Percent Confidence Interval for RMSEA	(0.0 ; 0.049)
P-Value for Test of Close Fit (RMSEA < 0.05)	0.95
Expected Cross-Validation Index (ECVI)	0.41
90 Percent Confidence Interval for ECVI	(0.37 ; 0.49)
ECVI for Saturated Model	0.53
ECVI for Independence Model	5.93
Chi-Square for Independence Model with 66 Degrees of Freedom	1724.66
Independence AIC	1748.66
Model AIC	120.13
Saturated AIC	156.00
Independence CAIC	1804.94
Model CAIC	270.22
Saturated CAIC	521.85
Normed Fit Index (NFI)	0.97
Non-Normed Fit Index (NNFI)	0.99
Parsimony Normed Fit Index (PNFI)	0.67
Comparative Fit Index (CFI)	0.99
Incremental Fit Index (IFI)	0.99
Relative Fit Index (RFI)	0.95
Critical N (CN)	375.23
Root Mean Square Residual (RMR)	0.065
Standardized RMR	0.049
Goodness of Fit Index (GFI)	0.96
Adjusted Goodness of Fit Index (AGFI)	0.94
Parsimony Goodness of Fit Index (PGFI)	0.57

#### 4.7.4. Corrections for Unreliability

Measures will always contain some degree of error and hence never obtain perfect reliability. Observed correlations between predictors and criteria may therefore be underestimated, and it is suggested that correlations should be corrected for attenuation (Nunnally, 1978). The disattenuated correlation matrix of eta and ksi (Phi matrix) presented in Table 4.22, indicates what the correlations would be if the measurement of each variable were perfectly reliable in the current study.

Table 4.22

*Disattenuated Correlation Matrix*

Variable	1.	2.	3.	4.	5.
1. Organisational Career Management					
2. Affective Organisational Commitment	.20				
3. Openness to Experience	-.01	.00			
4. Internally Focused Individual Career Management	.34	.25	.21		
5. Externally Focused Individual Career Management	-.24	-.34	.24	-.09	

**4.7.5. Statistical power**

The importance of testing statistical power stems from the fact that most empirical research in the social and behavioural sciences proceeds by formulating and testing null hypotheses, which the researcher hopes to reject as a means of establishing facts about a certain phenomenon (Cohen, 1992). If significance tests in research lack statistical power, it implies that it cannot reliably discriminate between  $H_0$  and the alternative hypothesis  $H_a$  (Faul, Erdfelder, Lang & Buchner, 2007).

Calculation of statistical power depends of what kinds of analysis techniques are being used. In order to determine the statistical power of the correlation and moderated multiple regression analyses in the present study, a power analysis program, G\*Power 3.1 (Faul, Erdfelder, Lang & Buchner, 2007), was used, whereas the power calculation for the structural equation modelling was performed in SPSS, using the algorithm provided by MacCallum, Browne, and Sugawara (1996). For the purposes of the latter, power estimates were derived for the tests of close fit, given the assumed effect size, a significance level ( $\alpha$ ) of 0,05 and a sample size of 296. The results of the power analysis are depicted in Table 4.23 and indicate highly satisfactory statistical power for all analyses except for the first moderated multiple regression analysis (which tested the moderating effect of openness to experience between OCM and affective organisational commitment). The lack of significance of the interaction effect could possibly have been due to inadequate statistical power ( $1 - \beta = .084$ ) (Aguinis & Pierce, 1998).

Table 4.23

*Statistical Power Estimates for all Analyses*

Analysis	Specification	Effect size $f^2$	No. of predictors	No. of tested predictors	Statistical Power	
Correlations <sup>1</sup>	Smallest correlation ( $r = .191$ )				0.953	
	Largest correlation ( $r = .310$ )				0.999	
Standard	Criterion	Predictor				
Multiple Regression <sup>2</sup>	Affective	OCM	.038	1	1	0.919
	Commitment					
(Model 1)	Internally Focused	Affective Organisational Commitment	.050	1	1	0.971
	ICM					
	Externally Focused	Affective Organisational Commitment	.106	1	1	0.999
	ICM					
Moderated	Criterion	Predictor				
Multiple Regression <sup>3</sup>	Affective	Organisational Career Management ×	.001	2	1	0.084
	Commitment	Openness to Experience				
(Model 2)	Internally Focused	Affective Organisational Commitment ×	.024	2	1	0.749
	ICM	Openness to Experience				
	Externally Focused	Affective Organisational Commitment ×	.029	2	1	0.829
	ICM	Openness to Experience				

Structural	Test		
Equation	Test of close fit (RMSEA $H_0$ : .05, $H_a$ : .08)	2	0.905
Modelling <sup>4</sup>	Test of exact fit (RMSEA $H_0$ : .00, $H_a$ : .05)	2	0.876

*Note* .  $N = 296$ ,  $\alpha = 0.05$  for all analyses

<sup>1</sup> Exact – Correlation: Bivariate Normal model, Post hoc: compute achieved power. Calculated in accordance to minimum and maximum correlations found in the hypothesised relationship.

<sup>2</sup> F-test – Linear Multiple Regression: Fixed model,  $R^2$  deviation from zero, Post hoc: compute achieved power

<sup>3</sup> F-test – Linear Multiple Regression: Fixed model,  $R^2$  increase, Post hoc: compute achieved power

<sup>4</sup>  $df = 46$

#### 4.8. Summary

The purpose of this chapter was to firstly prepare the data for analysis by testing the assumptions underlying multivariate procedures. The results from the main analyses, i.e. correlation and regression analyses, which tested the proposed hypotheses developed in chapter 2, were thereafter presented.

The results from the correlation analysis revealed significant relationships between affective organisational commitment and all three forms of career management (organisational, internally and externally focused individual career management). The strongest relationships were indicated between commitment and the two individual career management dimensions ( $r = .220$  for internal ICM and  $-.310$  for external ICM,  $ps < .01$ ). It was furthermore found that significant relationships existed between what the employees perceived their organisation was doing in terms of support for career development and what they were doing themselves to manage their careers.

The results of the regression analysis suggested that the personality trait openness to experience did in fact play a moderating role in the relationships between affective organisational commitment and both dimensions of individual career management. In other words, openness played a role in predicting the performance of ICM activities. However, no support was found for the proposition that openness to experience similarly would moderate the relationship between organisational career management and affective organisational commitment.

Lastly, the test of the modified structural model revealed highly satisfactory fit-statistics and an extremely good fit. The power analysis results also seemed to confirm that our analyses had sufficient statistical power to detect direct relationships between career management and affective commitment, as well as moderator effects of openness to experience to these relationships.

In summary, the results of our analyses were highly satisfactory, supporting seven out of eight hypotheses. The next chapter will focus on discussing these findings in more detail,

as well as presenting limitations with the present study and offering recommendations for future research within this topic.

## CHAPTER FIVE: DISCUSSION, LIMITATIONS, AND RECOMMENDATIONS

### 5.1. Introduction

Prior career management research have investigated mainly the relationships between career management activities and work-related outcomes, such as organisational commitment and preferred career moves (e.g., Chang, 1999; DeVos et al., 2007; Eby et al., 2005; Sturges et al., 2002). The present study intended to extend such existing research by investigating whether a specific personality trait (i.e., openness to experience) could play a moderating role in the relationship between different types of career management activities and affective organisational commitment as a work-related attitude.

The logical argument for the present research follows from recent literature that suggests that individual differences may affect the degree to which employees appreciate career management activities and consequently develop an emotional attachment to the organisation (Maurer & Lippstreu, 2006). The current study follows this proposition and generates empirical evidence to a rather unexplored area within the career management literature. More specifically, the present research investigates how personality, in the form of openness to experience, may moderate the relationship between career management and commitment. It was therefore posited that the relationship between organisational career management and affective organisational commitment, as well as the relationship between commitment and the two dimensions of individual career management, is dependent on an individual's level of openness to experience as an individual difference variable.

In this regard, the results of the statistical analysis presented in the previous chapter confirmed seven out of eight *a priori* formulated hypotheses. Each and all of the findings from the correlation and regression analyses will be discussed further in the following sections. For the purpose of clarifying the distinction between main effects and moderator effects, the discussion will be divided into two parts, of which the first will discuss the

direct relationships (i.e., main effects) between the two forms of career management (organisational and individual) activities and commitment, and the second, the moderating role of openness to experience to these relationships. Limitations of the present research, as well as recommendations for future studies within the field, will lastly be discussed.

### **5.2. The Relationship between Career Management and Affective Commitment**

One of the core objectives of the present study was to investigate whether the experience of organisational career management activities had an effect on the extent to which different individual career management activities were practiced by the employees. The results from the data analysis pertaining to the relationship between OCM and the two forms of ICM activities (i.e., internally and externally focused) indicated highly significant relationships between OCM and internally focused ICM, as well as between OCM and externally focused ICM. These findings showed that employees, who perceived their employer to be active in their career management help activities, also reported being active in their individual career management activities focused on continuing a career within their present organisation. The results are furthermore indicative of the fact that low exposure to organisational career management help was related to high levels of ICM activities performed with the objective of leaving the organisation. The contrary would also be supported, i.e. that a high level of experienced OCM would result in low levels of externally focused ICM activities.

These results found in the present study are partially congruent with previous research performed by Sturges et al. (2002). Their study found a significant association ( $\beta = .30; p < .001$ ) between OCM activities of an informal character and specific internally oriented ICM activities aiming at building networks and getting introduced to people who can help influence their careers. However, Sturges et al. (2002) did not find a correlation between more formal OCM activities and the different types of internally focused ICM activities. Furthermore, whereas other recent studies (e.g., Sturges et al., 2002) found no relationship between OCM and externally oriented

ICM activities, the present study found highly significant results for this particular relationship ( $r = -.191$ ;  $p$  (one tailed)  $< .01$ ).

What can be concluded from the above findings is that an important link is identified between what the organisation does in terms of helping their employees with their career management and what the individuals themselves do in order to find ways to develop their careers further. In accordance with Sturges et al. (2002), the current study found evidence that the presence of OCM reinforces the practice of internally focused ICM. These results suggest that organisations may benefit from helping their employees with their own career management, e.g., in form of training opportunities and feedback on performance, because these activities are found to be positively associated with proactive employees when it comes to the performance of career self management activities. The neglect of getting involved in employees' career management can, on the other hand, result in individuals who, from the perspective of the organisation, are too proactive and spend more time focusing on finding alternative workplaces than trying to find career opportunities in their present organisation. Following this line of reasoning, it could consequently imply high costs associated with HR activities related to recruitment and training of new employees.

Another proposition in the present study was that relationships exist between OCM and affective commitment, as well as between affective commitment and ICM (externally and internally focused). Our evidence of a significant and positive association between employees' perception of OCM activities and their reported commitment levels is similar to that of previous research that indicated that perceived organisational support was related to organisational commitment ( $r = .57$ ;  $p < .01$ ) and that employee development activities brought about a desire for employees to reciprocate with greater commitment to the organisation (Tansky & Cohen, 2001). Results from the present study furthermore support earlier findings that career advancement opportunities are related to commitment ( $\beta = .38$ ;  $p < .01$ ) (Gong & Chang, 2008).

What the current study and previous research may suggest is that different types of organisational career management can benefit both the organisation and the individual employee by creating a social exchange relationship that provokes the reciprocation of increased organisational commitment. It may also be the case that by receiving career management help from the organisation, employees simply feel more valued and appreciated and consequently more satisfied with their job. Hence, affective organisational commitment is expected to increase.

Results of the current study also indicated significant associations between affective commitment and internally and externally focused career self management activities. This finding is not unique, since a study by Steers (1977) investigated the outcomes of commitment and found that commitment was related to an increase in employees' intention to remain with an organisation ( $r = .31; p < .001$ ). Results from the present study can be argued to support Steers' conclusion in that employees who reported high commitment levels performed more ICM activities with the objective of staying in the organisation. Our results also showed that low levels of organisational commitment led to employees practicing more externally oriented ICM activities, which corroborates prior research results of Sturges' et al. (2002). In their longitudinal study, they found significant support for the relationship between commitment and externally oriented ICM both in the lagged data ( $\beta = -.20; p < .05$ ) and in the contemporaneous data ( $\beta = -.37; p < .001$ ). It therefore seems that this relationship is consistent across research settings and could imply that fostering affective commitment could be one of the ways in which organisations could attempt to increase retention. It is furthermore clear from our results that lower commitment levels were associated with employees' intention to further their career with another employer.

To summarise the results from the correlation analysis, our research found evidence consistent with previous literature that commitment plays a role in the type of individual career management activities employees decide to engage in. It was also confirmed that organisational activities related to supporting individuals in their career management had effects on employees' commitment levels. When considering all the results discussed

above from a holistic perspective, it can be speculated that the organisation has an important role to play in the development of employees' affective commitment, which in turn has implications for individuals' career self management. It is suggested that the modern world of work, to a larger extent than before, requires individuals to be proactive in their career management activities (Schreuder & Coetzee, 2006). However, as suggested by the literature (e.g., Sturges et al., 2002) and indicated by the present results, the organisation's role in career management still plays a fundamental role by influencing the type of individual career management activities that are to be performed. Therefore, based on our results we recommend that that organisations and individual employees seek to relate their respective career management activities to increase organisational commitment, hence improving organisational performance and competitive advantage.

Whereas the previous discussion focused on the main effects between different career management activities, as well as between career management and commitment, the next section will discuss the findings related to the moderating role of openness to experience to these relationships.

### **5.3. The Moderating Effect of Openness to Experience**

The current study develops existing research performed within the field of career management and organisational commitment by examining whether a specific individual characteristic can moderate the relationship between these two rather well investigated concepts. It was, in this regard, hypothesised that the relationship between career management (OCM and ICM) and commitment would be dependent on the level of openness to experience expressed by the individual. More specifically, OCM would have a less pronounced effect on organisational commitment when openness is low.

Personality has recently been acknowledged to play a central role in the management of employees' careers. For example, individuals high in intellectance had a propensity to engage in self-development and skill expansion, as well as building networks (Guthrie et al., 1998). Openness also seem to predict growth ( $\beta = .4$ ;  $p < .001$ ), achievement ( $\beta = .26$ ;  $p < .05$ ) (Martin & Lekan, 2008), and perceived importance of

development and career opportunities ( $r = .17, p < .01$ ) (Vandenberghe et al., 2008). Our findings indicate that employees who reported high levels of affective organisational commitment performed internally focused ICM activities to a larger extent when they also were high on openness to experience. Furthermore, individuals who reported low levels of commitment, performed more career self management activities with the aim of leaving the organisation (i.e., externally focused ICM) when they scored high on openness to experience compared to when they scored low on this dimension. Therefore, we did find support for our hypotheses stating that openness would act as a moderator to the relationship between commitment and individual career management activities.

However, it should be noted that the anticipated moderator effect of openness was not found for the relationship between organisational career management and affective organisational commitment. One can only speculate why the current study failed in finding support for this hypothesis, but the absence of a significant main effect between openness and OCM may help to explain why this moderating effect was different from the two presented above. In light of the literature and the results of this study, it is reasonable to expect that organisational commitment has an effect on employees' level of affective commitment. One can furthermore anticipate that positive attention from one's employer in the form of career advancement opportunities, will lead to an increase in affective involvement in the organisation. Characteristics of open individuals are furthermore expected to affect employees' perceptions of OCM activities in a similar manner as they affect the engagement in career self management. Stated differently, by displaying a strong need for change and variety (Vinson et al., 2007), open individuals are not only expected to initiate ICM activities, but also to seek out any kinds of career management help offered by the employer that can be of assistance in their career development. Open individuals are furthermore anticipated to more strongly appreciate such career activities once they are being offered and, amongst other things, reciprocate with stronger affective commitment to the organisation. However, as indicated in Table 4.18, this was not the case, since no significant relationship was indicated between organisational career management and openness to experience.

Despite the absence of an association between OCM and openness, main effects were in the present study identified between openness and ICM (see Table 4.18). These results of the correlation analysis can be argued to support results of the previous researches mentioned above. It seems as if the curious, broad-minded, and variety-seeking characteristics of open individuals encourage them to initiate activities that are of importance for the development of their career. However, what characterises the findings of the present study is that the engagement in internal or external oriented career self management activities are dependent on both the level of commitment experienced by the individual employee and their level of openness. Whereas being committed to one's organisation and being high in openness is more likely to lead to career self management activities of an internal character, the absence of commitment combined with high levels of openness is likely to result in activities aiming at continuing the career elsewhere. This research, therefore, illuminates the processes underlying how commitment is related to the way in which individuals' manage their careers within organisations and/or alternative employment opportunities.

Information provided by the participating organisation shed light on the fact that OCM activities in this specific organisation, e.g., in the form of training and development courses, are predetermined by the type of position held by the individual employee. It can therefore be argued that the personal leeway, when it comes to involvement in OCM activities, is rather restricted in this specific organisation. Whereas open individuals are expected to seek out organisational career management help to a larger extent than individuals who are low on openness, the actual case described above may have affected the relationship between openness and OCM. Subsequently, the absence of a direct relationship between openness and OCM may help to clarify why a moderator effect of openness to the relationship between OCM and commitment was not found.

Another possible explanation for the nonexistent moderating effect is that open individuals may have a higher threshold for what is considered sufficient organisational involvement in the management of one's career. Whereas informal feedback once a year might be enough to satisfy some individuals, highly open individuals might expect and

require much more organisational initiatives before their needs for personal growth and advancement are satisfied. Consequently, the level of emotional attachment to the organisation is expected to fluctuate. The discussion above is obviously speculative, and further research is clearly needed to clarify the moderating effect of openness to experience to the relationship between OCM and affective organisational commitment.

To summarise, what the results of the present study suggest is that career management and affective commitment have significant roles to play in the achievement of both individual and organisational interests. Organisations may benefit from getting involved in their employees' career management plans and tailoring their career management programs to meet individual needs. More specifically, in order to invoke a social exchange relationship where employees reciprocate with emotional attachment and loyalty, the organisation should adjust its organisational career management activities to the individual's need for change, personal growth and development. It appears as if the personal attention individuals receive with regards to their career development strengthens the principles of social exchange theory by making them feel valuable and appreciated by their employer. Employees are consequently more likely to fulfil their part of the exchange relationship by devoting time and effort striving to achieve organisational objectives. In practical terms, it is advisable that organisations ensure that their organisational career management activities are extensive and good marketed. Organisations should furthermore reassess their career management programmes and allocate time to develop personal career management plans that allow for differences in personality and requests for advancement opportunities. The results of such interventions should result in more satisfied and committed employees that better perform their work for the benefit of both the organisation and the individual.

The results of this study also indicate that organisations, which have the desire to retain individuals high in openness to experience, should relate their career management activities with those of the individual employee. As indicated by Lips-Wiersma and Hall (2007), the modern world of work requires organisations to respond competently and flexibly to the career needs and aspirations of individuals, and

in the same time integrate these needs with the strategic direction of the organisation. As suggested by the present study, an interrelated and effective career management system can encourage highly committed employees, who are of importance for the organisation, to perform the kind of career self management activities that will lead to career advancements within the organisation. The researchers of the present study therefore recommend that specific people are appointed to engage in helping their employees communicate their preferences when it comes to career development. Individuals and organisations will thereafter benefit from integrating these aspects with their career management activities, to the extent possible, by fulfilling their respective role in an effective career management system.

One of the findings that we did not expect was a significant main effect of openness on individuals' career management activities. In our study, personality affected individuals' career related activities because we found that individuals that were high in openness performed more ICM activities for the purpose of possibly leaving the organisation, whereas individuals low in openness performed less internally oriented career management activities. Person-organisation fit (POF) theory (Kristof, 1996), which can be defined as the compatibility between people and organisations that occurs when: a) at least one entity provides what the other needs, or b) they share similar fundamental characteristics, or c) both, could be used to explain these findings. Recent meta-analyses (Verquer, Beehr & Wagner, 2003) found that POF predicted work attitudes such as organisational commitment using both perceived fit ( $\rho = .37$ ) and subjective fit ( $\rho = .59$ ) measures. In the present sample, the nature of the organisation was highly formalised, bureaucratic, and characterised by an autocratic leadership style with high power distance. Open individuals are not expected to fit in such organisational cultures, thus possibly explaining the main effects referred to above.

#### **5.4. Limitations of this Study and Recommendations for Future Research**

It is important to point out limitations with the present study. Reliance on employees' self-reports as the soundest source of data in this area of research is a strong tradition, since it is individuals' perceptions of different constructs that are relevant for their

developmental cognitions (Maurer, Mitchell & Barbeite, 2002). We do, however, consider it important to acknowledge the fact that common method bias is a possible limitation in our study, since the data were collected at one single point in time utilising only self-reported questionnaires (Guthrie et al., 1998). When confirming the results of this research, future studies should therefore considering making use of data from multiple sources to address this possible concern.

An area for future studies is examining whether more externally focused career self management activities actually result in more voluntary terminations by means of longitudinal designs. Similarly, the actual effects of increased commitment and more internally focused career self management activities could be investigated through both individual and organisational performance measures. Such outcomes or behavioural measures could improve this research by limiting the possible effects of subjectivity and self-reported attitudes. However, it is suggested that intentions can predict behaviours with considerable accuracy when the behaviours pose no serious problems of control (Ajzen, 1991). The self-reported measure applied in our study was therefore considered legitimate for the purpose of evaluating employees' intentions to practice different career management activities.

The fact that the organisation in this study belongs to the public sector may have influenced the results of the study. One major difference between the public and private sector is more political and judicial constraints in the public sector that may make it less flexible than the private sector. Furthermore, employees in the public domain is characterised by a public ethos characterised by being more socially oriented, less occupied by materialistic things and their own career (Knudsen, 2008; Schwella, 2001). Therefore, in order to make generalisations about the findings to other occupational domains, the stability of the regression models should be investigated in other research settings and within other dissimilar samples.

An interesting avenue for future research would be to investigate whether career management is related to the other two forms of commitment, i.e., normative and

continuance commitment. Organisational support in form of career management activities implies invested time and money from the organisation's side. As a response to this, employees may develop normative commitment and a desire to stay because it is the right thing to do. Furthermore, good career management support may be considered as a benefit that the employees simply cannot afford to sacrifice, i.e., they develop continuance commitment. Whether openness to experience still would play a moderating role to the relationship between career management and the other two forms of commitment also remain an interesting topic for future research.

Although the decision to use openness to experience as a moderator in the present study was made based on thorough theoretical considerations, it would be interesting to test whether the other Big Five dimensions (i.e., neuroticism, extraversion, agreeableness, and conscientiousness) also play a role in the career management and commitment relationship. The excitement-seeking and activity orientation representing extravert individuals (Costa et al., 1984) can in this regards be expected to positively correlate with career management engagement. Individuals characterised by other personality dimensions such as neuroticism, characterised by, amongst other things, anxiety and vulnerability (Costa et al., 1984), may on the other hand not appreciate career development opportunities to the same extent as open or extravert employees. Future studies that investigate the effect of other personality traits can result in important information on how individual employees are affected differently by career management help from the organisation, as well as how the extent to which they decide to initiate different individual career management activities are dependent on their personality. Such information can, in turn, possibly be used in personnel selection situations where one is looking for specific individuals with developmental potential or individuals who take responsibility for their own career development.

One potential limitation of the study of the study could have been the effect of extraneous influences such as the gender or age of participants. Although no logical argument suggested such an effect, we controlled for the possible confounding effect of extraneous influences. The control variables did not change the substantive conclusions drawn from

the moderator analyses. However, including the control variables enabled better predictions of internal ICM ( $R^2 = .101$  and  $.071$  with and without control variables;  $ps < .01$ ) and external ICM ( $R^2 = .159$  and  $.124$  with and without;  $ps < .01$ ) when included in the regression model. The latter finding deserves further research attention because it could suggest that individuals from different racio-ethnic or gender categories vary in their career management strategies.

As a final concern, it should be mentioned that it was a design consideration to ensure that we had adequate statistical power to detect moderator effects, since the lack of statistical power can cause the erroneous conclusion that interaction effects are not evident (Aguinis, 1998) when in fact they are. This strategy seemed to have been successful, since we found evidence for two out of three hypothesised moderator effects, possibly in part the result of high statistical power in these analyses. Future studies that investigate these interaction effects should, as a final recommendation, take heed to ensure adequate statistical power to detect moderator effects.

### **5.5. Concluding Remarks**

Results of this study indicated important linkages between organisational and individual career management activities, as well as between career management and affective organisational commitment, which generally were consistent with earlier literature. The extent to which the organisation got involved in the management of its employees' career management affected the type of individual career management activities (i.e., internally or externally focused) to be initiated. This study also indicated that employees' perceptions regarding the organisation's career management support were positively related to their level of affective commitment. Furthermore, an employee's level of commitment was found positively related to his or her practice of internally focused individual career management activities, and negatively associated with the practice of externally oriented career self management activities. These findings are of importance for organisations in that they illustrate how their career management support activities may influence employees' commitment to the organisations as well as their preferred

career moves. Such information can in turn be argued to assist employers in various ways, e.g., towards decreasing turnover and improving retention.

Whereas the study failed in confirming a moderating effect of openness to experience to the relationship between OCM and commitment, the moderating effects between commitment and ICM were verified. From a practical point of view, these findings highlight the importance of acknowledging individual differences when career management programs are planned and implemented. The extent to which affective commitment is related to employees' career self management activities are dependent on how open to experience they are. In other words, individuals who are committed and display a strong need for self-development are more likely to initiate career management activities with the objective of staying in the organisation than individuals who are not open to experience. Furthermore, the absence of affective commitment in combination with high openness to experience is likely to result in career self management activities focusing on a career with another employer.

Even though further research is needed to examine how personality may moderate the relationship between career management and organisational commitment, our results are a first step to empirically address how specific individual characteristics may affect the career management and commitment relationship. The current study therefore provides an important point of departure for future empirical work aimed at investigate the importance of acknowledging individual differences in organisations' career management processes.

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### Appendix A: Questionnaire

- By ticking this box I agree that I have been informed about my rights as a research participant, that I have understood the information provided to me, and consent to participate in the study.**

**Signature:** \_\_\_\_\_

#### Section A: Organisational career management

*Please indicate on the scale below how often you have experienced the outlined activities ranging from 1(very seldom) to 5 (very often) by encircling the most appropriate option.*

		Very seldom				Very often
1.	I have been given training to help develop my career	1	2	3	4	5
2.	My divisional officer has made sure I get the training I need for my career	1	2	3	4	5
3.	I have been taught things I need to know to get on in this organisation	1	2	3	4	5
4.	I have been given a personal development plan	1	2	3	4	5
5.	I have been given work which has developed my skills for the future	1	2	3	4	5
6.	My divisional officer has given me clear feedback on my performance	1	2	3	4	5
7.	I have been given impartial career advice when I needed it	1	2	3	4	5
8.	I have been introduced to people at work who are prepared to help me develop my career	1	2	3	4	5
9.	I have been given a mentor to help my career development	1	2	3	4	5
10.	My divisional officer has introduced me to people who will help my career	1	2	3	4	5

## Section B: Individual career management

Please indicate on the scale below how often you have practiced the outlined activities ranging from 1 (very seldom) to 5 (very often) by encircling the most appropriate option.

		Very seldom				Very often
11.	I have got myself introduced to people who can influence my career	1	2	3	4	5
12.	I have talked to seniors at company social gatherings	1	2	3	4	5
13.	I have built contacts with people in areas where I would like to work within the SA Navy	1	2	3	4	5
14.	I have pushed to be involved in high profile projects	1	2	3	4	5
15.	I have asked for career advice from people even when it has not been offered	1	2	3	4	5
16.	I have asked for feedback on my performance when it was not given	1	2	3	4	5
17.	I have refused to accept a new role because it would not help me develop new skills	1	2	3	4	5
18.	I have made plans to leave this organisation once I have the skills and experience to move on	1	2	3	4	5
19.	I have made plans to leave this organisation if it cannot offer me a rewarding career	1	2	3	4	5
20.	I have kept my CV up to date	1	2	3	4	5
21.	I have monitored job advertisements to see what is available outside the organisation	1	2	3	4	5
22.	I have read work-related journals and books in my spare time	1	2	3	4	5
23.	I have looked outside the organisation for career related training or qualifications	1	2	3	4	5
24.	I have taken on extra activities which will look good on my CV	1	2	3	4	5
25.	I have made sure I get credit for the work I do	1	2	3	4	5
26.	I have made my divisional officer aware of my accomplishments	1	2	3	4	5

### Section C: Work perceptions

Please indicate on a scale from 1 to 7 to what extent you agree with the statements below, where 1=strongly disagree and 7=strongly agree by encircling the most appropriate option.

	Strongly disagree						Strongly agree
27. I would be very happy to spend the rest of my career with this organisation (SA Navy)	1	2	3	4	5	6	7
28. I really feel as if this organisation's problems are my own (SA Navy)	1	2	3	4	5	6	7
29. I do not feel a strong sense of "belonging" to my organisation (SA Navy)	1	2	3	4	5	6	7
30. I do not feel "emotionally attached" to this organisation (SA Navy)	1	2	3	4	5	6	7
31. I do not feel like "part of the family" at my organisation (SA Navy)	1	2	3	4	5	6	7
32. This organisation has a great deal of personal meaning for me (SA Navy)	1	2	3	4	5	6	7

### Section E: Personal perceptions

Below there are 10 phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes **you**. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then encircle the option that corresponds to the number on the scale.

Response options:

- 1: Very Inaccurate (not true for me)
- 2: Moderately Inaccurate (somewhat untrue for me)
- 3: Neither Inaccurate nor Accurate
- 4: Moderately Accurate (true for me)
- 5: Very Accurate (somewhat true for me)

	Very inaccurate	Moderately Inaccurate	Neither inaccurate nor accurate	Moderately accurate	Very accurate
33. I have a rich vocabulary	1	2	3	4	5
34. I have difficulty understanding abstract ideas	1	2	3	4	5



49. What is your highest educational qualification?  Grade 10  
 Grade 12 (National Senior Certificate)  
 Diploma (National Diploma, 3 yrs)  
 Bachelor's degree  
 Postgraduate degree (Honours)  
 Postgraduate degree (Masters)
50. Rate your own English language reading proficiency from 1(poor) to 10 (home language):  
1  2  3  4  5  6  7  8  9  10
51. Did you experience any difficulties in understanding any of the questions? Yes  No   
If yes, what question(s)? \_\_\_\_\_

**THANK YOU FOR COMPLETING THIS QUESTIONNAIRE. YOUR PARTICIPATION IS APPRECIATED.**

If you have any questions or complaints about this research, please contact the researcher.

Phone: 071 325 39 43

E-mail: 15506304@sun.ac.za

## Appendix B: Consent Form for Participation in Research

### STELLENBOSCH UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH

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**The effect of organisational and individual career management on organisational commitment. The moderating effect of openness to experience.**

You are asked to participate in a research study conducted by Maria Rønn, Master student, from the Industrial Psychology department at Stellenbosch University in South Africa. The results will contribute to a Master's thesis. You were selected as a possible participant in this study as an employee in the South African Navy Defence Force.

#### 1. PURPOSE OF THE STUDY

The purpose of the study is to investigate how career management activities affect employees' work perceptions.

#### 2. PROCEDURES

If you volunteer to participate in this study, we would ask you to do the following things:

- a. After you have been informed about your rights as a participant in this study, please **sign and tick the box** at the top of page one of the questionnaire to give your consent to participate in the survey.
- b. Answer the questions provided by indicating, for example to what extent you agree or disagree, with the provided statements. Further information will be provided in the questionnaire before each section. If you have any questions, please do not hesitate to ask the administrator for clarification.
- c. Please complete **ALL** questions and hand in the questionnaire before you leave.

The questionnaire is estimated to take between 10 and 15 minutes.

#### 3. POTENTIAL RISKS AND DISCOMFORTS

There are **no risks** related to participating in this study. The results of the questionnaire **will not** affect decisions made about you, or your employment. Taking part in this study will not have any impact on your employment, rather we would like to investigate the effects of your organisation's career management activities. The only possible discomfort of participating in this study may be the time spent to fill out the questionnaire.

#### **4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY**

There are **no direct benefits** that will be received by you in this study. However, this research can benefit your organisation and the wider society and science by expanding our knowledge about career management practices and its relationship to organisational commitment. This study can furthermore benefit you and your organisation by highlighting the employees' perceptions of the existing career management systems, which in turn can be used to improve the career management practices in the organisation.

#### **5. PAYMENT FOR PARTICIPATION**

Respondents will not receive any additional payment for participating in this research, since it is voluntary.

#### **6. CONFIDENTIALITY**

This study will be used for **research purposes only**. 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 means of **not indicating any names or force numbers** in the questionnaire. The researcher and her supervisor (Lecturer) will be the only ones who have access to the data and the data will be stored at the researcher's personal computer, where no one else has access.

#### **7. PARTICIPATION AND WITHDRAWAL**

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

#### **8. IDENTIFICATION OF INVESTIGATORS**

If you have any questions or concerns about the research, please feel free to contact myself, Maria Rønn (+27 713 253 943, e-mail: 15506304@sun.ac.za) or my supervisor, Mr Francois De Kock, at Industrial Psychology Department, University of Stellenbosch (Tel: 021-808 3016, Mail: Private Bag X1, Matieland, 7602, E-mail: fsdk@sun.ac.za).

#### **9. RIGHTS OF RESEARCH SUBJECTS**

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your

participation in this research study. If you have questions regarding your rights as a research subject, contact Maryke Hunter-Hüsselmann (E-mail: mh3@sun.ac.za, Phone: +27 21 808 4623) at the Unit for Research Development of Stellenbosch University.

### Appendix C: Univariate Descriptive Statistics

Table C1.

*Analysis of Univariate Descriptives for all Variables before Imputation*

Descriptive Statistics											
	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
OCM	297	40	10	50	27,15	9,36	87,66	,17	,14	-,57	,28
ICM	290	59	19	78	51,31	11,14	124,04	-,06	,14	-,20	,29
AC	299	36	6	42	23,27	8,25	68,14	,01	,14	-,17	,28
OTE	283	28	22	50	37,21	5,15	26,48	-,02	,15	-,09	,29
ICM_Int	301	28	7	35	20,40	5,75	33,12	-,08	,14	-,47	,28
ICM_Ext	298	36	9	45	30,88	8,15	66,47	-,24	,14	-,47	,28
Valid N (listwise)	254										

*Note.* OCM – Organisational Career Management, ICM – Individual Career Management, AC- Affective Organisational Commitment,

OTE – Openness to Experience, ICM\_Int – Internally Focused ICM, ICM\_Ext – Externally Focused ICM.

Descriptive statistics represent unweighted linear composite total values calculated for each of the variable subscales, where the maximum possible scores for each scale was 50 for the OCM and OTE subscales, 80 for the ICM subscale, 42 for the AC subscale, 35 for the ICM\_Int subscale, and 45 for the ICM\_Ext subscale.

### Appendix D: Initial Measurement Models

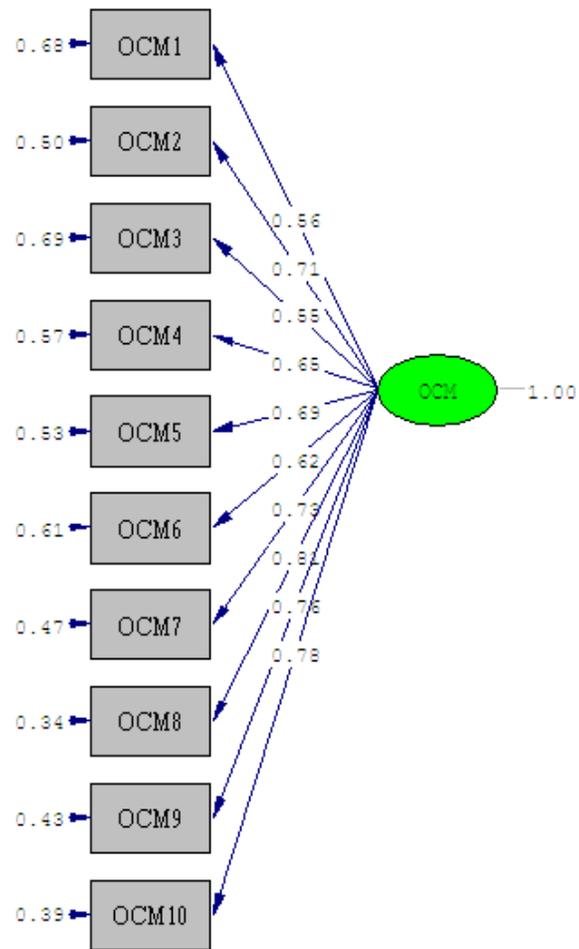
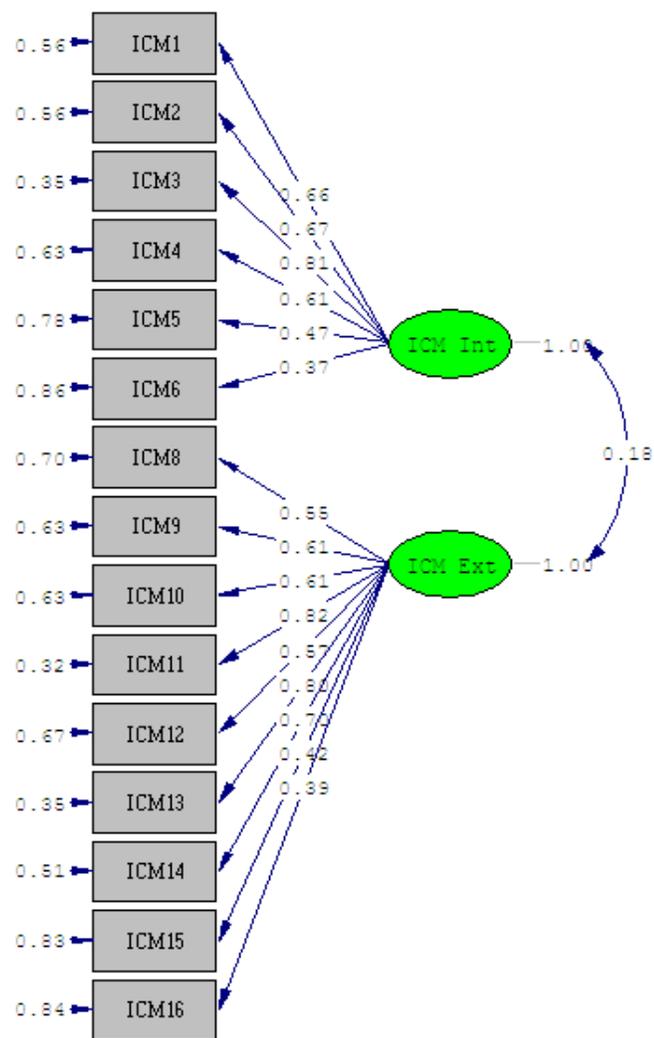
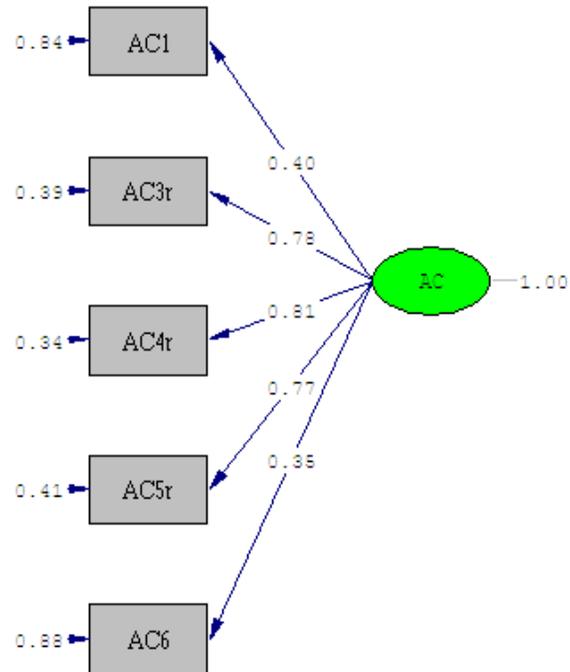


Figure D1. Initial Organisational Career Management Measurement Model.



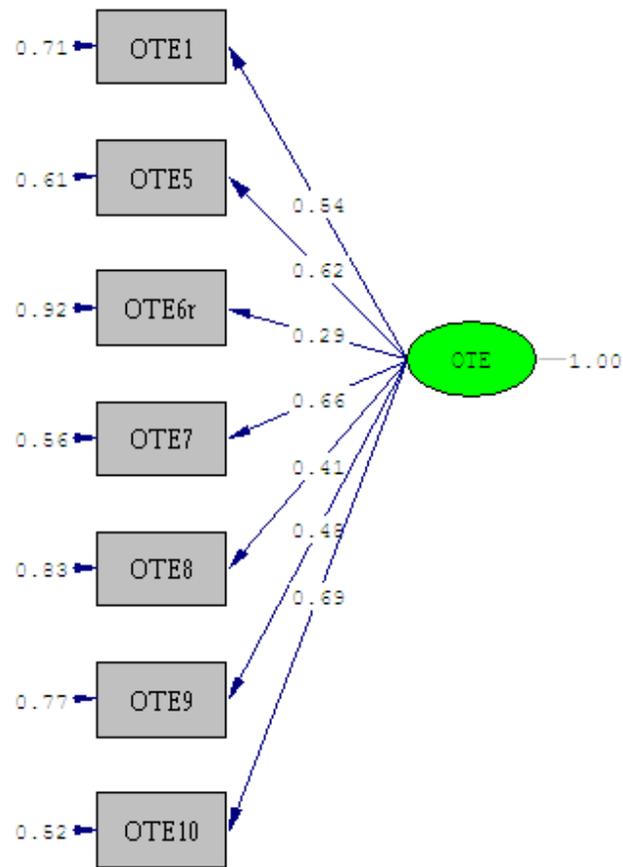
Chi-Square=294.33, df=89, P-value=0.00000, RMSEA=0.088

Figure D2. Initial Individual Career Management Measurement Model.



Chi-Square=52.26, df=5, P-value=0.00000, RMSEA=0.179

*Figure D3.* Initial Affective Organisational Commitment Measurement Model.



Chi-Square=42.96, df=14, P-value=0.00009, RMSEA=0.084

Figure D4. Initial Openness to Experience Measurement Model.

## Appendix E: Request for Carrying out Research



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jou kennisvennoot • your knowledge partner

Mrs Maria Rønn  
Department of Industrial Psychology  
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Stellenbosch University  
7602

28 July 2009

R Adm (JG) Asiel Kubu  
Director Naval Personnel  
Department of Defence: Navy Office  
Private Bag X104  
Pretoria  
0001

Dear Admiral Kubu

### **PROPOSED RESEARCH STUDY: CAREER MANAGEMENT AND RETENTION**

Your telephone discussion with Mr Francois de Kock (22 July) refers.

We are aware that staff retention is a key issue for the SA Navy. In a recent address to the media [3 December 2008], the Chief of the SA Navy, V Adm Johannes Mudimu highlighted the retention of skilled technical personnel as a key challenge to combat readiness of the Navy. During this briefing, you mentioned various retention initiatives for divers, submariners and technical staff. In this letter, we would like to propose a brief research study that could possibly assist you in managing the retention of navy personnel.

We are conducting exciting research that focuses on how organisations can increase the organisational commitment of their personnel and, in turn, reduce the costs associated with voluntary turnover. By implication, this could have benefits for organisational performance capability such as productivity, as well as combat readiness in the case of the military.

Commitment is a well explored research area because of its known and important effects on employees' work-related behaviours such as voluntary turnover and productivity. The costs associated with turnover are a common problem many organisations are facing today and seeking to reduce. It has also been observed that employees in the modern



world of work are not as committed to their organisation today as they were in earlier work eras. This holds true for the military in particular, since traditional views of the military as a calling are being replaced by increasingly occupational views. Consequently, questions regarding the importance of having a committed workforce have arisen and require more research.

Minimising staff turnover through enhancing commitment could have great benefit for the SA Navy. When skilled personnel start to consider employment in the private sector, their productivity usually initiates decline long before they actually leave, resulting in productivity loss and other costs for the organisation. In the civilian sector, the costs associated with staff turnover vary, but a rule of thumb is to estimate this cost to be equivalent of a year-and-a-half of annual salary. For example, if the average annual pay in the Navy is R150 000, and if turnover is estimated as 5% percent of 5000 employees, then one year's turnover is estimated to be R56.25m (ZAR) to the organisation.

The high rate of turnover that many organisations are experiencing today should be of serious concern for their HR departments. Retention of qualified military personnel is a major priority for most countries and the identification of factors influencing voluntary turnover of skilled personnel can therefore have important monetary utility implications for military organisations. It is well-known that training in the Navy is time intensive and costly, thereby increasing the costs associated with personnel turnover. What the present literature study has found is that an organisation's career management system in many ways is related to employees' commitment to their organisation, which in turn is related to the turnover rate in the organisation. The present study therefore aims at investigating employees' perception of career management activities in their organisation (their employer's career management activities, as well as their self-managed career management activities) and how these relate to their level of organisational commitment. For this reason, we propose to conduct this research in the SA Navy since it ties in closely with your strategic interests and hereby request your consideration of our proposal.

Our only requirements for this research can be summarised as follows:

- Access to staff (in the navy units that you designate) who will receive a questionnaire that takes approximately 15 minutes to complete. The questionnaire is an attitude survey that measures the variables under investigation (see full questionnaire set in research proposal attached). This questionnaire can be administered by the researchers during group meetings, such as a communication period, to minimise disruption of work activities. Alternatively, the questionnaires can be completed by personnel within their quarters and collected by the researchers.
- This research will not carry any direct or indirect costs for the SA Navy.

If you decide to participate in this research, your organisation can benefit in a number of ways:

- gain a better understanding of how your sailors perceive the formal and informal career management system of the SA Navy
- establish the levels of organisational commitment in the SA Navy samples that we study





- establish the degree to which personnel engage in self-management of their careers
- determine if career management practices are related to the employees' commitment in your specific organisation
- use this information in possible actions towards reducing the voluntary turnover, or in an improvement of the existing career management system
- use this study as a benchmark to map possible changes in staff attitudes regarding the career management system in the Navy.

The results of the study will be available to you in the form of a summary report of the results presented to you in the form of a personal briefing. We undertake to abide by confidentiality and disclosure agreements with your organisation should you decide to participate. Our project has been submitted to, and approved by, the research ethics committee of Stellenbosch University.

If our proposal sounds potentially beneficial to the SA Navy, we hereby request your authorisation to proceed with the study in the form of a letter outlining the scope of your permission, additional needs that you may require, as well as the conditions that you would like to attach to this study. For further clarification of our suggestions, kindly contact me by telephone, or alternatively, contact my research supervisor (detail provided in footnote). For your convenience, a full research proposal is attached that includes the literature study, scientific method, statistical analyses, questionnaire set, ethical approval and informed consent forms.

Yours faithfully,

MRS MARIA RØNN

Masters student<sup>4</sup>: Department Industrial Psychology, Stellenbosch University

MR FRANCOIS DE KOCK

Research supervisor<sup>5</sup>: Department Industrial Psychology, Stellenbosch University

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<sup>4</sup> Contact detail for Maria Rønn: Cell: 0713253943, E-mail: 15506304@sun.ac.za

<sup>5</sup> Contact detail for Francois de Kock: Cell: 0827804652, Tel: 0218083016, E-mail: fsdk@sun.ac.za



**Appendix F: Ethics Committee Application Form**  
**Appendix F: Ethical Clearance Application Form**

**ETHICS COMMITTEE APPLICATION FORM**

**UNIVERSITY OF STELLENBOSCH**

***SUBCOMMITTEE A***

***2009***

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**Application to the University of Stellenbosch SUBCOMMITTEE A**  
**for clearance of new/revised research projects**

**This application must be typed or written in capitals**

**Name: Prof/Dr/Mr/Ms:** Mrs Maria Rønn

**Position/Professional Status:** Student

**Affiliation: Research Programme/Institution:**

Industrial Psychology

Master's program in Human Resource Management

**Title of research project:**

The relationship between career management and organisational commitment.

The moderating effect of openness to experience.

**Where will the research be carried out?**

The research will be carried out in the South African Navy Defence Force (SANDF), situated in Simonstown.

***All the following sections must be completed (Please tick all relevant boxes where applicable)***

**1. FUNDING OF THE RESEARCH: How will the research be funded?**

Self-funded

**2. PURPOSE OF THE RESEARCH:**

The purpose of the study is to gain a wider understanding of the career management process, organisational commitment, and the importance of individual differences in the work place. The results of the study will contribute to the existing literature within career management, as well as to enrich HR practitioners' knowledge about consequences of career management processes in the pursuit of reducing unwanted voluntary turnover. Furthermore, the study can contribute to the improvement of existing career management systems and employees' commitment levels.

**3. AIMS AND OBJECTIVES OF THE RESEARCH: *(Please list objectives)***

1. To identify the consequences of organisational and individual career management on the work-related attitude of organisational commitment.
2. To investigate the nature and antecedents of affective organisational commitment.
3. To elaborate on the personality trait openness to experience and its relationship to career management.
4. To investigate the moderating effect of openness to experience to the relationship between career management and organisational commitment.

**4. SUMMARY OF THE RESEARCH *(give a brief outline of the research plan – not more than 200 words)***

Data collected from the South African Navy Defence Force will provide information regarding the employees' perceptions of the career management practices in their organisation, their individually performed career management activities, their levels of affective organisational commitment, and their degree of openness to experience as a personality characteristic. The purpose of this study is to investigate the relationship between organisational and individual career management and organisational commitment. Specific focus will be placed on the moderating role the personality trait openness to experience plays in this relationship. Based on a literature review, hypotheses are stated regarding variables' relationship to each other, and self-reported data for the analysis will be collected via a paper-based survey distributed to the South African Navy Defence Force. The hypothesis will be tested by using moderated multiple regression. Lastly, findings will be presented in addition to practical recommendations, shortcomings and recommendations for future research.

## 5. NATURE AND REQUIREMENTS OF THE RESEARCH

### 5.1 How should the research be characterised (*Please tick ALL appropriate boxes*)

5.1.1 Personal and social information collected directly from participants/subjects	X
5.1.2 Participants/subjects to undergo physical examination	
5.1.3 Participants/subjects to undergo psychometric testing	X
5.1.4 Identifiable information to be collected about people from available records	
5.1.5 Anonymous information to be collected from available records	
5.1.6 Literature, documents or archival material to be collected on individuals/groups	

### 5.2 Participant/Subject Information Sheet attached? (*for written and verbal consent*)

<b>YES</b>	X
<b>NO</b>	

### 5.3 Informed Consent form attached? (*for written consent*)

<b>YES</b>	X
<b>NO</b>	

#### 5.3.1 If informed consent is not necessary, please state why:

N/A

NB: If a questionnaire, interview schedule or observation schedule/framework for ethnographic study will be used in the research, it must be attached. The application cannot be considered if these documents are not included.

### 5.4 Will you be using any of the above mentioned measurement instruments in the research?

<b>YES</b>	X
<b>NO</b>	

## 6 PARTICIPANTS/SUBJECTS IN THE STUDY

### 6.1 If humans are being studied, state where they are selected:

The respondents will be selected from the South African Navy Defence Force, situated in Simonstown.

#### 6.1 Please mark the appropriate boxes:

Participants/subjects will:	YES	NO
be asked to volunteer	X	
be selected	X	

#### 6.2.1 State how the participants/subjects will be selected, and/or who will be asked to volunteer:

The technique used to select participants in this study will be a non-probability convenience sampling method. This method implies selecting those cases that are easiest to obtain for the study in question. In the present study a group of SANDF employees, who at the time for data collection are participating in a training program, will be gathered in a big lecturer hall on the participating organisation's premises and asked to voluntarily participate in the survey.

#### 6.3 Are the participants/subjects subordinate to the person doing the recruiting?

<i>YES</i>	
<b>NO</b>	<b>X</b>

#### 6.3.1 If yes, justify the selection of subordinate subjects:

N/A

#### 6.4 Will control participants/subjects be used?

<i>YES</i>	
<b>NO</b>	<b>X</b>

#### 6.4.1 If yes, explain how they will be selected:

N/A

**6.5 What records, if any, will be used, and how will they be selected?**

N/A

**6.6 What is the age range of the participants/subjects in the study?**

Lower level: 18. Upper level: Not determined.

**6.6.1 ~~Was assent for guardians~~/consent for participants/subjects obtained?**

<b>YES</b>	<b>x</b>
<b>NO</b>	

*If YES, please attach the appropriate forms.*Informed consent form attached as **Appendix B**.**6.6.2 If NO, please state why:**

N/A

**6.7 Will participation or non-participation disadvantage the participants/subjects in any way?**

<b>YES</b>	
<b>NO</b>	<b>x</b>

**6.7.1 If yes, explain in what way:**

N/A

**6.8 Will the research benefit the participants/subjects in any direct way?**

<b>YES</b>	<b>X</b>
<b>NO</b>	

**6.8.1 If yes, please explain in what way:**

By participating in this study, all the employees of the organisation (not just participants) will have the opportunity to affect their working conditions by informing their employer about their perceptions of the existing career management systems.

## 7. PROCEDURES

### 7.1 Mark research procedure(s) that will be used:

Literature	X
Documentary	
Personal records	
Interviews	
Survey	X
Participant observation	
Other (please specify) _____ _____	

### 7.2 How will the data be stored?

The data will be stored on the computer belonging to the person carrying out the research. The documents containing the data will be password protected. Back up of the data will also be made on an external hard drive belonging to the researcher.

### 7.3 If an interview form/schedule; questionnaire or observation schedule/framework will be used, is it attached?

<b>YES</b>	X
<b>NO</b>	

### 7.4 Risks of the procedure(s): Participants/subjects will/may suffer:

No risk	X
Discomfort	
Pain	
Possible complications	
Persecution	
Stigmatisation	

<b>Negative labeling</b>	
<b>Other (please specify)</b>	

**7.4.1 If you have checked any of the above except "no risk", please provide details:**

N/A

## **8. RESEARCH PERIOD**

**(a) When will the research commence:**

February 2009

**(b) Over what approximate time period will the research be conducted:**

February 2009 – November 2009

## **9. GENERAL**

**9.1 Has permission of relevant authority/ies been obtained?**

<b>YES</b>	<b>X</b>
<b>NO</b>	

**9.1.1 If yes, state name/s of authority/ies:**

The South African Navy Defence Force

**9.2 Confidentiality: How will confidentiality be maintained to ensure that participants/subjects/patients/controls are not identifiable to persons not involved in the research:**

No personal data that can be traced back to the individual will be collected with the survey. Any information that is obtained in connection with this study and that can be identified with any of the participants will remain confidential and will be disclosed only with their permission or as required by law. The participants will furthermore not be traced after the survey.

**9.3 Results: To whom will results be made available, and how will the findings be reported to the research participants?**

The results will be available in a thesis at the University of Stellenbosch. We will also try to publish an article after November. The results will additionally be made available to the management of the participant organisation by means of a summary of the results where general group level of trends will be presented. No data will be provided.

**9.4 There will be financial costs to:**

<b>participant/subject</b>	
<b>institution</b>	
<b>Other (please specify)</b> _____	<b>X</b>

**9.4.1 Explain any box marked YES:**

The study will be self-funded by the researcher.

**9.5 Research proposal/protocol attached:**

<b>YES</b>	<b>X</b>
<b>NO</b>	

**9.6 Any other information which may be of value to the Committee should be provided here:**

N/A

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**Date:** \_\_\_\_\_ **Applicant`s signature** \_\_\_\_\_

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**Who will supervise the project?**

**Name:** Mr Francois de Kock

**Programme/Institution/Department:** Industrial Psychology

**Date:** \_\_\_\_\_ **Signature:** \_\_\_\_\_

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**Director/Head/Research Coordinator of Department/Institute in which study is conducted:**

**Name:**

**Date:** \_\_\_\_\_ **Signature:** \_\_\_\_\_