CAREER MATURITY ACROSS CAREER STAGES IN THE SOUTH AFRICAN MILITARY

by

MFANISELWA ABEDNIGO THEMBA

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SUPERVISOR: PROF R M OOSTHUIZEN

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DECLARATION

I, the undersigned, hereby declare that the dissertation titled "**CAREER MATURITY ACROSS CAREER STAGES IN THE SOUTH AFRICAN MILITARY**", is my own work and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references.

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ABEDNIGO THEMBA DATE

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SUMMARY

The present study explores career maturity across career stages in the South African military. The Career Development Questionnaire (CDQ) and a biographical questionnaire were administered to a sample of South African military officers (n = 333). The data were statistically analysed for significant mean differences in career maturity according to demographic and military-specific variables. The results revealed an adequate level of career maturity among the participants. The participants' overall mean scores in career maturity showed no significant mean differences according to demographic variables. Significant mean differences were, however, observed for the sample according to their arm of service in the South African military. Whilst the results did not indicate a developmental progression of career maturity among the participants, it did reflect the equivocal nature of previous career maturity research. Conclusions for the study are made, limitations are discussed, and recommendations are provided for practice and future research.

Key concepts: career maturity, career stages, career development, military service, military officers, South African military

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CHAPTER 1   BACKGROUND AND OVERVIEW OF THE RESEARCH

1.1   INTRODUCTION

This dissertation focuses on career maturity across the various career stages in the South African military. The first chapter provides a background to, and motivation for, this research. Thereafter the problem statement is given, followed by both the general and specific aims of the study. The paradigm perspective that demarcates the boundaries for the research is also discussed. Thereafter, the research design and method are stated, to clarify the implementation of the research. The first chapter concludes with a brief outline of the chapter flow.

1.2   BACKGROUND TO THE RESEARCH

Organisations (including military organisations) are constantly under tremendous pressure to adapt to the increasing changes in the environment (Coetzee, Fourie & Roodt, 2002; Louw & Martins, 2004). These changes, which are influenced by global issues such as technological advancement, economic and political developments, have to be accepted and accommodated by organisations (Coetzee et al., 2002; Pascale, Millemann & Gioja, 1997; Schreuder & Coetzee, 2006). It is important to appreciate that the changing environment has huge implications, not only for the organisation but also for the individual's career. For example, the emphasis has now shifted from mere job security (or employment) to employability (Coetzee & Roythorne-Jacobs, 2007; Schreuder & Coetzee, 2006). This means that the individual is now more responsible to continuously develop his or her skills and abilities to meet the demands of the modern workplace. In the modern work environment, aspects of career management are no longer the sole responsibility of the organisation. The increasing need to maintain a high level of employability also requires organisations and individuals to invest in meaningful career development practices.

According to Mangelsdorff and Gal (1991), military organisations are not immune to these environmental changes, which also influence the manner in which

psychological principles are applied in the military. Their application in the military usually begins with a military requirement which then leads to recruitment and selection, and the utilisation of people in jobs most appropriate to their skills and to the military needs (Mangelsdorff & Gal, 1991). It is important to note that the military in South Africa is not just seen as an instrument of aggression, but is expected to play a vital role in human capital development (Parliamentary Research Unit, 2007).

In order to take charge of their careers (and maintain a high level of employability), military members also need a high level of self-awareness. "Self-knowledge, the basis for career planning, and the ability of the individuals to direct their career, as well as organisational support, are becoming increasingly important in the turbulent and changing economics of the world today" (Schreuder & Coetzee, 2006, p. 86). According to these writers, it is pivotal that individuals exhibit the ability to make career decisions that are decisive, self-reliant and independent, to ensure successful career development programmes (Schreuder & Coetzee, 2006). This is particularly important for military organisations which need individuals with higher levels of career maturity as their members.

Military organisations present an environment with unique characteristics, that is, the combat environment. This is the environment that young military recruits are expected to adjust to during and after basic military training, because adjustment and coping with the military environment lead to effective military performance (Shalit, 1988). According to Elder, Gimbel and Ivie (1991), military service creates discontinuity in a person's life, and subjects the individual to a world where one's past life or history has no importance. Elder et al. (1991) highlight three career-related aspects of military service emanating from a person's break with the past. First, basic military training makes prior identities irrelevant, requires uniform dress and appearance, minimises privacy, and rewards performance on the basis of group achievement. Second, military service represents a time-out from education, work, and family, as the individual is released from the conventional expectations of an age-graded career. Thirdly, military service increases the scope of awareness of self and others through an expanded range of interactional experiences, thus increasing a greater acceptance of social diversity. These three aspects reflect the uniqueness of career development within the military environment.

Career development is important, and armed forces need to focus on the individual career expectations and models provided by the most advanced societies to improve their practices (Steege & Fritscher, 1991). The military must not lag behind society at large in terms of its career development practices, but must rather integrate them into the civilian society (Steege & Fritscher, 1991). Closely associated to military career development and military human resource management is the high level of attrition (Milgram, 1991). To reduce these high levels of turnover it is important for military organisations to understand the dynamics of military career choice and commitment (Milgram, 1991).

In terms of career maturity, which is an important aspect of career development, a considerable amount of research has been conducted, mainly focused on high school and university students (for example, Flouri & Buchanan, 2002; Luzzo, 1995; Luzzo & Pierce, 1996; Powell & Luzzo, 1998; Patton & Creed, 2001). Most of this research also focuses on the relationship between career maturity and demographic factors such as age, gender, race, people with disabilities, and socio-economic factors. According to Raskin (1998) and Schmitt-Rodermund and Silbereisen (1998), it is important to take into consideration the individual and socio-cultural differences which may be determinants of career maturity. Despite this considerable interest in the construct of career maturity, very little research has been conducted in the military context. There is also minimal research which focuses on the developmental progression in career maturity across the various career stages. Other than attrition, career development issues relating to career maturity (or lack of) manifest themselves in various ways in the South African armed forces, for example, dissatisfaction with chosen military career paths and the desperate need of members of the military to change careers and services. To create a better understanding of the construct of career maturity and to broaden the context in which it is investigated, the field of industrial and organisational (I/O) psychology can benefit by extending the focus on career maturity to the unique military context. In turn, career development practices in the military may be enhanced by such a study.

1.2.1 Career Maturity

Career maturity is a construct that was introduced by Donald E. Super as "vocational maturity" in his career development theory more than 50 years ago (Coertse & Schepers, 2004; Naidoo, 1998; Patton, 2006). Career maturity is reflected by an individual's mature behaviour in coping with the tasks of career development, compared with that of others dealing with the same tasks (Super & Bohn, 1970). The focus of career maturity is on the manner in which "the individual responds to emerging demands, problems, challenges, and expectations" (Jordaan & Heyde, 1979, p. 4). This is a normative definition of the construct, as it compares an individual's career behaviour with the career behaviour expected at that stage (Osipow, 1973).

According to Super (1957, p. 187), vocational or career maturity is characterised by "1) increasing orientation to vocational choice; 2) increasing amounts of vocational information and more comprehensive and detailed planning; 3) increasing consistency of vocational preferences; 4) the crystallization of traits relevant to vocational choices; and consequently, 5) increasing wisdom of vocational preferences". A person displaying these qualities in the early stages of career development is regarded as career-mature, and is therefore expected to be better adjusted in his or her career.

Building on Super's formulation of career maturity, Crites (1971) proposed a model and a measure of career maturity that consists of cognitive and affective dimensions. The cognitive dimensions consist of decision-making skills whilst the affective dimension includes attitudes toward the career decision-making process (Coertse & Schepers, 2004; Patton & Creed, 2001).

Career maturity has important implications for career counselling practice (Super & Overstreet, 1960) and is as "applicable to the man in his 40s, who must choose between stagnating and striving for advancement, and to the 63-year-old individual approaching retirement, as to the young adolescent whose lack of readiness or maturity may be more obvious" (Jordaan & Heyde, 1979, p. 4). In career counselling

practices, career maturity is regarded as one of the most commonly employed outcome measures (Coetzee & Roythorne-Jacobs, 2007). A person is regarded as career-mature or ready to make appropriate career choices when he or she has engaged in planful exploration and has appropriate occupational knowledge, self-knowledge, and decision-making knowledge (Patton, 2006).

1.2.2 Career Stages

According to Super and Overstreet (1960), making and adjusting career decisions are behavioural processes which change with time and can be appropriately studied from a developmental frame of reference. In this context, careers are seen as unfolding in a series of developmental stages, with each stage characterised by certain tasks (Patton, 2006). The tasks which individuals have to master vary at different stages of development, with changes in the individual and in the demands of society (Super & Overstreet, 1960). Super's career development theory identifies five career stages, namely growth (age 4 to 13), exploration (age 14 to 24), establishment (age 25 to 44), maintenance (age 45 to 65), and decline (over 65) (Jordaan & Heyde, 1979; Sverko, 2006).

> The primary task of the first stage is to develop a picture of the kind of person one is and an understanding of the nature and meaning of work. In the second stage, it is to crystallize, specify, and implement a vocational preference. The third stage involves making a place for oneself in the chosen occupation and consolidating and improving one's position. The challenge of the fourth stage is to maintain and preserve the status one has achieved. Finally, the task of the fifth stage is to decelerate, disengage, and cope with the problems of the impending or actual retirement (Super, Crites, Hummel, Moser & Overstreet and Jordaan as cited in Jordaan & Heyde, 1979, pp. 3-4).

The career stages mentioned above are not the only conceptualisation of career development stages in the literature. In general, the career development models have numerous features in common, which vary mainly in terms of the number of stages across the lifespan and the degree of specificity with which each model links its stages to age ranges (Campbell & Heffernan, 1983). Campbell and Heffernan

(1983) review and present a synthesis of well-known adult development stage models and theories found in the literature (such as Erikson (1963), Havighurst (1972), Levinson, Darrow, Klein, Levinson and McKee (1978), and Super's (1957) model of developmental stages). From their synthesis emanate four career development stages, given below, which are consistent with pertinent career stage models in the literature. It is important to note that Campbell and Heffernan (1983) emphasise that their model of career development stages allows people to cycle through the same stages several times during their lives.

- *Preparation Stage*. This stage encompasses that period of time and those activities that are relevant to preparing for an occupation and obtaining a position in the workforce. Individuals may pass through this stage at the beginning of their career development processes, when negotiating for major career changes, or when planning a re-entry to the work environment following a period of either voluntary or forced unemployment.

- *Establishment Stage*. This stage encompasses that period of time and those activities that are relevant to demonstrating one's ability to function effectively in an occupation. This stage follows the preparation stage, and is seen as commencing on the first day of employment.

- *Maintenance Stage*. Individuals in this stage have prepared for and established themselves in an occupation. They are relatively satisfied with their work, and are unlikely to make radical changes unless confronted with a crisis. These individuals work towards career stability, permanence in the same occupation, maintenance and protection of acquired skills, and accrual of seniority. In essence, the individual has decided to continue in his or her established occupation.

- *Retirement Stage*. This stage is seen as the last major transition of one's career in one's life. It is also viewed as a social and economic policy that affects individual career development. Retirement requires planning and action under circumstances that are sometimes unclear and unpredictable. In general, as retirement nears, people shift from maintaining what was their lifelong occupation to planning for retirement. An individual who decides not to retire will remain in

the maintenance stage unless a career change requires him or her to recycle into another stage.

An understanding of the tasks and challenges individuals encounter as they progress through these career stages clarifies the alignment of career development practices to the specific needs of people.

1.3   PROBLEM STATEMENT

Career maturity is an explanatory construct originally proposed to account for individual differences in readiness to make career choices, plan ahead, and assume the role of a worker (Vondracek & Reitzle, 1998). It is a useful construct which appears to be multi-determined and influenced by diverse demographic factors (Naidoo, 1998). Studies investigating correlates of career maturity have focused on variables such as age, gender, race, ethnicity, and socio-economic status (Patton & Creed, 2001; Naidoo, 1998).

Vondracek and Reitzle (1998) criticise the construct (career maturity) as giving insufficient attention to the particular contexts of time and culture within which it may be observed. Because career maturity may be influenced by people's unique life situations, it is important when investigating it, to utilise a cross-cultural and contextual approach (Raskin, 1998; Schmitt-Rodermund & Silbereisen, 1998). This is where the military context of this particular study fits in. As stated previously, only minimal research has been conducted on the construct of career maturity in the military context, even though the military has provided an impetus to the field of career psychology since the First World War (Keene, 1994; Super, 1983; Muchinsky et al., 2002).

Military organisations, with their hierarchical structures, usually present clear career paths or upward career progression where their members can advance both in rank and authority. The relationship between career maturity and such military career advancement has not been previously investigated. It is therefore necessary and beneficial for the field of industrial and organisational psychology to extend the focus of career maturity research to the unique military environment. Exploring career

maturity across career stages in a diverse and unique military environment may enhance career development practices in military organisations, particularly the South African armed forces.

This study was undertaken to explore the level of career maturity across career stages in the South African military context. Against this background, the researcher formulated the following general research question: What is the level of career maturity across the various career stages in the South African military? To answer this question, the following subsidiary questions were also formulated:

- Are there significant differences in career maturity among the demographic variables (such as age, gender, race, and level of education) in the South African military?
- Are there significant differences in career maturity among the military-specific variables (such as arm of service, military rank, and mustering category) in the South African military?
- Is there a developmental progression in career maturity according to age, level of education, and military rank in the South African military?

1.4   AIMS OF THE STUDY

From the above-mentioned research problem and questions, the following aims have been formulated.

1.4.1 General Aim

The general aim of the study is to investigate the level of career maturity across the various career stages in the South African military.

1.4.2 Specific Aims

The specific aims of the study are related to the literature review and the empirical study.

1.4.2.1 Literature review

The specific aims of the literature review are to conceptualise:

- Career maturity from a theoretical perspective.
- Career stages from a theoretical perspective.
- The theoretical relationship between career maturity and career stages.

1.4.2.1 Empirical study

The specific aims of the empirical study are:

- To determine the level of career maturity across career stages among participating South African military officers.
- To determine the existence of significant mean differences in career maturity according to the demographic variables such as age, gender, race, and level of education of the participating South African military officers.
- To determine the existence of significant mean differences in career maturity according to military-specific variables such as arm of service, military rank, and military mustering of the participating South African military officers.
- To determine the developmental progression of career maturity among the participants according to variables such as age category, level of education, and military rank.
- To formulate recommendations based on the literature and empirical findings of this research with regard to more effective career development practices in the South African armed forces and future research.

1.5 PARADIGM PERSPECTIVE

This section will outline the relevant paradigms, meta-theoretical statements, and theoretical models used in the research.

1.5.1 Relevant Paradigms

For the purpose of this research, "paradigm perspective" refers to the framework of widely accepted beliefs, values, assumptions, and techniques that shape scientists' observations of reality (Dooley, 1995). The literature review on both career maturity and career stages is presented according to the humanistic, positive psychology, and functionalistic paradigm.

1.5.1.1 Humanistic paradigm

The humanistic paradigm emphasises the unique qualities of humans, especially their freedom and potential for personal growth (Weiten, 2001). Humanism proposes that people can rise above their primitive instincts and biological urges, and are largely conscious and rational beings who are not dominated by unconscious, irrational needs and conflicts (Weiten, 2001). This stance reflects the humanists' belief in self-actualisation, which is the development of the potential that exists naturally in every person (Graziano & Raulin, 1993; Jordaan & Jordaan, 1998; Watkins, 2001). According to Weiten (2001, p. 504), "humanists embrace the phenomenological approach, which assumes that one has to appreciate individuals' personal, subjective experiences to truly understand their behavior".

1.5.1.2 Positive psychology paradigm

The positive psychology paradigm also underpins this research, and is based on the premise that people are capable of happiness, life satisfaction, and optimal performance by devoting their efforts to cultivating their strengths (Brecher & Matthews, 2006). According to Seligman, Steen, Park and Peterson (2005, p. 410), positive psychology is an "umbrella term for the study of positive emotions, positive character traits, and enabling institutions". Harris, Thoresen, and Lopez (2007) also suggest that positive psychology should be integrated into counselling psychology to enhance human strength. The main objective of positive psychology is to increase a person's happiness, which is associated with stronger physical health, less psychopathology, better coping skills, and even longer life (Pointon, 2006).

1.5.1.3   Functionalistic paradigm

The empirical study is presented from a functionalistic paradigm. According to Morgan (1980, p. 608), this perspective is embedded on the assumption that "society has a concrete, real existence, and a systemic character oriented to produce an ordered and regulated state of affairs". A functional explanation relies on the decomposition of a system into its component parts, thus explaining the working of a system in terms of the relation and integration of its components (Block, 1980). In a societal setting, functionalism advocates an approach to social theory that concentrates on the role of human beings. Behaviour is viewed as being contextually bound in a real world of concrete and tangible social relationships (Morgan, 1980). In essence, functionalism is primarily regulative and pragmatic in its basic orientation, concerned with understanding society in a way which generates useful empirical knowledge (Morgan, 1980).

1.5.2 Meta-Theoretical Statements

The disciplinary context for this research is industrial psychology, more specifically career development.

1.5.2.1   Industrial psychology

Industrial psychology is the scientific application of psychological knowledge and research to the work environment (Landy & Conte, 2007, Strumpfer, 2007). Similar to its parent discipline (psychology), there are two sides of industrial psychology, namely science and practice (Muchinsky, Kriek & Schreuder, 2002). On the one side, it is an academic discipline advancing scientific knowledge about people at work, and on the other side it is concerned with applying scientific knowledge to solve real problems in the work environment. Since the domain of industrial psychology covers factors that influence work behaviour, such as family responsibilities and cultural diversity, one must guard against restricting its application and benefits only to the boundaries of the traditional workplace (Landy & Conte, 2007).

1.5.2.2   Career development

Out of the field of industrial psychology, which has several foci, this study focuses on the career development of employees. According to Coetzee and Roythorne-Jacobs (2007, p. 192), career development is an "ongoing process by which individuals progress through a series of stages, each of which is characterised by a relatively unique set of issues, themes or tasks". To understand career development from this perspective, it is "necessary to understand not only the sequence of positions one occupies across time, but the linkage between positions, the branching from one position to another, and the interrelationship of factors that cause persons to anticipate, plan for, and implement one position rather than another at any particular point in time" (Herr, 1989, p. 5). According to Herr (1989), a study in this field should apply a methodological approach that is sensitive to both time and context.

1.5.3 Theoretical Models

This study is conceptualised from Super's view of career development. This is a developmental theory that recognises the changes individuals go through as they mature, and it emphasises a life-span approach to career development (Sverko, 2006). This theory, like other developmental approaches, partitions work life into stages and then attempts to specify the typical career behaviours at each stage (Sverko, 2006).

Since career maturity is multidimensional in nature, for the purpose of this study it was conceptualised in terms of the following five dimensions: obtaining self-information, decision-making skills, gathering career information, integrating self-information and career information, and career planning (Langley, 1990). Career stages were conceptualised according to Super's career development model, which uses age to demarcate career stages across the human lifespan.

1.5.4 Methodological Assumption

According to Babbie and Mouton (1998), research methods vary in terms of the tasks they perform: from methods and techniques of sampling, to data-collection methods, and methods of data analysis. However, the selection and application of these methods will always depend on the aims and objectives of the study, the nature of the phenomenon being investigated, and the underlying theory or expectations of the researcher. As a result, research methods and techniques involve a variety of assumptions (Babbie & Mouton, 1998).

The current study is exploratory, and it employs a quantitative approach. The central hypothesis is formulated as follows: there are significant differences in career maturity across the various career stages in the South African military.

The researcher is a Master's student in industrial and organisational psychology, and assumes the position of an external observer, whilst the units of analysis are officers in the South African military.

1.6   RESEARCH DESIGN

Research design addresses the planning of the scientific enquiry, that is, designing a strategy for finding out something (Babbie & Mouton, 2001). It is therefore a blueprint of how one intends conducting the research in order to solve the research problem (Babbie & Mouton, 2001). According to Babbie and Mouton (2001), three of the most common and useful purposes of social research are exploration, description, and explanation. For this study, the purpose of the literature review and the empirical study is exploratory. Exploratory research is essential to social scientific research, and is appropriate to broaden the understanding of previously unexplored areas (Babbie & Mouton, 2001).

The research design involves a literature review and an empirical investigation to determine the level of career maturity (dependent variable) across career stages (independent variable) in the South African military. A quantitative approach has

been adopted for this study and data was gathered by means of a psychometric instrument.

According to Babbie and Mouton (2001), the units of analysis are the "what" of the study – the people or things the characteristics of which social researchers observe, describe and explain. Individual human beings are regarded as the most typical units of analysis for social scientific research (Babbie & Mouton, 2001). For the present study, an officer of the South African military is the unit of analysis.

Precision and accuracy are important qualities in research measurement (Babbie & Mouton, 2001). The reliability and validity of the empirical research are reflected in the precision and accuracy of the research design (Babbie & Mouton, 2001). The reliability and validity of this study was ensured by providing an overview of the literature in a structured manner when presenting constructs, and by utilising a valid and reliable psychometric instrument to measure the level of career maturity of the participating officers in the South African military.

1.7   RESEARCH METHODOLOGY

In an attempt to obtain scientific and objective findings, the research methodology entails two phases, namely the literature review and the empirical study.

1.7.1 Phase 1:   Literature Review

The literature review consists of the following three steps:

Step 1:   Literature review of career maturity. This involves the conceptualisation of the construct "career maturity".

Step 2:   Literature review of career stages. This involves the conceptualisation of the construct "career stages".

Step 3:   Integration of steps 1 and 2. Here the focus is on integrating the above literature to ascertain the theoretical link between the constructs "career maturity" and "career stages".

1.7.2 Phase 2: Empirical Study

This empirical study consists of the following nine steps:

Step 1   Determination and description of the sample

The sample was drawn from a population of South African military officers holding the rank of Candidate Officer (CO) to Major. Only eligible officers serving in the following South African National Defence Force's (SANDF) four arms of service took part in the study: the SA Army, SA Airforce, SA Navy, and the SA Military Health Service (SAMHS).

Step 2   Choosing and motivating the psychometric battery

The Career Development Questionnaire (CDQ) (Langley, 1990), which is a valid and reliable career maturity-measuring instrument, was used in the empirical study. A biographical questionnaire was also completed by the participants, to gather the following information: arm of service, mustering, military rank, age, gender, race, and highest educational qualification.

Step 3   Administration of the psychometric battery

The CDQ and biographical questionnaire were administered by the researcher and assisting postgraduate students at various military bases of the SANDF, such as the South African Military Academy, the SA Army College, the Personnel Service School, the SA Airforce College, the SA Navy Base in Simonstown, the Naval Headquarters (HQ), and the SAMHS Academy and Nursing College.

Step 4   Scoring the psychometric battery

In this empirical study the answer sheets were scored manually, and each answer sheet was allocated a serial number for control purposes.

Step 5 **Statistical data processing**

The statistical data processing was carried out using the Statistical Package for the Social Sciences (SPSS) version 16. Descriptive statistics such as frequencies, means, standard deviations, and Kuder-Richardson (KR) 20 were computed. *T*-tests and analysis of variance (ANOVA) were computed to determine significant differences in career maturity among the demographic and military-specific variables in the South African military. The Scheffe post hoc test was used to test the significance of the detected differences between the means.

Step 6 **Formulation of the research hypotheses**

The research hypotheses were formulated to address the objectives of the study.

Step 7 **Reporting and interpreting the results**

The findings were presented and discussed in a systematic conceptual framework.

Step 8 **Integration of research findings**

The results of the empirical study were integrated with the findings of the literature review.

Step 9 **Formulating the research conclusions, limitations, and recommendations**

The conclusions were formulated on the basis of the formulated aims of the study. The limitations were discussed with reference to the literature review and the empirical study. Finally, recommendations were formulated to address the research problem.

1.8 CHAPTER LAYOUT

Chapter 1 discusses the background to, rationale for, and purpose and objectives of the study, the paradigm perspective, and the research design and methodology, and outlines the study.

Chapter 2 conceptualises *career maturity* through an integration of the existing literature, presents different models and approaches, and discusses the uniqueness of each model as well as the commonalities between models.

Chapter 3 conceptualises *career stages* and discusses the paradigmatic and conceptual foundations in order to describe the theoretical framework of the construct. Different career stage models (including Super's (1957) career stage model) are discussed.

Chapter 4 covers the research methodology, including the research problem, hypotheses, sample, instruments, and statistical methods.

Chapter 5 reports and interprets the results of the empirical study, using descriptive and inferential statistics.

Finally, Chapter 6 discusses the conclusions, implications and limitations of the study, and makes recommendations for future research.

1.9   CHAPTER SUMMARY

This chapter focused on the background to the research. This contained the motivation, problem statement, aims of the study, paradigm perspective, research design, and methodology.

Phase 1 of the research follows, which will be a detailed literature review, aimed at providing support for the theoretical aims outlined in Chapter 1. Career maturity will be discussed in Chapter 2.

CHAPTER 2   CAREER MATURITY

This chapter contains the literature review of the construct career maturity. The objective of this chapter is to theoretically discuss career maturity, its correlation with other variables, and its practical application.

Since career maturity emerges from the broadly conceived field of career development, this chapter will commence with some background on the conceptual foundation of career maturity. This will be followed by a discussion of the construct "career maturity" and the various models of career maturity. Thereafter, the discussion will focus on the correlates of career maturity and its application in practice, as well as the South African context. Lastly, the discussion will be on the relevance of career maturity in the military environment. The chapter will then conclude with a summary.

2.1   CONCEPTUAL FOUNDATIONS

Career maturity is a construct based on concepts such as career, career development, career decision-making, career readiness, and career resilience, which will be delineated in this section.

2.1.1 Career

The concept "career" refers to a sequence of occupations, jobs, and positions occupied by an individual in his or her lifetime (Super & Bohn, 1970). It is a concept derived from Latin and French denoting a pathway, racecourse, or a course of action (Collins, 2006). In a more contemporary sense, this concept can be clarified from an economical, sociological, and psychological perspective (Super & Bohn, 1970).

> Viewed *economically*, a career is a series of positions occupied by a person as a means of preparing to earn, earning, or withdrawing from the earning of a livelihood. Viewed *sociologically*, it is a series of roles played by a person, in which the nature of each role played, the way in which it is played, and the

situation in which it is played have some bearing on the nature of the next role in the series. Viewed *psychologically*, a career is also a series of roles played by a person, the choice of and success in which are determined in part by the aptitudes, interests, values, needs, prior experiences, and expectations of the person in question (Super & Bohn, 1970, p. 113).

The concept "career" can also be explained from both an objective and a subjective perspective (Schreuder & Coetzee, 2006). The objective perspective identifies the route or steps through which a person has to progress in an organisation or profession, whereas the subjective perspective consists of a sense of where a person is going with his or her work life (Schreuder & Coetzee, 2006). These perspectives can also be linked to Baruch's (2004) traditional and modern views of a career. The traditional view of careers is more linear, static and rigid (more explanatory of the objective career) and is contrasted with the new emerging nature of career paths seen as more multidirectional, dynamic and fluid (and is more accommodating of an individual's subjective career) (Baruch, 2004).

2.1.2 Career Development

"Career development" is typically viewed as a sequence of stages or positions through which a person progresses over time (Chartrand & Camp, 1991), and each of these stages is characterised by a relatively unique set of issues, themes, or tasks (Schreuder & Coetzee, 2006). The constructs "career development" and "career maturity" were not found in the literature until the field of career psychology started linking more closely with developmental psychology (Super, 1957). Prior to the advent of these constructs, career psychology was then regarded as a psychology of occupations rather than of careers, and focused mainly on the type of work done by an individual (Super & Bohn, 1970). Traditionally, the field of career psychology was dominated by theories and instruments for the matching of people and occupations (Super, 1983). According to Super and Bohn (1970), career psychology was merely differential psychology that specifically focused on occupational choice, selection, success, and satisfaction.

Career development can be analysed by grouping the existing theories of career choice into two categories (Schreuder & Coetzee, 2006). The first category is "content theories", which explains career choice in terms of specific individual characteristics and encompasses the traditional differential approach to career psychology. The second category is "process theories", which conceptualises career choice as a developmental process evolving over an individual's life stages. In contrast to the traditional differential perspective of career psychology, process theories view career decision-making and career adjustment as behavioural processes which change with time, generally in the direction of greater complexities and specificity (Super & Overstreet, 1960).

According to Super (1957), career development is an aspect of a person's development. Like other facets of development (such as social, emotional, and cognitive development), career development is conceived as commencing early in a person's life and then proceeding along a curve until late in life (Super, 1957; Super & Overstreet, 1960). With this perspective, career development views a career as started and shaped before employment, and extending into retirement as the pensioner seeks and finds things to do (Super & Bohn, 1970). According to Super and Bohn (1970, p. 118), the career model in developmental career psychology views the individual as:

> moving along one of a number of possible pathways from his family position in the socio-economic system, through the grades of the educational system, and into and through the jobs of the work system….The career model takes into account the sequence of occupations, jobs, and positions that a given person is likely to occupy.

2.1.3 Career Decision-Making

Numerous models can be employed to explicate career decision-making. Some of these models simply describe the process of career decision-making, whilst others are prescriptive guidelines (Phillips & Jome, 2005). According to Greenbank and Hepworth (2008), a rational approach to career decision-making seems to be the most often advocated, and involves identifying objectives, collecting information and

then generating and evaluating different options before making career choices. This requires individuals to engage in a comprehensive process that involves identifying careers that are congruent with their abilities and values (Greenbank & Hepworth, 2008).

Individuals need appropriate career decision-making skills to make good career decisions. "Career decision-making skills" refers to the "ability to obtain (1) self-knowledge, (2) knowledge of employment opportunities, (3) develop career goals, (4) develop a strategy, (5) implement and experiment, and (6) obtain feedback on the effectiveness of the strategy and the relevance of the goals" (Coetzee & Roythorne-Jacobs, 2007, p. 52). According to Phillips and Jome (2005), a good career decision can be defined not only by the content of the decision (what is chosen) but also by the process employed by the individual to make his or her career choices.

2.1.4 Career Readiness

"Career readiness" is another construct closely related to career maturity, and it involves a person's readiness to deal with the career tasks in each career stage (Jordaan & Heyde, 1979). As individuals progress through the career stages, they encounter "new problems, demands, challenges, responsibilities, and expectations which in turn necessitate new choices and adjustments" (Jordaan & Heyde, 1979, p. 4). According to Creed, Patton and Prideaux (2006), making a career decision is an important task for young people because those decisions can have long-term repercussions, for example, committing a young person to a particular career path that involves long periods of education and training before actual employment.

In many instances young people experience career indecision when they are required to make a career-related decision. "Career indecision" refers to the state of being undecided regarding a career interest or career path (Foley, Kelly & Hartman, 2006), which can be viewed as a career behaviour associated with the lack of readiness to make career decisions.

2.1.5 Career Resilience

"Career resilience" is regarded as one of the three components of career motivation. Career motivation is a multidimensional construct which can be defined as a person's desire to exert effort to enhance career goals, and it combines elements of needs, interests, personality, direction, and persistence of career-related behaviours (London, 1983; London & Mone, 2006). The other two components of career motivation are career identity and career insight (London, 1983; London & Mone, 2006).

"Career resilience" can be defined as the ability to adapt to changing circumstances and to resist career disruption in a less than optimal environment (London, 1983; Schreuder & Coetzee, 2006). According to London (1983), the opposite of career resilience is "career vulnerability" (a state of psychological fragility when confronted by challenging career conditions such as barriers to career goals, uncertainty, or poor relationships with co-workers). A high level of career resilience does not mean that the individual is insensitive to difficult work circumstances or environmental conditions, but rather that he or she will be able to cope more effectively under such work situations (London, 1983). According to London and Mone (2006), individuals with a high level of career resilience believe in themselves, have a need to achieve, and are willing to take reasonable risks to do so.

2.1.6 Career Maturity

"Career maturity" refers to a person's ability to make career decisions that reflect decisiveness, self-reliance, independence, and a willingness to compromise between personal needs and the requirements of one's career situation (Coetzee & Roythorne-Jacobs, 2007; Schreuder & Coetzee, 2006). It refers to the degree of development a person has reached on the continuum of career development across the lifespan (Patton & Creed, 2001; Super, 1957; Smedley et al., 2003; Super & Overstreet, 1960). It can also be viewed as an individual's readiness to deal with age-appropriate vocational tasks (Creed & Patton, 2003; Fouad, 1988). Career maturity is a construct that can be used to explain individual differences in a person's

readiness to make career choices, to plan ahead, and assume the role of a worker (Vondracek & Reitzle, 1998). It can be assessed normatively, by comparing an individual's career behaviour with the career behaviour expected at his or her life stage (Hasan, 2006; Super & Overstreet, 1960; Super & Bohn, 1970). In essence, this means an individual's career development can be evaluated normatively in terms of the level of maturity of his or her career behaviour (Osipow, 1973; Super & Overstreet, 1960).

A clear understanding of career maturity assists in identifying and describing immature and mature career behaviour. The career moves of a person as he or she changes position, as a student or employee after leaving high school, can be conceived as either floundering or stabilising (Super & Bohn, 1970). "Floundering" (viewed as immature career behaviour) refers to a lack of sequence (haphazard actions), meaninglessness, and a random succession of jobs found in the early career of many young people (Super, 1957; Super & Bohn, 1970). "Stabilising", on the other hand, refers to "trying out something that will make possible the attainment of a goal, or getting established in an appropriate field of work" (Super & Bohn, 1970, p. 122). What is implicit in the model of a career-mature person is an endorsement of rationality as the preferred approach to decision-making tasks (Phillips & Strohmer, 1982).

A career-mature person can be identified by his or her capability to eliminate floundering behaviour (Super, 1957). According to Jordaan and Heyde (1979), a career-mature young person tends to have more career information, is more likely to have been self-employed in part-time jobs, appears to be more realistic in career aspirations, and behaves more in keeping with own abilities and socio-economic circumstances. Such a person is more likely to come from a middle-class than from a working-class family, is more intellectually capable, does well in school, and is aspiring to a higher level of occupation (Jordaan & Heyde, 1979). According to Coertse and Schepers (2004), a career-mature individual is expected to be more emotionally stable than a career-immature individual. One also expects a career-mature individual to be better adjusted to his or her career, since a maladjusted individual's choice is neither congruent with his or her field of interest nor with his or her level of aptitude (Crites, 1969).

According to Osipow (1973), career-mature behaviour is expected to assume different shapes, depending on the context provided by an individual's life stage. For example a career-mature "14-year-old will be concerned with assessing his interests and abilities to reach the goal of deciding on an educational plan, while the vocationally mature 45-year-old man will be concerned with ways he can maintain his career status in the face of competition from younger men" (Osipow, 1973, p. 137).

Closely related to career maturity is the construct "career adjustment", which is regarded as the outcome of how an individual deals with encountered career development problems compared to others (Super, 1957). In clarifying career adjustment, Crites (1969) distinguishes it from career choice. Whilst career choice takes place before entering the world of work, in many instances career adjustment occurs after the person has entered the world of work, and focuses on the behaviour of the individual rather than the career itself (Crites, 1969). However, this distinction might be context-specific. For example, the military context is one instance where the distinction between career choice and career adjustment might be fuzzy, since choosing a military career takes place after the individual has already been employed.

2.2   MODELS OF CAREER MATURITY

According to Jordaan and Heyde (1979, p. 170), career maturity "is a much more complex construct than recognized in most early formulations and in studies employing measures with limited theoretical and psychometric specifications". A myriad of research and reviews on the construct "career maturity" (outside the military context) has existed since it was first introduced by Super in the 1950s (Chartrand & Camp, 1991; Naidoo, 1998; Patton & Lokan, 2001). The following discussion attempts to present the construct from Super's, Crites's, and Langley's perspectives.

2.2.1 Super's Model of Career Maturity

Not only did Super provide a perspective on career development; he also introduced the concept "career maturity" (termed "vocational maturity") as part of his career development theory more than 50 years ago (Coertse & Schepers, 2004; Naidoo, 1998; Super, 1957; Patton, 2006). Super's associates in the Career Pattern Study (CPS), particularly John O. Crites, are also primarily associated with the concept "career maturity", and deserve acknowledgement for their contribution in its development (Westbrook, 1983). The CPS was a longitudinal study designed to describe the development of careers, which enabled the development of indices of each of the postulated dimensions of career maturity (Super, 1957; Super & Bohn, 1970). In this CPS project, career maturity was also explored for validity (Super & Overstreet, 1960).

Super (1957) identifies the following dimensions of career maturity as comprising his model: orientation to career choice, information and planning, consistency of career preferences, crystallisation of traits, and wisdom of career preferences. What is important with regard to these dimensions is that he acknowledges that they are more appropriate at the early (exploratory) stage of career development.

2.2.1.1 *Orientation to career choice*

The assumption is that a person who is more concerned with making choices is more likely to be ready and able to choose an appropriate career when the need arises than a person who is less concerned with choice (Super, 1957). A major reason why youth are sometimes immature is the lack of awareness of, or concern about, the choices they will have to deal with (Savickas, 2001). So, this dimension may be assessed by examining the degree to which an individual shows concern for career challenges, and how effectively he or she utilises available resources to cope with decision-making tasks (Osipow, 1973).

2.2.1.2 Information and planning

Substantial information and appropriate career plans across the continuum of career development are necessary for a successful career (Super, 1957). Individuals are "mature or ready to make important career choices when decision-making knowledge is supported by an adequate fund of occupational information based on planful exploration" (Savickas, 2001, p. 53). A young person with a well-developed cognitive competence in career information is viewed as knowledgeable to apply this career information to him/herself and begin to crystallise career preferences in a particular field (Savickas, 2001). This dimension can be assessed by studying the specificity of information possessed by the individual regarding a preferred occupation, the specificity of planning for the preferred occupation, and the degree of involvement in planning activities that are career-related (Osipow, 1973).

2.2.1.3 Consistency of career preferences

Career maturity should result in the narrowing of goals, elimination of less attractive career preferences, and the generation of preferences that have stood the tests of exploration and trial (Super, 1957). An individual's preferences that exist in different fields (such as in business, technology, or science) or on different levels (such as professional, skilled, or unskilled) are regarded as inconsistent (Jordaan & Heyde, 1979). To be regarded as consistent, preferences need to exist within the same fields and on the same level (Jordaan & Heyde, 1979).

2.2.1.4 Crystallisation of traits

The assumption is that the more highly developed and integrated a person's ability and trait system, the more ready will he or she be to deal with the tasks of career choice and adjustment (Super, 1957). Career maturity may be conceived as the degree to which an individual's abilities and traits have taken shape and provide consistent individual bases for action. A person in whom considerable development has taken place should be a more highly differentiated person than the individual in

whom less development has taken place, and his or her differentiated characteristics should be more stable (Super, 1957).

2.2.1.5   *Wisdom of career preferences*

More generally known as "the realism of career choice", this dimension of career maturity reflects the congruency of a person's career decisions with aspects of reality, such as the prerequisite ability for the preferred occupation, the appropriate interests in the chosen career field, and the availability of financial resources for the relevant training (Crites, 1973). Whilst this dimension is one of the most complex and difficult to manage, it is at the same time conceptually the most satisfying dimension of career maturity (Super, 1957). This is because all the other dimensions of career maturity are unlikely to lead to better career adjustment, unless the resulting or inherent career preferences are wise (Super, 1957).

2.2.2 Crites's Model of Career Maturity

The Crites model of career maturity is a hierarchical model organised according to the following four dimensions: consistency of career choices, realism of career choices, career choice competencies, and career choice attitudes (Crites, 1973; Gonzalez, 2008; Salami, 2008; Westbrook, 1976). This model (shown in Figure 2.1) is a revision and reorganisation of the career maturity dimensions presented in Super's CPS. According to Crites (1973, p. 3), "variables on the lowest level of the hierarchy cluster into groups on the intermediate level which, in turn, are sufficiently interrelated to define the highest level general factor, Degree of Career Development".

Crites (1971) also introduced a measure of career maturity that consists of cognitive and affective dimensions. This measure of career maturity emanated from his Vocational Development Project (VDP) and was originally known as the Vocational Development Index (VDI) (later called the Career Maturity Inventory [CMI]) and it consists of the Attitude Scale and the Competence Test (Crites, 1969; 1971; Jordaan & Heyde, 1979; Osipow, 1973). The cognitive dimension entails decision-making skills whilst the affective dimension includes attitudes towards the career decision-

making process (Coertse & Schepers, 2004; Crites, 1969; Patton & Creed, 2001; Powell & Luzzo, 1998).

Degree of Vocational Development
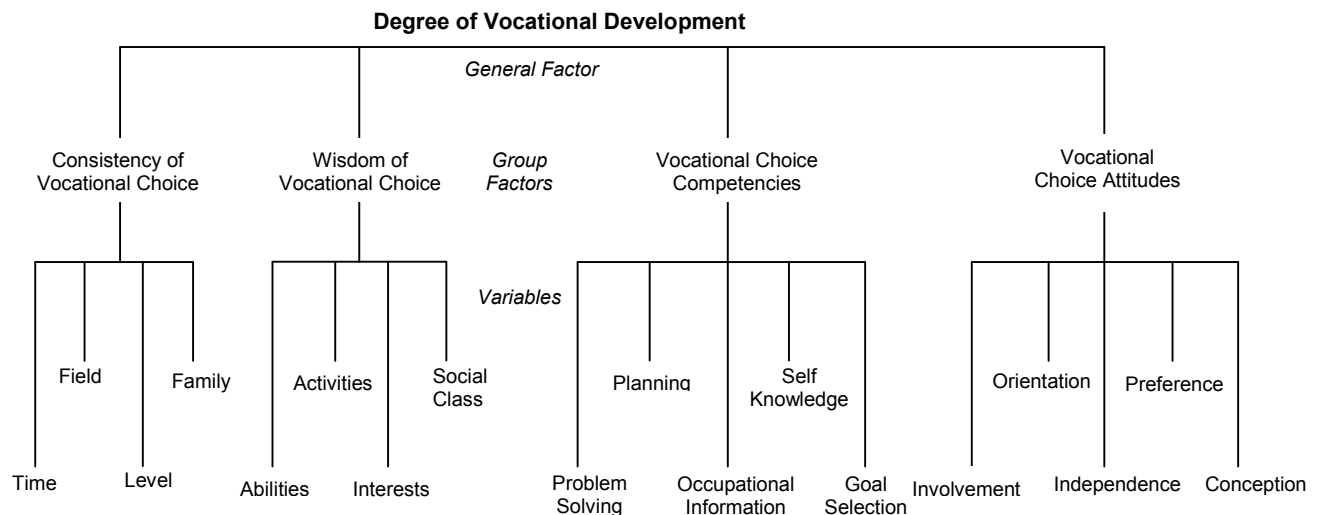
Figure 2.1:   Crites' Model of Career Maturity (Crites, 1973, p. 3)

2.2.2.1   Consistency of career choices

"Consistency of career choice" refers to the consistency reflected by adolescents when faced with more than one career choice (Crites, 1989). For example, a consistent choice is expected to be more congruent with the field (e.g. science) and level (professional level) (Crites, 1989). Originally, this dimension of Crites's model consisted of the time, field, level, and family variables (as reflected in Figure 2.1); however, in the revised model the family variable was dropped (Westbrook, 1983).

2.2.2.2   Realism of career choices

"Realism of career choice" refers to the agreement of the individual's aptitudes, interests, and personality characteristics with those required by the chosen occupation (Crites, 1989). According to Crites (1989), realism of career choice is also related to job success and satisfaction after occupational entry. The abilities, interests, personality, and social class variables originally comprised this dimension

of Crites's model of career maturity, but the social class variable was dropped from the revised model (Westbrook, 1983).

The revised (Crites's) model of career maturity also introduced a distinction among the dimensions between "career choice content" and "career choice process" (Westbrook, 1983). Whilst career choice content includes the consistency of career choices and realism of career choices dimensions, career choice process entailed the dimension of career choice competencies and career choice attitudes in the model of career maturity (Westbrook, 1983).

2.2.2.3   Career choice competencies

This is the cognitive dimension of Crites's model of career maturity, and it consists of the following major components of cognition in the process of career decision-making (Crites, 1973):

- Self-appraisal (knowing oneself): refers to an individual's psychological facility to accurately evaluate and estimate what a person's assets and liabilities are.
- Occupational information (knowing about jobs): refers to an individual's knowledge of what workers in different occupations do.
- Goal selection (choosing a job): refers to an individual's ability to match him/ herself with the occupation for which he or she is best fitted.
- Planning (looking ahead): refers to an individual's ability to plan and order a series of actions in a proper sequence to enter and progress in a given career.
- Problem-solving (what should one do): refers to the individual's ability to consider and choose what seems to be the best solution among the alternatives in the course of career decision-making.

2.2.2.4   Career choice attitudes

This is the affective dimension of Crites's model of career maturity, and it assesses a person's feelings, subjective reactions, and disposition towards making a career choice and entering the world of work (Crites, 1973; Wigington, 1982). According to

Crites (1973), career choice attitudes mediate the use of career choice competencies in ultimately choosing an occupation; they act as internal cues which precede overt goal selection, planning, or problem-solving. The following attitudes towards the career decision-making process comprise this dimension (Crites, 1973):

- Involvement in the choice process: refers to the extent to which an individual is actively participating in the process of making a career choice.

- Orientation towards work: refers to the extent to which an individual is task- or pleasure-oriented in his or her attitude towards work and the values he or she places upon work.

- Independence in decision-making: refers to the extent to which an individual relies upon others in the choice of an occupation.

- Preference for choice factors: refers to the extent to which an individual bases his or her choices upon a particular factor. In the revised model of career maturity, this variable was replaced by "decisiveness", which refers to the extent to which an individual is definite about making a career choice (Westbrook, 1983).

- Conceptions of the choice process: refers to the extent to which an individual has accurate or inaccurate conceptions about making an occupational choice. In the revised model of career maturity, this variable was replaced by "compromise", which refers to the extent to which an individual is willing to compromise between needs and reality (Westbrook, 1983).

2.2.3 Langley's Model of Career Maturity

Langley (1990) reviews previous models of career maturity and then presents a model of career maturity that integrates these previous models. According to Langley (1990, p. 3), an "integrated framework of these models indicates five steps in the career development process that have to be taken at each stage of life in order to master the appropriate tasks successfully". These five steps comprise the five dimensions of Langley's (1990) model, which can also be regarded as essential stages of development leading to career maturity (Langley, Du Toit & Herbst, 1996).

2.2.3.1   Self-information

Self-information refers to obtaining information about oneself and converting this information to self-knowledge (Langley et al., 1996). Information on the following career-related aspects may enhance an individual's self-knowledge: career guidance needs, importance of life roles, work values, occupational interests, state of career development, personality, aptitudes, and family functioning (Langley et al., 1996).

2.2.3.2   Decision-making

This dimension refers to the acquisition of decision-making skills and applying those skills effectively to make decisions (Langley et al., 1996).

2.2.3.3   Career information

This dimension refers to gathering career information and converting it into knowledge of the occupational world (Langley et al., 1996). The following information is useful if an individual is increasing career information: different occupations, training facilities, and financial support for studying (Langley et al., 1996).

2.2.3.4   Integration of self-information and career information

This refers to the individual's ability to integrate self-knowledge and the knowledge of the occupational world (Langley et al., 1996). Once this relevant information is integrated, the individual can use it in making career decisions (Langley et al., 1996).

2.2.3.5   Career planning

This dimension refers to the implementation of knowledge in career planning (Langley et al., 1996). According to Coertse and Schepers (2004, p. 71), it is "evident that career maturity is of critical importance in career planning, and the success thereof should thus be seen as the starting point of any career guidance programme".

2.2.4 Super's, Crites's, and Langley's Models of Career Maturity

This section compares Super's, Crites's, and Langley's models of career maturity (also reflected in Table 2.1).

2.2.4.3 *Super's views on career maturity*

According to Super (1957), career maturity is the state achieved by the individual on the continuum of career development across the career stages which can be assessed normatively. A career-mature person is expected to eliminate floundering behaviour and display higher levels of readiness to make a career choice (Super, 1957).

Accompanying the concept "career maturity", Super (1957) also introduced the seldom-mentioned concept of "vocational maturity quotient" (VMQ) which is a ratio of career maturity to chronological age to indicate whether or not the level of career development attained by an individual is appropriate for his or her age. The VMQ, much like the intelligence quotient (IQ), would express the ratio of the individual's standing on a behavioural scale of career development to his expected status, as indexed by his chronological age (Crites, 1973). However, as Super (1957) expected, VMQ is a concept that is both least discussed in the literature and least utilised in the field of career development.

2.2.4.1 *Crites's views on career maturity*

Whilst Super's conceptualisation of career maturity compares the individual's stage of maturity with his or her chronological age, Crites compares a person's maturity with that of others who vary in chronological age, but are in the same stage of maturity, for example, students in the exploratory stage (15 to 21 years) (Gonzales, 2008).

As represented in Figure 1, Crites revised and reorganised the CPS dimensions of career maturity into a hierarchical model with the assumption that the variables on

the lowest level of the hierarchy cluster into groups on the intermediate level, which, in turn, are sufficiently interrelated to define the highest level general factor (degree of career development) (Crites, 1973). According to Crites (1973), the general factor (degree of career development) is comparable to Super's conceptualisation of "continuum of vocational development". The two dimensions of Crites's model of career maturity (consistency of career choice and realism of career choice) were incorporated directly from Super's model with only minor changes from the CPS indices of career maturity (Crites, 1973). The next two dimensions (career choice competencies and career choice attitudes) are an attempt to go beyond previous conceptualisations of career maturity (Crites, 1973). In this attempt, Crites grouped the various career maturity indices into career choice competencies and career choice attitudes, to distinguish the cognitive (intellectual) and conative (attitudinal) aspects of the career choice process (as opposed to the consistency and wisdom factors of Super's model) (Crites, 1973).

The lack of agreement in the conceptualisation of career maturity between Super and Crites indicates the complexity of the construct. According to Gonzales (2008), both Super's and Crites's models of career maturity have experienced advances in ongoing research and are both still subject to more revision as new data appears in future studies. Gonzalez (2008, p. 757) summarises the characteristics of Super's and Crites's models of career maturity as follows:

- They are *multifactorial models* that can be verified empirically, and differ only in the number of factors and their representativeness.
- They show a *moderate predictive value*, that is, it is probable that people who are vocationally mature make more realistic, stable decisions.
- For both models, career *maturity is a developmental process* which begins in early years and continues throughout a person's life stages.
- Career maturity is a *continuous process* but not uniformly so; its rate of development is not constant.
- The development process is *partially irreversible*, since once a person has pursued one option concerning studies, it is difficult to discontinue that option without experiencing some setback.

2.2.4.2   Langley's views on career maturity

Langley's model is based on an integrated approach to career maturity which integrates existing conceptualisations of career maturity and suggests a five-step rational process of achieving career maturity (Langley, 1990). As reflected by Langley's dimensions of career maturity, this five-step process commences with the individual obtaining self-information, followed by learning decision-making skills, gathering career information, integrating the self-information and career information, and finally doing career planning (Langley, 1990).

Langley's conceptualisation of career maturity is also embedded in an integrated process of career development which suggests eleven universal career development tasks that the individual has to master as he or she progresses through life or career stages. These tasks are to:

- identify needs in career development
- assess the relative importance of various life roles
- identify values that are sought in each life role
- identify vocational interests
- assess other relevant factors (e.g. personality, intelligence, school/university subjects, aptitude, self-concept, family functioning)
- obtain appropriate level of career maturity
- learn decision-making skills
- obtain career information
- integrate self-information with career information
- make a career decision
- plan a career (Langley, 1990, p. 04).

In an attempt to address the South African context-specific needs on career-maturity research, Langley (1990) developed the Career Development Questionnaire (CDQ) as a measure of career maturity in South Africa.

Table 2.1 Comparison of Super's, Crites's, and Langley's Models of Career Maturity

	Super	**Crites**	**Langley**
Conceptualis ation	Views career maturity as a developmental process which begins in early years and continues throughout a person's life stages.	Also views career maturity as a developmental process which begins in early years and continues throughout a person's life stages.	Presents an integrated framework of previous models on career maturity. Retains the developmental perspective of career maturity.
	Individuals can be compared ipsatively and normatively. Super also introduces the VMQ, which is a ratio of career maturity to chronological age to indicate whether or not the level of career development attained by an individual is appropriate for his or her age.	Individuals are compared with others who vary in chronological age, but are in the same stage of maturity.	Presents a five-step rational process of achieving career maturity which commences with the individual obtaining self-information, followed by learning decision-making skills, gathering career information, integrating the self-information and career information, and finally doing career planning. Individuals can be compared normatively.
Dimensions	Identifies the following five dimensions: orientation to career choice, information and planning, consistency of career preferences, crystallisation of traits, and wisdom of career preferences.	Presents a hierarchical model organised according to the following four dimensions: consistency of career choices, realism of career choices, career choice competencies, and career choice attitudes.	Identifies the following five dimensions: self-information, decision-making, career information, integration of self-information and career information, and career planning.
Measuring Instrument	Constructs the Career Development Inventory (CDI) which has two main attitudinal scales focusing on (1) career planning and (2) awareness and use of resources for exploration, and three cognitive scales focusing on (1) information about the world of work, (2) knowledge of decision-making processes, and (3) knowledge of the preferred occupation.	Develops the Career Maturity Inventory (CMI) which assesses both attitudinal and cognitive components of career maturity.	Develops the Career Development Questionnaire (CDQ) which measures the above-mentioned five dimensions of career maturity in South Africa.

The next section discusses pertinent correlates of career maturity in the literature.

2.3 CORRELATES OF CAREER MATURITY

Correlates of career maturity can be obtained by reviewing its correlation with other variables which do not seem to be measures of career maturity but are expected to be relevant to the measures of career maturity (Super & Overstreet, 1960). Owing to its complex nature, research on career maturity over the past 50 years has identified numerous correlates and moderator variables. For example, the CPS alone identified 28 correlates of career maturity (see Super & Overstreet, 1960, p. 77). This was already indicative of the need to explore the construct further and in different contexts. For the purpose of the present study, only the most pertinent correlates of career maturity in the literature (such as intelligence, age, level of education, gender, socio-economic status, and family relationships) will be discussed.

2.3.1 Intelligence

Since career maturity has a cognitive component, the more intelligent an individual is, the more capable he or she is expected to deal with developmental tasks in various areas of behaviour, including career behaviour (Jordaan & Heyde, 1979; Super & Overstreet, 1960). An analysis of existing research on career maturity reveals that results of some studies support the indication that intelligence is significantly correlated with career maturity (Lawrence & Brown, 1976; Super & Overstreet, 1960; Westbrook, Sanford & Donnelly, 1990). However, research results on career maturity and intelligence are not synonymous. Powell and Luzzo (1998), for example, find no significant correlation between intellectual ability and the level of career maturity of participants. Phillips and Strohmer (1982) also find no significant correlation between career maturity and scholastic achievement.

2.3.2 Age

Career maturity as implemented by Super is developmental in nature. It is generally expected that as young people grow older they will learn about occupations they are interested in, become more independent, have a clearer picture of what they want to do as adults, and be more aware of alternative career plans (Super & Bohn, 1970).

However, according to Super and Bohn (1970), the process of achieving career maturity appears to be uneven and irregular, as individuals vary on career behaviour such as the tendency to plan ahead and the acceptance of responsibility. Studies reflecting the developmental progression of career maturity include the study conducted by Patton and Creed (2001) that illustrates the developmental differences of career maturity among adolescents aged 12 to 17. The results of the studies of career maturity and age are not synonymous, as some studies find no significant correlation between participants' age and their level of career maturity (Powell & Luzzo, 1998).

2.3.3 Level of Education

Closely related to age among youth investigated for their level of career maturity is the level of education. Numerous research results reveal that participants on a higher grade of education tend to be more career-mature than those in a lower grade of education (Achebe, 1982; Herr & Enderlein, 1976; Lokan, Boss & Patsula, 1982; Naidoo, Bowman & Gerstein, 1998). According to a study by Herr and Enderlein (1976), career maturity is not just a function of age and grade. Curricula differences seem to have an influence on the level of career maturity. In their study this was indicated by the difference in average career-maturity scores of Academic students, who scored three points above those of General students in the ninth grade. Numerous other studies support this finding as they reveal a positive impact on career maturity by career-education programmes (Omvig & Thomas, 1977; Trebilco, 1984). According to Trebilco (1984, p. 200), these results support the "proposition that schools wishing to enhance student skills such as decision-making and ability to locate and use job information would be well advised to implement some form of career education program into their curriculum".

Once again, research results are not synonymous with regard to this correlate of career maturity. For example, Post-Kammer (1987) finds no significant difference in the level of career maturity of ninth- and eleventh-grade students. Fouad (1988) finds no significant correlation between career maturity and grade level for United States (US) students, but a significant difference is observed among Israeli students across grades.

2.3.4 Gender

Gender is another correlate of career maturity for which research results are equivocal. Numerous studies indicate that females generally score higher than males on career maturity, albeit on some scales of career-maturity measures (Fouad, 1988; Herr & Enderlein, 1976; Luzzo, 1995; Kornspan & Etzel, 2001; Naidoo et al., 1998; Patton & Creed, 2001; Post-Kammer, 1987; Super & Nevill, 1984; Westbrook, Cutts, Madison & Arcia, 1980). A possible explanation of the gender differences may be hypothesised to be related to gender differences in the rate of overall maturation, which generally occurs earlier in females than males, thus suggesting a specialised approach to career guidance and counselling for girls (Herr & Enderlein, 1976; Omvig & Thomas, 1977) and establishing separate gender norms (Patton & Creed, 2001; Westbrook et al., 1980). Naidoo et al. (1998) also find that not only are there gender differences in career maturity, but female students indicate more commitment to the work role and possess higher value expectations from work.

Some studies on this correlate of career maturity show that males score higher than females on career maturity (Achebe, 1982; Lokan, Boss & Patsula, 1982). These converse gender differences are expected to manifest in countries where women are traditionally seen to be dependent on men, and where the concept of a career is a relatively new one for women (Watson, Stead & De Jager, 1995). As mentioned earlier, studies on the correlates of career maturity are inconsistent in their findings; some studies have found no significant difference between females and males on their level of career maturity (Lee, 2001; Powell & Luzzo, 1998; Wigington, 1982).

2.3.5 Culture

In an attempt to establish the portability of the construct career maturity across different cultures, studies have been conducted in different countries such as Austria, Australia, Brazil, Canada, England, Israel, Lebanon, Nigeria, South Africa, Portugal, and Puerto Rico (see Naidoo, 1998 for a review and list of references of studies conducted in these countries). Research results of all these studies are once

again inconsistent, which suggests the need for further exploration of the construct in different cultural contexts.

Research on career maturity across different ethnic groups also indicates equivocally that White participants are scoring higher than Black participants (Westbrook & Sanford, 1991; Westbrook et al., 1980). In another study Hardin, Leong and Osipow (2001) found that Asian-American participants exhibited less mature career choice attitudes than their European-American counterparts. If these measures are valid measures of career maturity one might conclude that White students, compared to Black students, are more actively participating in the process of making a career choice, are less dependent on others in the choice of an occupation, are more willing to compromise between needs and reality, and are making more appropriate career choices (Westbrook & Sanford, 1991). However, research results in the field of career maturity are not consistently supporting such a conclusion (Powell & Luzzo, 1998). Suggestions have been provided for separate norms for different ethnic groups so that the appropriate group can be used to determine one's relative standing at a given point in career maturity (Westbrook & Sanford, 1991; Westbrook et al., 1980). It is also important to ensure that cross-cultural studies are conducted using culture-free instruments to measure the construct career maturity (Lee, 2001).

2.3.6 Socio-economic Status

Career maturity has also been found to correlate with socio-economic status (SES) (Dillard, 1976; Naidoo et al., 1998). According to Dillard (1976), in a study involving Black male participants from suburban, urban middle- and urban lower-class, socio-economic background seems to be the most useful in predicting career maturity because of the differences in the level of stimulation provided by their homes and/or educational environments.

Other studies on the same correlate have found no significant relationship between socio-economic status and career maturity (Flouri & Buchanan, 2002; Nevill & Super, 1988; Super & Nevill, 1984). Super and Nevill (1984) attribute the lack of a correlation in this instance to the greater degree of work exposure received by

disadvantaged students, which may have furthered their career development in a way compared to their counterparts.

Career maturity has also been found to correlate with other variables such as locus of control (Coertse & Schepers, 2004; Kornspan & Etzel, 2001; Lokan, Boss & Patsula, 1982), commitment to work (Nevill & Super, 1988), work salience (Super & Nevill, 1984), work-related skills (Flouri & Buchanan, 2002), having a career (Flouri & Buchanan, 2002), and personality (Coertse & Schepers, 2004). Luzzo (1995b) also highlights the importance of employment during college, which seems to influence the level of career maturity attained by college students. According to Luzzo (1995b), the more congruent a student's occupation is with his or her career aspiration, the more career-mature the student is likely to be, and the better the career decision-making.

The next section discusses some of the criticism against the construct "career maturity", and the research focused on it.

2.4   CRITICAL REVIEW OF CAREER MATURITY

Theories of career development (including career maturity) need to be relevant to other aspects of broader human development to guarantee their viability in the contemporary environment (Vondracek & Reitzle, 1998). The plethora of research on the construct "career maturity" has been criticised as highly focused on high school students (Crites, 1976; Dillard, 1976), ignoring issues of context, historical time, and culture (Raskin, 1998; Schmitt-Rodermund & Silbereisen, 1998; Vondracek & Reitzle, 1998). According to Gonzalez (2008), the difficulties in validating career maturity go beyond the construct to the instruments utilised to measure it. These measures are limited in terms of the factors or dimensions being assessed, and their validity for specific contexts (Gonzalez, 2008). Career development and career maturity will provide meaning only in relation to the contexts and historical time in which they are being assessed (Vondracek & Reitzle, 1998). This highlights the need for an integrated approach in research on career maturity.

Career maturity is a useful construct for studying adolescents, but it has limits. Professional counselors need to integrate personality and decision-making style into research on career maturity as well as give more than a passing nod to developmental theory. They cannot study career development at the individual level alone; context matters and is an integral part of career development. The amount of variance in an individual career development accounted for by context and change may be so great that longitudinal research on individuals may not be worthwhile (Raskin, 1998, p. 32).

Culture remains an important aspect for consideration in scientific research, and the evolving changes in cultural contexts require scientific theories to adapt in order to maintain contemporary relevance (Patton & Lokan, 2001). According to Hardin et al. (2001), who investigated the cultural relativity of career maturity, theories that rely on a unidimensional definition of independence may be culturally relative because they fail to acknowledge interdependence, which tends to be higher among collectivistic cultures. The results of a study by Schmitt-Rodermund and Silbereisen (1998) of youths from East and West Germany reveal significant differences in the level of career maturity mainly when differences in the social contexts of the two nations exist. According to these writers, this illustrates the importance of a cross-cultural and contextual approach to career development and research on career maturity. Since different cultures provide different ranges of opportunities, and differ in lifestyle and attitudes, it is necessary to investigate how living in these cultural contexts accounts for the differences in the development of career maturity (Schmitt-Rodermund & Silbereisen, 1998).

Studies on the portability of career maturity in situations other than the traditional education establishments have also provided valuable information for career development purposes. For example, Smedley, Levinson, Barker and DeAngelis (2003), in a comparative study of adjudicated and nonadjudicated students without disabilities, find no significant difference in the level of career maturity between these two groups. However, they do find a significant difference in the levels of career maturity when comparing nonadjudicated students (M = 101.3) with adjudicated students with emotional disabilities (M = 94.2). According to Smedley et al. (2003), these results suggest that adjudicated students do not experience a disruption of

their career development processes, and seem to be at no greater risk for lower levels of career maturity compared to their nonadjudicated counterparts. Furthermore, in the same study, correlational analyses reveal a moderate but statistically significant negative correlation between the participants' self-reported behavioural ratings and their overall level of career maturity, which suggests that the more problematic the participants' self-reported behaviours (e.g. negative attitude toward school), the lower their level of career maturity (Smedley et al. (2003). In another study, Coursol, Lewis and Garrity (2001) find no significant difference in the level of career maturity between trauma survivors and non-survivors. Once again, valuable information can be gleaned from this study, which suggests that trauma survivors are likely to be encountered in counselling practices when they are attempting to live a meaningful life and have a career and thus need to be helped appropriately to achieve their goals.

The focus of this empirical study is on career maturity in the military context, and the need for such career development studies in the military environment cannot be overemphasised. Critique of the construct "career maturity" and inconsistent research findings have already highlighted the complex nature of this construct. Extending research on career maturity to the military will go a long way in benefiting career development research and practice in such environments. Not only is the portability of the construct to the military environment in question, but also how it relates to the military-specific variables not found in the context of high school and undergraduate students. Even though investigating career maturity among high school and undergraduate students may provide important information on career exploration, evidence is still lacking which relates career maturity to vital consequences such as later career success or satisfaction (Chartrand & Camp, 1991).

The next section discusses the practical application of career maturity.

2.5   PRACTICAL APPLICATION OF CAREER MATURITY

Career maturity has important implications for career counselling practices (Super & Overstreet, 1960) and is regarded as an outcome measure for career counselling

(Coetzee & Roythorne-Jacobs, 2007). It has also been used as a major criterion for evaluating career-education programmes (Westbrook, Cutts, Madison & Arcia, 1980). Generally, Super's work (including career maturity) has found international application in career guidance and counselling, and seems to have been well received internationally. For example, Watanabe-Muraoka, Senzaki and Herr (2001) highlight the importance of Super's theory and contributions as a frame of reference in Japan.

Numerous measures of career maturity have been developed since the construct was introduced by Super. For example, Levinson et al. (1998) identify the following instruments which are some of the measures utilised to assess career maturity for career counselling and research purposes: the Adult Career Concerns Inventory (ACCI), Assessment of Career Decision-Making, Career Beliefs Inventory (CBI), Career Decision Scale (CDS), Career Development Inventory (CDI), and the Career Maturity Inventory (CMI). In South Africa, the Career Development Questionnaire (CDQ) is used to measure the level of career maturity (Langley, 1990). Other career-related measures are also suggested as assessing an individual's level of career maturity. For example, Wigington (1982) finds a significant correlation between career maturity and the Kuder Occupational Interest Survey (KOIS), which is utilised as an aid in career counselling, but not as a measure of career maturity. This correlation supports the idea that the KOIS may be used to identify the level of career maturity among individuals during career counselling.

According to Flouri and Buchanan (2002), a good understanding of career maturity and its correlates may assist in enhancing the strategies of fostering career development among adolescents. For example, an understanding of the role of career models in enhancing the level of career maturity means that families and practitioners need to consider teaching youngsters basic work-related skills and providing them with career role models when designing career interventions (Flouri & Buchanan, 2002). The results of the comparative study by Smedley et al. (2003, p. 118) mentioned earlier, suggest that "students with learning and emotional disabilities in juvenile institutions may be at high risk for vocational failure and in need of intervention before these students can make reasonable vocational decisions and effectively transition into the community". Once again, a good

understanding of the relationship between career maturity and curricula may enhance career development strategies in schools through the implementation of career-education programmes (Herr & Enderlein, 1976; Omvig & Thomas, 1977).

2.6   CAREER MATURITY IN THE SOUTH AFRICAN CONTEXT

This section discusses career maturity in the South African context. South Africa provides a unique and challenging psycho-social environment for career counselling practices which may occasionally require a paradigm shift from the traditional mechanistic methods of differential psychology (Naicker, 1994). According to Stead and Watson (1998, p. 290), the "multicultural and economic contexts of South Africa are important factors in understanding career development and yet they have received insufficient attention in South African career literature". Naicker (1994) is critical about utilising career theories (including Super's developmental theory) in an individualistic manner that ignores the social processes that influence career decision-making. Naicker (1994, p. 32) argues that in the South African context "career counselling should not only try to get young people to develop personal decision-making skills, but also help them adjust successfully within the opportunity structures open to them". The adverse impact of the historical South African socio-economic conditions and limited career opportunities raised by Naicker (1994), Stead (1996) and Stead and Watson (1998), highlight the need for South Africans to attain a high level of career maturity in their quest for successful careers. This is the South African challenge posed to individuals, practitioners and relevant institutions involved in designing career development strategies and interventions. It is also a challenge faced by researchers on the portability of career maturity to a unique society like South Africa. Notwithstanding its multicultural nature, South Africa has provided a considerable amount of research on the construct "career maturity" and identified issues regarding its relevance to its contexts (Patton & Lokan, 2001).

In an earlier study on the level of career maturity among Coloured South African students, Watson and Van Aarde (1986) find a significant correlation between career maturity and some of the previously discussed correlates of career maturity such as gender, age, grade, socio-economic status, and mental ability. According to Watson and Van Aarde (1986), the findings support the Western developmental assumption

of career maturity and endorse similar findings of several other researchers in Western schools. With regard to mental ability, this study compares South African Coloured students with their American counterparts and finds the South Africans to be lower in intelligence and level of career maturity. Similar to international findings, research results on the relationship between career maturity and intelligence in South Africa are also inconsistent, as some studies find no such correlation (Rainier, 1994).

It is interesting to note that numerous studies in South Africa have found no significant correlation between career maturity and gender, despite strong cultural influences among previously disadvantaged South African participants (Beggs, 1991; Van der Merwe, 1993; Watson et al., 1995; White, 1987). Such findings seem to contradict the contention that in more traditional cultures, where men are considered the breadwinners, women are likely to exhibit lower career maturity than men (Watson et al., 1995). Perhaps an explanation for such findings lies in the sample characteristics of these studies, which are constituted by previously disadvantaged females studying at university who may already be questioning traditional roles (Watson et al., 1995).

The question that may be of interest at this stage is: What is the level of career maturity among South Africans? This applies especially to the youth who have been the main focus in international research on career development and career maturity. A study by Miller (2006) shows inadequate levels of career maturity among previously disadvantaged South African high school learners. Another study by Gordon and Meyer (2002), assessing the nature of career indecision (which is a dimension in the measurement of career maturity) amongst Afrikaans- and English-speaking prospective university students, reveals that career indecision and the lack of career information and planning is prevalent among these students, thus suggesting a lower level of career maturity. As a result, Gordon and Meyer (2002) suggest that prospective university students may benefit from an intervention aimed at improving career maturity-related skills through career counselling. Generally, studies on career maturity in South Africa have revealed significant differences between two racial groups, with Whites reflecting the higher level of career maturity when compared to Blacks (Pieterse, 2005; Reid-Van Niekerk & Van Niekerk, 1990;

Watson et al., 1995; White, 1987). These career-maturity differences are attributed to the cultural differences that exist among the South African population groups (Reid-Van Niekerk & Van Niekerk, 1990; Watson et al., 1995). Culture is a critical variable in the career development of the different South African population groups who have historically had mutually exclusive cultures and have been exposed to varying levels of education (Watson et al., 1995).

In response to these significant differences among the levels of career maturity, researchers have pointed at the necessity to direct career development interventions to the specific needs of the different population groups (Reid-Van Niekerk & Van Niekerk, 1990). As a result career maturity has also been researched in terms of its relevance to career development strategies and interventions for both individuals and groups among South African education establishments (Benjamin, 1995; Ebersöhn & Mbetse, 2003; Woolard, 1988). According to Ebersöhn and Mbetse, (2003), career maturity and the preparedness to enter the world of work are regarded as outcomes of career-education programmes.

The importance and relevance of a contextual approach to contemporary research on career development and career maturity seem to be pertinent among South African researchers, as some researchers do not hesitate to provide socio-political explanations for their research findings. For example, Pieterse (2005) finds a correlation between career maturity and time perspective among high school learners. According to this writer, learners from disadvantaged schools are more focused on the future than their advantaged counterparts, and this could be due to the advent of the new South African political dispensation. Previously advantaged learners seem to be demoralised by the changes that have taken place, resulting in a possible lack of future prospects in the South African context (Pieterse, 2005).

The next section discusses the relevance of career maturity in the military context.

2.7   RELEVANCE OF CAREER MATURITY TO THE MILITARY

The military has not only been a consumer of behavioural science knowledge, it has generated useful scientific research in the past and continues to do so. However,

even though the impetus to the field of career psychology can be traced back to differential psychology applied in the military for testing purposes during World War I (Keene, 1994; Super, 1983; Muchinsky et al., 2002), only minimal research has been conducted on career maturity in the same military context. For example, of all the studies conducted between 1970 and 1990 on career development, only 2% of the research participants came from the military (Chartrand & Camp, 1991).

Some may argue that the reason for minimal research by the military is the view that military service, because of its nature, is sometimes not regarded as a career *per se*. According to Super and Bohn (1970, p. 183), joining the military is sometimes viewed as a "period of marking time in a career, a time during which a person merely waits to return to civilian life". Tziner (1983) also states that the longer a person stays in the military, the less chance he or she has of making a successful alternative career. Some writers (such as Bouffard, 2005) maintain a view of the military that equates it to rehabilitation centres for delinquent behaviour. However, the validity of such viewpoints may be limited in contemporary military organisations that provide various professional career opportunities (Raviv, 2004; US Military Entrance Processing Command, 1989; Warner, Bobo & Flynn, 2005).

Now, what is the perception of military service? The military is regarded as a totalitarian organisation where personal relations are organised explicitly and definitively according to ranked authority (Tziner, 1983). The military is generally divided into two groupings, that is, enlisted personnel (or non-commissioned officers) and officers (US Military Entrance Processing Command, 1989). Enlisted personnel are those members who execute the daily operations of the military, while officers are the professional leaders of the military who receive management and leadership training for their roles as commanders of military units and establishments. How the military officer relates to a soldier is governed by military rules and regulations, and non-conformity results in severe sanctions (Tziner, 1983). The military organisation also expects a high level of psychological readiness from its members in order to function efficiently (Kirkland, Bartone & Marlowe, 1993). Military organisations are mainly male-dominated (Herzog, 2004; Lahelma, 2005), and in some countries military service is compulsory (Dar & Kimhi, 2004; Herzog, 2004). These are some of the unique tasks and challenges faced by military members and they add to those

commonly faced by other persons. Because members of the military are involved in specialised work and training environments that also expose them to periods of career transition, they manifest unique career planning needs (Yates, 1987). Taking into consideration that many military recruits are young and unskilled workers, Baker, Berry, Kazan and Diamond (1987) suggest an approach to military recruitment that will assess the level of the recruits' career maturity as part of the recruiting process.

Military members are expected to possess a high level of career maturity in order to deal with career-related tasks and challenges at an early stage, such as how to deal with early retirement and/or the transition from military to civilian life. According to Jenrette (2004), some of the members leaving the military either through retirement or separation, are relatively young in age and they find it necessary to seek continued employment in the civilian environment. This means they have to make important decisions such as choosing a career. In a comparative study on the life satisfaction of "early retirement military officers" Graves (2005), amongst others, concludes that:

- Early retirement military officers experienced less satisfaction with their post-retirement lives than regular retirement military officers.

- Early retirement military officers experienced less satisfaction with their financial situations than regular retirement military officers.

- Early retirement military officers were less likely than regular retirement military officers to believe that they were well off, had high income, had a good pension plan, or could afford luxuries.

In a study examining the perceived career decision-making difficulties of individuals transitioning from the military to the civilian sector, Jenrette (2004) finds a significant correlation between such career transition and age and gender. Respondents above 50 years old report more difficulty in transitioning from the military to civilian sector than their younger counterparts. The results also indicate males experiencing more difficulties in transitioning from the military to civilian sector than their female counterparts. According to Jenrette (2004), males displayed a lack of awareness in terms of occupations which interest them, their preferences, and information about their personality traits.

In another study by Yates (1987) to assess the career development concerns of military personnel through measures of career development skills, the results reveal no significant differences in career maturity among the participants from different military service arms. This finding suggests the presence of shared experiences among military members which seem to be common to military occupational environments. Comparing these participants' scores with those of college seniors, Yates (1987) found that the military group's scores were higher than those of the college seniors in terms of career planning, career exploration, and decision-making. However, their scores were equivalent to those of college seniors in terms of their possession of world-of-work information. According to Yates (1987), this finding raises some concern since it suggests that the military participants did not possess greater world-of-work knowledge than college seniors despite exposure to technical training or occupational experience. An alternative explanation to this finding may be that the content of the measure did not reflect elements in military occupational environments (Yates, 1987).

To address career development challenges, it may be necessary for military members to carefully examine available occupational opportunities that will enhance the transfer of task competencies obtained through their specialised training to emerging occupational task requirements (Yates, 1987).

This concludes the literature review undertaken to support the empirical aims of this research, and in particular to theoretically describe the construct of career maturity

2.8   CHAPTER SUMMARY

The aim of this chapter was to provide a theoretical discussion of the construct "career maturity". The chapter commenced with a discussion of the conceptual foundation of career maturity. In this discussion career-related concepts such as career, career development, career decision-making, career readiness, and career resilience were discussed as underlying career maturity.

Career maturity was defined in the normative perspective of an individual's development across the lifespan. The complex nature of the construct "career maturity" was highlighted by presenting Super's, Crites's and Langley's conceptualisations of the construct. The various career-maturity models of Super, Crites, and Langley were also discussed.

The most pertinent correlates of career maturity in the literature were discussed, and the inconsistencies of research findings on these correlates were reflected. The critique around the construct "career maturity" was reviewed, showing that much of this critique resides within aspects of culture and context. The implication of career maturity for career counselling was also briefly discussed, and some of the instruments used to measure career maturity were highlighted.

Career maturity was then discussed in the South African context in terms of how it has evolved both in practice and research since it was introduced. The cultural relativity and application of career maturity in South Africa was also discussed. Lastly, the discussion focused on the relevance and portability of career maturity in the military context. The issue of minimal research on career maturity emanating from the military environment was also highlighted. Career stages will be discussed in Chapter 3.

CHAPTER 3   CAREER STAGES

This chapter contains the theoretical discussion of career stages. Its aim is to conceptualise career stages in the military context. It commences with a discussion of the paradigmatic and conceptual foundations of career psychology, followed by a presentation of pertinent life/career stage models in the literature. Thereafter, a detailed discussion of Super's career stage model is presented, followed by a theoretical integration of career maturity and career stages. A chapter summary concludes the discussion.

3.1   PARADIGMATIC AND CONCEPTUAL FOUNDATIONS

The purpose of this discussion on the paradigmatic and conceptual foundations is to establish a broader understanding of the construct "career stages".

3.1.1 Paradigmatic Foundation

3.1.1.1   Career psychology

"Career (or vocational) psychology" refers to the study of career behaviour and its development across the life cycle (Savickas, 2006). Traditionally, career psychology used to focus on the fit between a worker's abilities and interests and a job's requirements and rewards. Such congruence was expected to lead to job success and satisfaction, whilst incongruence resulted in poor work performance and frustration (Savickas, 2006). This paradigm (once called trait-and-factor) is now referred to as "person-environment fit" and rests on the contributions of differential psychology (the measurement and study of individual differences in personality traits and cognitive abilities) (Savickas, 2006).

According to Savickas (2006), contemporary career psychology is focused on two domains. The first domain is concerned with career choice by high school and college students and the second is concerned with work adjustment by adults. Savickas (2006) also highlights the contribution of career psychology in the

conceptualisation and measurement of career interests and in career-related topics such as career choice, career decision-making, career interventions, school-to-work transition, organisational commitment, work adjustment, mentoring, and work-family balance.

3.1.2 Conceptual Foundations

3.1.2.1   Life/career stages

"Career stages" refer to the evolutionary phases of an individual's working life (Wrobel, Raskin, Maranzano, Frankel & Beacom, 2003). According to Wrobel et al. (2003), this construct has evolved from the conceptualisation of the human lifespan by psychoanalysts (for instance Erikson, 1963), developmental psychologists, and sociologists who independently studied stages of life and work. Whilst developmental psychologists concentrated on stages of psychological development, sociologists identified periods of individuals' working lives, and a combination of these two foci led to the emergence in the literature of the construct "career stages" (Wrobel et al., 2003).

3.1.2.2   Career stage models

Career stage models are based on human development theories, which recognise the changes that individuals go through as they mature and acquire careers. Within this developmental perspective, a person's career choice is viewed as an unfolding process rather than a once-off event (Sverko, 2006). Consequently, career development models emanating from this perspective typically partition working life into stages, and they attempt to specify the typical behaviour at each career stage. This approach presupposes the existence of differences in work-relevant attitudes and motives between individuals in different age groups (Adler & Aranya, 1984).

Career stage models have been criticised in their approach of adopting a traditional and linear perspective of career development. Baruch (2004), for example, highlights that the nature of modern careers is multidirectional, dynamic, and fluid, which is a contrast to the traditional career, regarded as linear, static, and rigid (Baruch, 2004).

According to Wise and Millward (2005), approaches that are not rigid in the age and sequential order in which stages progress, and models that incorporate the influence of the environmental context, appear to be more realistic in the modern world of work (Wise & Millward, 2005). In their study of individuals' experiences of voluntary career change, Wise and Millward (2005) found that the participants (who were in the establishment stage) did not necessarily view the trajectory of their careers as a linear process, but more as a multidirectional one. Another criticism levelled against career stage models relates to their approach of demarcating career stages in terms of specific age categories. According to Adler and Aranya (1984), chronological age is only one component of the career stage construct. For example, in their study of professional accountants, they found that these professionals, at the advanced career stages, were not only generally older, but had usually been practising their profession longer, and had attained higher professional and socioeconomic status than those who were at earlier career stages.

Questions have also been raised regarding the applicability of career stage models for women, since the research conducted had a strong focus on men (Ornstein & Isabella, 1990). Major differences exist between men and women in their career stages, and some models of career development (such as Super's) are viewed as having been developed for men whose careers are fundamentally continuous, commencing after formal education and progressing through to retirement (Ornstein & Isabella, 1990). Men experience fewer interruptions to this traditional pattern than women, who may have their careers interrupted by family factors such as child bearing and rearing (Ornstein & Isabella, 1990).

Since this chapter focuses on career stages in the military environment, the nature of the military environment will be kept in mind as it reflects both traditional and contemporary views of career development. By their nature, military organisations are hierarchical, and they tend to outline clear career paths that their members are expected to pursue when joining the armed forces. This means that a young recruit joining the military may have a military career that exhibits aspects of the traditional and hierarchical approach of career stage models. However, the military is also an environment reflecting a contemporary perspective of career development as reflected by the widespread job rotation, which causes periodical movement of

members, especially officers, between different assignments (Jans & Frazer-Jans, 2004). This practice is often intended to provide members with increasing challenges and responsibility in successive appointments during their military careers, and to expose them to roles and functions outside their military specialisation (Jans & Frazer-Jans, 2004). In certain instances military members are even moved between appointments with little functional continuity (Jans & Frazer-Jans, 2004). The modern military is also a highly complex organisation. This is indicated by the hundreds of employment streams and jobs, the scope of the tasks that the military must accomplish, and the uncertainty and ambiguity accompanying such tasks (Jans & Frazer-Jans, 2004). All these complexities of the military need to be considered each time one discusses or analyses career development in the military environment. This implies going further than the traditional or contemporary perspective of career development to an approach that attempts to synthesise both perspectives.

The next section will present Erikson's (1963) stage theory, which provides a conceptual basis for career stage models in the literature of career development. The next model discussed will be Havighurst's (1972) model of developmental tasks across the lifespan, which will be followed by Levinson, Darrow, Klein, Levinson and McKee's (1978) four eras of a man's life. Thereafter, a more detailed discussion of Super's (1957) career stage model will be presented within the military context.

3.2   ERIKSON'S STAGE THEORY

Erikson (1963) partitions the lifespan of an individual into eight stages, which are characterised by a psychosocial crisis involving transitions in important social relationships within each stage (see Figure 3.1). According to this model, a person experiences a struggle between two opposing tendencies in each stage as part of these psychosocial crises (e.g. trust versus mistrust or initiative versus guilt) (Weiten, 2001). What is important is how the person deals with these crises as he or she progresses through the stages. According to Wrightsman (1994, p. 14), this theory "serves in major ways as a prototype of a stage theory, in that each successive stage or period is not only qualitatively different, but is discontinuous with the previous stage". Each new stage is seen as a wholly new level of structural

integration that does not recognise that the transition to a new stage may take several months or years (Wrightsman, 1994).

3.2.1. Stage 1: Trust versus Mistrust

This stage encompasses the first year of a person's life, featuring total reliance on adults to take care of basic needs such as food and clothing (Weiten, 2001). If an infant's basic needs are adequately met by the caregivers and sound attachments are formed, the child is expected to develop an optimistic, trusting attitude towards the world. However, if these basic needs are not met, the child may develop a more distrustful and pessimistic attitude (Weiten, 2001).

3.2.2. Stage 2: Autonomy versus Shame and Doubt

In this stage the child begins to take some personal responsibility for self-care, which results in a sense of self-sufficiency (Weiten, 2001). The task of children at this stage is to gain control and mastery over their bodies (Wrightsman, 1994). However, if caregivers are never satisfied with the child's efforts and there is a constant parent-child conflict, the child may develop a sense of personal shame and self-doubt (Weiten, 2001; Wrightsman, 1994).

3.2.3. Stage 3: Initiative versus Guilt

At this stage children experiment and take initiative, which may sometimes be contrary to parents' rules (Weiten, 2001). Over-controlling parents may foster feelings of guilt in the child, which hampers self-esteem. Supportive parents enhance the emerging independence of the child as well as the retention of initiative (Weiten, 2001).

3.2.4. Stage 4: Industry versus Inferiority

In this stage the child learns to function in a broader social environment, which includes the neighbourhood and school (Weiten, 2001). Those children become capable of functioning effectively in the broader social environment where

productivity is highly valued, and are expected to value achievement and take pride in accomplishment, which result in a sense of competence (Weiten, 2001).

3.2.5. Stage 5: Identity versus Confusion

The challenge for adolescents in this stage is the struggle to form a clear sense of identity, and the stage involves "working out a stable concept of oneself as a unique individual and embracing an ideology or system of values that provides a sense of direction" (Weiten, 2001, p. 461). If the adolescent fails in this quest, he or she faces the threat of identity confusion as he or she enters adulthood (Wrightsman, 1994).

3.2.6. Stage 6: Intimacy versus Isolation

During this stage of early adulthood the main concern is whether or not one can develop the capacity to be intimate with others (Weiten, 2001; Wrightsman, 1994). A successful resolution of this concern is expected to promote empathy and openness, rather than shrewdness and manipulativeness (Weiten, 2001).

3.2.7. Stage 7: Generativity versus Self-Absorption

The challenge in this stage of adulthood is the acquisition of a genuine concern for the welfare of future generations, which is expected to lead to unselfish guidance of younger people (Weiten, 2001). Self-absorption is regarded as being self-indulgent and merely concerned with meeting one's own needs and desires (Weiten, 2001).

3.2.8. Stage 8: Integrity versus Despair

This is the retirement era, and the challenge is to avoid the tendency to dwell on past mistakes and imminent death (Weiten, 2001). The crisis at this stage is coming to terms with one's past life, and if "integrity occurs, the person sees his or her life as well spent" (Wrightsman, 1994, p. 73). It is important to find meaning and satisfaction in this stage rather than wallow in bitterness and resentment (Weiten, 2001).
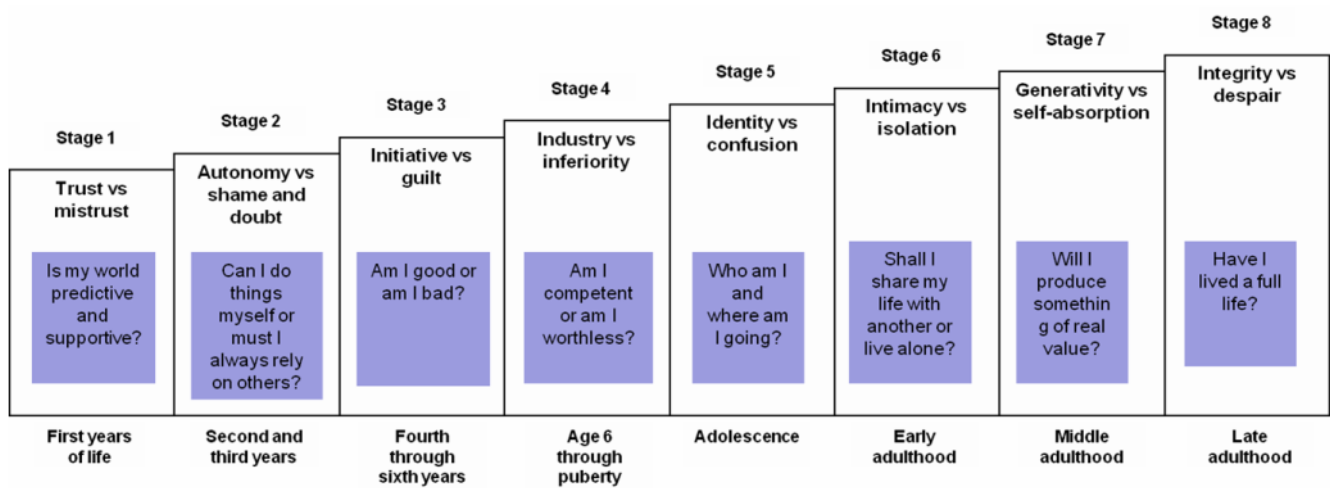
Figure 3.1: Erikson Stage Theory (Weiten, 2001, p. 446)

3.3 HAVIGHURST'S MODEL OF DEVELOPMENTAL TASKS ACROSS THE LIFESPAN

Influenced by previous theories of development such as Erikson's Stage Theory, Havighurst (1972) outlines six age periods across the human lifespan and a series of developmental tasks linked to each of the six age periods (see Table 3.1). According to Havighurst (1972, p. 2), a "developmental task is a task which arises at or about a certain period in the life of the individual, successful achievement of which leads to his happiness and to success with later tasks, while failure leads to unhappiness in the individual, disapproval by the society, and difficulty with later tasks".

Table 3.1: Havighurst's Model of Developmental Tasks across the Lifespan (Havighurst, 1972)

Age Period	Developmental Tasks
Infancy and Early Childhood (from infancy to age 6)	Learning to walk. Learning to take solid foods. Learning to make meaningful sounds and communicate with other people through the use of these sounds. Learning to control the elimination of body wastes at socially acceptable times and places. Learning sex differences and sexual modesty. Forming concepts and learning language to describe social and physical reality. Getting ready to read. Learning to distinguish right and wrong and beginning to develop a conscience.
Middle Childhood (Ages 6 – 12)	Learning physical skills necessary for physical games. Building wholesome attitudes toward oneself as a growing organism. Learning to get along with age-mates. Learning an appropriate masculine or feminine social role. Learning fundamental skills in reading, writing, and calculating. Developing concepts necessary for everyday living. Developing conscience, morality, and a scale of values. Achieving personal independence. Developing attitudes towards social groups and institutions.
Adolescence (Ages 12 – 18)	Achieving new and more mature relations with age-mates of both sexes. Achieving a masculine or feminine social role. Accepting one's physique and using and protecting the body effectively and with personal satisfaction. Achieving emotional independence of parents and other adults. Preparing for marriage and family life. Preparing for an economic career. Acquiring a set of values and an ethical system as a guide to behaviour – developing an ideology. Desiring and achieving socially responsible behaviour.
Early Adulthood (Ages 18 – 30)	Selecting a mate. Learning to live with a marriage partner. Starting a family. Rearing children. Managing a home. Getting started in an occupation. Taking on civic responsibility. Finding a congenial social group.

Middle Age (Ages 30 – 60)	Assisting teen-age children to become responsible and happy adults. Achieving adult social and civic responsibility. Reaching and maintaining satisfactory performance in one's occupational career. Developing adult leisure-time activities. Relating oneself to one's spouse as a person. Accepting and adjusting to the physiological changes of middle age. Adjusting to aging parents.
Later Maturity (Ages 60 and beyond)	Adjusting to decreasing physical strength and health. Adjusting to retirement and reduced income. Adjusting to death of spouse. Establishing an explicit affiliation with one's age group. Adopting and adapting social roles in a flexible way. Establishing satisfactory physical living arrangements.

3.4   THE FOUR ERAS OF A MAN'S LIFE

Levinson, Darrow, Klein, Levinson and McKee (1978) identify the following life stages, which are depicted in Figure 3.2: childhood and adolescence, early adulthood, middle adulthood, and late adulthood. It is important to note that Levinson et al. (1978) acknowledge that life is not standardised, and the ages used to demarcate the stages should thus not be applied rigidly. As reflected in Figure 3.2, the model outlines a transition period between the stages, which may be anything between three and six years. This transition is designed to provide some continuity among the eras by linking them to each other (Levinson et al., 1978).

3.4.1 Childhood and Adolescence (age 0 – 22)

This stage consists of childhood, adolescence, and the early adult transition. During this stage the individual lives within the family, which provides protection, socialisation, and support for growth (Levinson et al., 1978). The transition into childhood commences sometime before birth and continues for the first two or three years of the child's separate life. The child expands his social world from the immediate family to a larger sphere of society and goes through puberty, which provides a transition from middle childhood to adolescence. Early adult transition

extends from age 17 to 22 and provides a bridge from adolescence to early adulthood (Levinson et al., 1978).

3.4.2 Early Adulthood (age 17 – 45)

According to Levinson et al. (1978), this stage may be the most dramatic of all the eras. For men, this is the peak of their biological functioning, which tends to decline after passing the age of 40. During the 20s a young man forms a preliminary adult identity. He makes the first major choices such as marriage, occupation, residence, and style of living that will define his place in the adult world (Levinson et al., 1978). At this stage the young man is regarded as a novice, lover, and husband who will gradually grow more understanding and responsible. Parenting is also part of this stage, and may add to the complexity of married life and increase the financial demands on the young man. From being a novice adult, the young man progresses to a point where he can assume a more senior position in work, family, and community. At work, he establishes himself first at a junior level and then advances along the employment ladder until he reaches the culmination of his youthful strivings (Levinson et al., 1978).

3.4.3 Middle Adulthood (age 40 – 65)

This stage signals the end of early adulthood and brings with it bodily changes such as the decline of cardiac capacity and visual acuity (Levinson et al., 1978; Schreuder & Coetzee, 2006). The psychological benefits of this stage include more wisdom, judiciousness, magnanimity, and a broader life perspective (Levinson et al., 1978).

3.4.4 Late Adulthood (age 60 and beyond)

In the early 60s, middle adulthood will normally come to an end and late adulthood will commence. Living is fundamentally changed owing to numerous biological, psychological, and social changes as well as the further experience of bodily decline (Levinson et al., 1978). The individual is faced with the developmental task of overcoming the splitting of youth and age, and finding a balance for the two. Late

adult transition brings fears that the youth within the person is dying, and he will be left with only old age (Levinson et al., 1978).
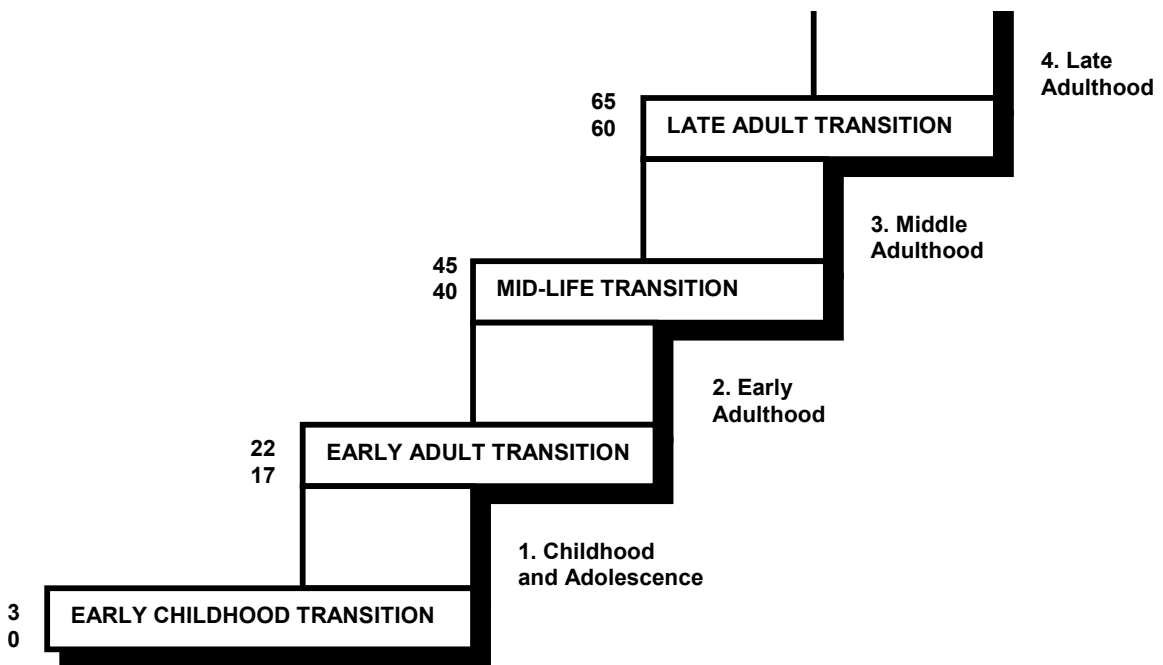
Figure 3.2: The Four Eras of a Man's Life (Levinson et al., 1978, p. 20)

3.5   SUPER'S CAREER STAGE MODEL

Super's theory outlines the following five major stages of career development, with each stage characterised by developmental tasks: growth (birth to age 14), exploration (age 15 to 24), establishment (25 to 44), maintenance (45 to 65), and decline (ages 65 and beyond) (Sverko, 2006). It is important to highlight that these stages are not only about careers, but involve all aspects of life and living (Super, 1957). Even though Super demarcates the career stages with age and specific tasks and holds a basic view of the stages as chronological, it is important to note that he also acknowledges an age-independent, task-centred view of these career stages (Sverko, 2006). A military member in middle adulthood, for example, who has recently changed his or her area of military specialisation, may be seen as

embarking on a new career, thus going through the exploration and establishment stages later in adulthood. Thus these five career stages spreading across one's entire lifespan (or the maxicycle) may also be experienced as minicycles within each of the maxicycle stages (Sverko, 2006).

In this study, the perspective that will be adopted when discussing Super's career stage model in the military is that individuals cycle and recycle throughout their lifespan as they adapt to their own internal changes as well as the altering opportunities to which they are exposed (Sverko, 2006). This means that this study attempts to discuss Super's career stages in a manner that caters for both the traditional and contemporary perspectives of career development, which is a phenomenon linked to military service and the transition from a military career to a second civilian career (Baruch & Quick, 2007). Another reason why this study adopts this perspective is that occupations vary in terms of the individual's life/career stage of entry as well as tenure in that occupation. Some occupations are typically open to young people recently out of school or college, while others are rarely entered by young men and women. Similarly, certain occupations hold their workers only until they attain adulthood or reach full maturity, and then either lose them or in some instances expel them, while other occupations retain their members until old age. Occupations might thus be said to have lifespans, for some are open only during certain stages of the adult's working life (Super, 1957, p. 52).

Super (1957) classifies occupations into the following categories which also reflect age of entry and tenure: early-entry early-leaving occupations, early-entry normal-leaving occupations, early-entry late-leaving occupations, normal-entry early-leaving occupations, normal-entry normal-leaving occupations, normal-entry late-leaving occupations, late-entry early-leaving occupations, late-entry normal-leaving occupations, and late-entry late-leaving occupations. It is interesting to note that Super (1957) classified military service as early-entry early-leaving. This view of military service has limitations for contemporary military organisations that provide various professional career opportunities (Raviv, 2004; US Military Entrance Processing Command, 1989; Warner, Bobo & Flynn, 2005).

3.5.1 Growth Stage (From Birth to 14)

This is the first stage of Super's career stage model, and it entails physical, psychological, and social growth (Super & Bohn, 1970). In the military context, for obvious reasons, this stage will take place prior to signing-up for military service. As a child, the individual grows in cognitive capacity, in emotional stability and maturity, and in social skills and adjustment (Super & Bohn, 1970). Upon entering school the individual develops more skills and abilities in a broader social context in terms of what he or she can do, what he or she likes to do, and what others expect him or her to do (Super & Bohn, 1970). This stage can be subdivided into the following substages (Salomone, 1996):

- *Fantasy (4-10)*: At this stage the child's needs are dominant, and role-playing in fantasy is important. For example, children at this stage may fantasise about soldiering and being uniformed members of the armed forces. Since the military is male-dominated and gender differences exist in the socialisation of children, there is a strong likelihood that male children may role-play military service more than female children. Another influence at this stage may emanate from the existence of a military parent in the family giving the child information about military service (Card & Farrell, 1983).

- *Interests (11-12)*: The child's likes or interests are regarded as the major determinant of aspirations and activities during this stage. For example, in a case study of a lady who spent her entire career in the military, she describes her childhood in terms of military-related adventure activities (Eighmey, 2006), "I was a nature kid, a tomboy, the kind that liked to climb trees" (Harrow, 2005, p. 57).

- *Capacity (13-14)*: Abilities are given more weight, and job requirements are considered. This means that at this stage military service may be considered as a job, based on the abilities and requirements to perform military duties. Numerous public high schools have introduced the Army Junior Reserve Officers' Training Corps (JROTC) programme to their schools, exposing learners to the discipline and career opportunities offered by the military without obligating them to enlist (Hajjar, 2005)

This growth stage is also the period when the self-concept begins to form as the child acquires concepts of various careers presented by the environment. At this stage children develop their capacities, attitudes and interests, and form a general understanding of the world of work (Sverko, 2006). This stage entails four major career developmental tasks, namely becoming concerned about the future, increasing personal control over one's own life, persuading oneself to achieve in school and at work, and acquiring competent work habits and attitudes (Sverko, 2006).

3.5.2 Exploration Stage (Ages 15 to 24)

At this stage the young adult self-consciously tries him or herself realistically in various adult roles and adopts a longer view of his or her life (Super & Bohn, 1970). The adolescent starts thinking about personal interests and learns to recognise that abilities are as important as interests (Super & Bohn, 1970). According to Super (1957), this is the stage where the self-concept that has been forming since childhood starts to emerge. Since some of the components of a self-concept may prove incompatible with each other, conflict and anxiety may result for the young person, thus requiring environmental change, more trial and error, insight, and even counselling (Super, 1957).

During the exploration stage individuals try to understand themselves and find their place in the world of work (Sverko, 2006). Through classes, work experience, and hobbies, they try to identify their interests and capabilities and figure out how they fit with various occupations. Young school leavers who are job-hunting at this stage face a wide range of problems, especially those with little or no work experience (Crites, 1976). Whilst trying to find a job to support themselves, they sometimes experience a shift in value orientation when they leave school and enter the workplace (Crites, 1976). This tends to lead to floundering behaviour because of the dissonance in values occasioned by the disjunction between what they believe and what they are expected to believe (Crites, 1976).

In the military context, this is the era when newly recruited military members begin basic military training. As part of military socialisation, basic military training may sometimes strip the adolescent of the self-concept that started forming during the childhood stage. According to Elder et al. (1991), basic military training fosters equality and comradeship among recruits by separating them from their pasts. It "makes prior identities irrelevant, requires uniform dress and appearance, minimizes privacy, and rewards performance on the basis of group achievement (Elder et al., 1991, p. 217).

The following are substages of the exploration stage (Salomone, 1996):

- *Tentative (15-17)*: At this stage needs, interests, capacities, values, and opportunities are considered, and tentative choices are made and tried out in fantasy, discussion, courses, and work. This is mainly the high school era for many young individuals, and military service always exists among the alternatives available to most high school learners in terms of career choice. In developed countries such as the United States, the Armed Services Vocational Aptitude Battery (ASVAB) Career Exploration Program is used yearly by approximately 900 000 students in nearly 14 000 schools to identify young men and women who qualify to serve in the US armed forces (Laurence, Wall, Barnes & Dela Rosa, 1998). This programme entails aptitude tests, an interest inventory, personal preference exercises to include work values, desire for additional education and training, and interest in military occupations (Laurence et al., 1998). The propensity to join the military at this stage is guided by factors such as values, attitudes, and perceptions of military service (Bachman, Segal, Freedman-Doan & O'Malley, 2000). To be accepted into service the individual must also meet the minimum requirements set by military organisations, such as high school graduation, aptitude test scores, good physical condition, and a moral character (such as the absence of drug dependence and a criminal record) (Bachman et al., 2000). According to Bachman et al. (2000), those individuals who perceive military service and military missions in strongly positive terms are more likely than those who react negatively to order and discipline to enlist for military service, and tend to be attractive to military recruiters. It is important to state that even though some teenagers may not necessarily engage in discussions and

explicit fantasies of military service, they may still exhibit interests and capacities closely related to the military. For example, self-descriptions such as "When other students were learning accounting, I was rock-climbing, and paddling boats…and out on horseback with the wild horse herds" (Harrow, 2005, p. 58).

- *Transition (18-21)*: During this stage considerations of reality are given more weight as the youth enters the labour market or professional training and attempts to implement the self-concept. The transition usually follows high school years, and the newly recruited members commence with basic military training. According to Elder et al. (1991), joining the military may sometimes provide a moratorium from the pressures and time-tables of age-graded careers. According to Bachman et al. (2000), before most young people complete high school, their expectations concerning military service are clearly formed and generally predict quite accurately their actual enlistment during the next year or two.

- *Trial (22-24)*: A seemingly appropriate field having been chosen, a beginning job in it is found and is tried out as a life work. This is the typical time when military recruits choose areas of specialisation in the military after completing basic military training. Choosing a warfare community (or area of speciality in the military) is regarded as one of the most important and lasting career decisions that new members of the armed forces have to make, as it determines the soldiers' military occupations, assignments, earnings, promotion, and the future of their military service (Casáls, 2004). In South Africa, the Military Skills Development System (MSDS) which has been introduced as a form of rejuvenating the South African National Defence Force (SANDF) as well as providing transferable skills to school leavers, may be seen as providing young people with a trial period for a military career. After a period of two years in the SANDF, MSDS members have the option to either start a military career or leave the armed forces. Among the factors identified by Lewis (2004) as causing a high rate of junior officer attrition in the military is the military culture, which is found unsatisfactory by those who decide to leave the service early to start another career in the civilian environment. Griffith (2008) finds that institutionally-orientated soldiers are more likely to commit to military service and will report for duty than occupationally-orientated soldiers.

According to Sverko (2006), the exploration stage involves the following career development tasks:

- The crystallisation of a career preference by developing and planning a tentative career goal. Planning should be done in a manner that allows aspirations and opportunities to be as congruent and realistic as possible (Super & Bohn, 1970).
- The specification of a career preference through the conversion of generalised preferences into a specific choice.
- The implementation of a career preference by completing appropriate training and securing a position in the chosen occupation.

Up to this point, the discussion of the exploration stage has been following the traditional hierarchical perspective, the application of which is usually challenged in the contemporary work environment. The argument from a modern view of career development is that individuals in the successive career stages (establishment, maintenance, and even the decline stage) may also go through a process of exploration when migrating to new occupations or starting a second career. This also implies that the developmental task identified in this stage may be applicable to the successive career stages. This is in line with the study by Campbell and Cellini (1981), which reveal that the following developmental tasks are common across all the career stages: career decision-making, implementing career plan, reaching an acceptable level of organisational/institutional performance, and organisational/institutional adaptation that allows an individual to take part effectively in the environment.

3.5.3 Establishment Stage (Ages 25 to 44)

This is the period when the individual, having gained an appropriate position in the chosen field of work, strives to secure the initial position and pursue chances for further advancement (Sverko, 2006). The trial process at this stage becomes less tentative as the individual commits to a chosen occupation as well as to family responsibilities (Super & Bohn, 1970). For example, a study by Reilly and Orsak (1991) suggests that commitment (continuance and normative) seems to increase

significantly as a person progresses beyond the exploration stage. One needs to recognise that military commitment may be influenced by the some aspects related to the nature of military service. Jans (1989) identifies two features of military service that tend to influence commitment by members of the armed forces.

- The first is related to the relatively low retiring age of military personnel. In some military organisations, for example, military officers are not permitted to serve past a certain age if they have not attained a set minimum rank by that age. This leads such officers to decide to leave the military, despite high levels of organisational commitment, because of the practical need to establish a second career at a reasonably young age.
- The second has to do with the type of military pension schemes applicable in some countries, which are designed to encourage and facilitate early retirement. For example, a member of the armed forces may qualify for retirement benefits after serving for a period of 20 years. Such a pension entitlement may create the desire to serve for 20 years even when commitment declines (Jans, 1989; Lewis, 2004).

Substages of establishment include the following (Salomone, 1996):

- *Trial (25-30)*: The field of work presumed to be suitable may prove unsatisfactory, resulting in one or two more career changes. This may entail a change in the area of military specialisation or else leaving the armed forces for a new career in the civilian sector.
- *Stabilisation (31-44)*: As the career pattern becomes clear, the individual puts more effort into stabilising and securing a place in the world of work.

The establishment stage is characterised by the following three developmental tasks (Sverko, 2006).

- The first task is stabilising one's place in the organisation by adapting to the organisation's requirements, and performing job duties satisfactorily.

- The second task includes consolidating one's position by showing positive work attitudes and productive habits, along with building favourable co-worker relations.

- The third task entails advancing to new levels of responsibility.

It should be noted, however, that exceptions need to be acknowledged to this linear traditional approach to career development since "some people who have once been established become disestablished as a result of illness, accident, war, or industrial change; and some continue to pioneer in new fields so that their careers involve a long-continuing establishment process" (Super & Bohn, 1970, p. 139). Despite the expected stabilisation process at this stage, career change is becoming more common among people of this age group (Wise & Millward, 2005). This means that some individuals (including military members) at this career stage will not necessarily follow on to the next career stage of maintenance. In the US, for example, the Military Career Transition Program (MCTP) is reported to have prepared approximately 1000 military members, with an average age of 42, to begin teaching as a second career (Manning & MacDonald, 2001). These are military members who are traditionally expected to commence with the maintenance stage.

3.5.4 Maintenance Stage (Ages 45 to 64)

The traditional view of the maintenance stage is that it is a period of continual adjustment, and includes the career development tasks of holding on, keeping up, and innovating (Sverko, 2006). At this stage the individual strives to maintain what he or she has achieved. Competencies are thus updated and innovative ways of performing jobs are sought (Sverko, 2006). This means that the individual will build on the commitment that began to show in the previous career stage. The previously mentioned study by Adler and Aranya (1984) on career stages among accountants revealed a general trend among participants under the age of 60, that the more advanced the accountant's career stage, the stronger the level of work needs, the higher the intrinsic and extrinsic job satisfaction, and the stronger the organisational and professional commitment. However, it is important to state that research findings on Super's career development stages are not synonymous, as some studies find no

significant differences among Super's career stages on variables such as organisational commitment, satisfaction, intention to leave, willingness to relocate, or desire for promotion (Ornstein & Isabella, 1990).

In the military context, Jans (1989) finds that age and length of service are related to organisational commitment, which suggests that older officers are more committed to the military than are younger officers. This study also reveals differences in military values levels across the career stages as older military officers (especially those in the maintenance stage) reflect a stronger belief in the military ethic than do their younger counterparts. According to Jans (1989, p. 260), this reflects the "tendency for officers whose military values are not particularly high to leave their service, so that at each career stage, those who remain are those who have higher military values".

Once again, the contemporary phenomenon of multidirectional and protean careers should be acknowledged, and one should not necessarily expect individuals at this career stage to follow on to the last stage (decline) of retirement. Individuals may explore new career opportunities, and the military is no exception when it comes to career transitions during the maintenance stage. Senior military officers may in certain instances end their military careers earlier than traditionally expected and start a second career (Baruch & Quick, 2007). Sometimes military members are compelled by the nature of military service to embark on a career transition which, at this stage, is regarded as a major life-course event (McDermott, 2007). These members leave their military careers, which exist in a relatively secure and stable organisation, to start a second career at an age that might place them in an early-retirement category (Baruch & Quick, 2007). This means they are faced with a career task of dealing with their socialisation and indoctrination into a hierarchy-based and stable career system as they move into a civilian career system that is regarded as dynamic and without boundaries (Baruch & Quick, 2007).

Baruch and Quick (2007) highlight the importance of being proactive during a military career change at this career stage, in order to enable a smooth transition and adjustment to the less-structured civilian career context. Being proactive entails taking the initiative to explore new jobs and utilise career opportunities. It also means

taking charge of the planning of one's own career path and not merely waiting for the organisation to plan for one (Baruch & Quick, 2007). McDermott (2007) states that the following may assist in dealing with military career transition at this stage:

- Accepting that the military service is ending and preparing early for civilian life and work.
- Adapting military skills and attitudes to suit the civilian environment and accepting that many civilians do not work and think in the same manner as soldiers do.

3.5.5 Decline Stage (Age 65 on)

This is the final stage in the model, and is regarded as a period of transition out of the workforce (Sverko, 2006). Compared to the other stages, the decline stage is regarded by some authors as the least studied stage of development, and it is seldom discussed (Reilly & Orsak, 1991). At this stage, individuals encounter the career developmental tasks of deceleration, retirement planning, and retirement living (Sverko, 2006). According to Spiegel and Shultz (2003), effective pre-retirement planning and the possession of transferable knowledge, skills, and abilities are key elements in successful post-retirement adjustment among military retirees. Traditionally, this is the stage where people gradually disengage from their career activities and concentrate on making a transition to retirement living, by facing the challenges of organising new life patterns (Sverko, 2006). The decline stage includes the following substages (Salomone, 1996):

- *Deceleration (65-70)*: The pace of work slackens, duties are shifted, and the nature of work is changed to suit declining physical and mental capacities. Sometimes individuals may find part-time jobs to replace their full-time occupations.
- *Retirement (71 on)*: This substage entails the complete cessation of occupational activities. Variations exist from person to person as retirement comes easily and pleasant for some people, while others experience it with some difficulty and disappointment.

Retirement from the military is sometimes regarded as different from that experienced by the civilian sector in terms of its retirement age and the nature of its social structure (Spiegel & Shultz, 2003). In some developed nations, the retirement age is based primarily on the length of military service (for example 20 years) while civilians focus more on age (Spiegel & Shultz, 2003). This implies that military members may retire before even reaching the decline stage. The nature of the military environment presents a closed social structure, which makes the movement of military retirees into the civilian environment highly uncertain. However, both military and civilian retirements are similar in that "in both sectors, retirement may be voluntary or involuntary and, in both sectors, that voluntariness may influence adjustment" (Spiegel & Shultz, 2003, p. 288). Once again, in terms of the contemporary perspective on career development, this stage does not necessarily mean the end of one's military career. As discussed earlier, individuals may once again go through the exploration stage as they embark on new careers in the civilian sector.

The next section discusses the practical implications of career stages.

3.6   PRACTICAL IMPLICATIONS OF CAREER STAGES

Career stages have numerous implications for career development practice, both for the individual and the organisation, as well as Human Resource practitioners. Peluchette and Jeanquart (2000), for example, explain the implication of career stages in the mentoring of professionals, and the way needs change over time, as follows:

- In the early career when professionals commence their work, they typically expect to have both freedom and resources to do the jobs for which they were hired. Organisations respond by granting these professionals greater autonomy, but place them under the supervision of senior professionals. Because many professionals are highly mobile at this stage and are socialised strongly towards their professions, they enter their careers with mentor relationships outside the organisations, which have been established during their apprentice training.

- At midcareer (mid 30s and 40s), the organisation may place more pressure on the professional to participate in activities directly benefiting the organisation than the professional. The professional's response to this pressure may be influenced by both age and tenure. As a result of this shift from dual loyalty to a greater focus on their organisations, professionals in the midcareer stage are more likely to look for mentors within the organisation.

- At the late career stage, most professionals are relatively stable in their careers and are likely no longer to seek mentors, but actually become mentors themselves.

Cohen (1991) states that career stage moderates the relationships between organisational commitment and outcomes. The relationship between commitment and turnover seems to be stronger in the early career stage than in the mid- and late-career stages (Cohen, 1991; Reilly & Orsak, 1991). The relationship of commitment with performance is strongest in the late-career stage. According to Cohen (1991), organisations can benefit by increasing commitment across all career stages. Increasing the level of commitment in the early career stage is important for reducing turnover, and in the mid- and late-career stages for decreasing absenteeism and enhancing performance (Cohen, 1991).

Career stages also have implications for practitioners. According to Jepsen and Sheu (2003), part of the important goals for career counsellors is to enhance individuals' job satisfaction and to minimise prospects of dissatisfaction. Career counsellors generally intervene to assist young people to make appropriate career choices and enter jobs that promise higher satisfaction whilst avoiding jobs that promise lower satisfaction. As a result, these counsellors need to understand the dynamics of job satisfaction and how it develops at different career stages, as well as what conditions influence it (Jepsen & Sheu, 2003).

3.7 THEORETICAL INTEGRATION OF CAREER MATURITY AND CAREER STAGES

The objective of this section is to postulate a theoretical relationship between career maturity and the different life/career stages.

Career maturity is regarded as the degree of development a person has reached on the continuum of career development across the lifespan (Super, 1957; Super & Overstreet, 1960). In terms of the human lifespan, career stage models partition working life into stages, and attempt to specify the typical career behaviour at each stage. This approach presupposes the existence of differences in the work-relevant attitudes and motives between individuals in different age groups (Adler & Aranya, 1984). Career maturity is thus the readiness to deal with age-appropriate career-related tasks such as making career choices, planning ahead, and assuming the role of a worker (Fouad, 1988; Vondracek & Reitzle, 1998). It can be assessed normatively, by comparing an individual's career behaviour with the career behaviour expected at his or her career stage (Super & Overstreet, 1960; Super & Bohn, 1970). In essence, this normative assessment of career maturity implies that individuals need to attain a certain level of career maturity as they progress through their career stages. This will then enable them to deal with the challenges and tasks of each career stage, thus portraying the appropriate career behaviour for that particular stage.

The appropriate career behaviour for each stage can be viewed as career-mature behaviour. According to Super (1957), a career-mature person can be identified by the ability to eliminate floundering behaviour (Super, 1957; Super & Bohn, 1970). Having more career information, realistic career aspirations, and keeping within own abilities and socioeconomic circumstances, are indicators of career- mature behaviour (Jordaan & Heyde, 1979). Being proactive during military career transitions (Baruch & Quick, 2007), accepting that the military career is ending and preparing early for civilian life, as well as adapting military skills and attitudes to suit the civilian environment (McDermott, 2007), are all indicators of career-mature behaviour in the later stages of a military career. Osipow (1973) also states that

career-mature behaviour is expected to assume different shapes depending on the context provided by an individual's career stage. For example a career-mature "14-year-old will be concerned with assessing his interests and abilities to reach the goal of deciding on an educational plan, while the vocationally mature 45-year-old man will be concerned with ways he can maintain his career status in the face of competition from younger men" (Osipow, 1973, p. 137).

The dimensions of career maturity (orientation to career choice, information and planning, consistency of career preferences, crystallisation of traits, and wisdom of career preferences) identified by Super (1957) are consistent with the following developmental tasks identified by Campbell and Cellini (1981) as common across all the career stages, that is, career decision-making and implementing a career plan that will reflect an acceptable level of performance and adjustment to the organisation or institution. Since the discussion of Super's career stage model in this study has adopted a dual perspective (traditional and contemporary perspective), career-mature behaviour in the military context across the different career stages can be reflected as follows:

- *Growth Stage*: Career-mature behaviour during this childhood stage will be characterised by the child's formulation of a clear self-concept that is consistent with the military environment. A child wishing to join the military will exhibit interests, abilities, and attitudes that are congruent with the nature and demands of military service.
- *Exploration Stage*: The career-mature young adult will realistically explore the various military roles on offer as the self-concept that has been forming since childhood starts to emerge. Career preferences will crystallise as he or she develops and plans a tentative career goal. Career preference will be specified by choosing to sign up for military service (and undergo basic military training), thus converting a generalised preference into a specific choice. An adult leaving the armed forces for a second career in the civilian sector will reflect a high level of career maturity by his or her appropriate career choices and career-planning abilities, and generally display career behaviour that enhances adjustment to the new career. Since career maturity has been correlated with age (Patton & Creed,

2001), older individuals are generally expected to know more about themselves, their interests, to become more independent, have a clearer picture of what they want to do as adults, and be more aware of alternative career plans, than youngsters (Super & Bohn, 1970).

- *Establishment Stage*: Career trial behaviour will, at this stage, be less tentative, and the individual will commit to the chosen military occupation as well as to family responsibilities. Since the nature of military service tends to influence the level of its members' commitment (Jans, 1989), military members need to reflect an understanding of this situation and be proactive, as mentioned earlier, in preparation for their future career moves.

- *Maintenance Stage*: Achieved competencies will be updated and innovative ways of performing jobs will be sought (Sverko, 2006). This means that the individual will build on the commitment that started to show in the previous career stage. Being proactive during military career transitions (Baruch & Quick, 2007), accepting that the military career is ending, and preparing early for civilian life as well as adapting military skills and attitudes to suit the civilian environment (McDermott, 2007), are indicators of the expected career-mature behaviour for military members making a career transition at this career stage.

- *Decline Stage*: At this stage individuals have to deal with the career developmental tasks of deceleration, retirement planning, and retirement living (Sverko, 2006). According to Spiegel and Shultz (2003), effective pre-retirement planning and the possession of transferable knowledge, skills, and abilities, are key elements in successful post-retirement adjustment among military retirees.

3.8   CHAPTER SUMMARY

This chapter presented a theoretical discussion of career stages. The discussion commenced with the conceptualisation and critique of career stages, and a few prominent life and career stage models were presented. Thereafter, the discussion focused on Super's career stage model, which was discussed in terms of its relevance to the military environment. The five career stages of Super's career development theory were discussed from a dual perspective of career development, that is, from both the traditional and contemporary perspective of career

development. This was done in an attempt to emphasise that the nature of military service or military careers tends to reflect both perspectives. The practical implications of career stages for the individual, the organisation, and practice were briefly discussed. Thereafter, the discussion focused on the integration of career maturity and career stages, to reflect their relationship in career development within the military context. The empirical study will be discussed in Chapter 4.

CHAPTER 4   EMPIRICAL STUDY

The present chapter describes how the empirical study was conducted. The aim of the present chapter is to outline the process followed in determining the level of career maturity across career stages in the South African military. To achieve this aim, the population and sample will be described, followed by a description of the measuring instruments utilised. Thereafter, the data collection and processing will be discussed, followed by a hypothesis formulation and the chapter summary.

The entire phase of the empirical study consists of the following nine steps that were followed in conducting this study:

Step 1   Determination and description of the sample

Step 2   Choosing and motivating the psychometric battery

Step 3   Administration of the psychometric battery

Step 4   Scoring the psychometric battery

Step 5   Statistical data processing

Step 6   Formulation of the research hypotheses

Step 7   Reporting and interpreting the results

Step 8   Integration of research findings

Step 9   Formulating   the   research   conclusions,   limitations,   and recommendations

Chapter 4 discusses the first four steps, and the remainder are covered in Chapters 5 and 6.

4.1 DETERMINATION AND DESCRIPTION OF THE POPULATION AND SAMPLE

The point of research is to find some answers (Walliman, 2006), and it is a useful approach to investigating a problem to find data to support it. In this empirical study, a survey design and non-probability (purposive) sampling method was adopted for the data-gathering purpose. Non-probability sampling differs from probability sampling by not involving random selection of participants for the study (Trochim, 2006). Purposive sampling means that the researcher samples with a purpose in mind (Trochim, 2006). It can be very useful in situations where the researcher needs to reach a targeted sample quickly and where sampling for proportionality is not the primary concern. Purposive sampling, however, is likely to overweight subgroups in one's population that are more readily accessible (Trochim, 2006).

This section delineates the population and sample of the current empirical study. While "population" refers to the entire group of individuals that the researcher wants to study, a "sample" is a small portion of the population that the researcher selects to participate in the empirical study (Gravetter & Wallnau, 2008).

4.1.1 Population

Career maturity has largely been studied among high school and undergraduate university students (Crites, 1976; Dillard, 1976), thus excluding the majority of adults in a different context (Raskin, 1998), such as members of the armed forces. There are many young adults in military organisations who are progressing through their career stages whilst in military service. To achieve greater validity, the construct career maturity should also be taken into consideration within the context in which individuals exist and function. It is for these reasons that the present study focused on adults who were military officers rather than high school or university students.

The population for this empirical study was determined to be officers of the South African National Defence Force (SANDF), ranging from the rank of Candidate Officer to Major. Since the SANDF consists of four arms of services (the SA Army, SA Airforce, SA Navy, and the SA Military Health Services), "population" in this study

refers to all officers of the rank of Candidate Officer to Major (or equivalent) in all these four arms of services in the SANDF.

4.1.2 Sample

To assess the level of career maturity across the various career stages in the South African military, a non-probability sample of military officers was obtained from the SANDF across the four arms of service. The sample consisted of 333 such officers. While random selection might have been the preferred choice, this was not possible because military officers are not as readily available for research purposes as are other ranks (or enlisted personnel). The average age of the participants was 28, with a standard deviation of 7.10.

4.1.2.1   *Distribution of sample according to gender*

The distribution of the sample according to gender is presented in Table 4.1. This biographical information indicates that the majority of the military officers were males (60.10%), with females comprising 39.60% of the sample.

Table 4.1   Sampling Distribution according to Gender

Gender	N	Percent
Female	132	39.60
Male	200	60.10
Missing	1	0.30
Total	333	100

4.1.2.2   Distribution of sample according to race

The distribution of the sample according to race is reflected in Table 4.2. Africans represented 61.90% and were the majority in the sample. Asians comprised 1.50% of the total sample while Coloureds constituted 15.30% of the total sample. Whites represented 19.20% of the total sample.

Table 4.2   Sampling Distribution according to Race

Race	N	Percent
African	206	61.90
Asian	5	1.50
Coloured	51	15.30
White	64	19.20
Missing	7	2.10
Total	333	100

4.1.2.3   Distribution of sample according to age category

Table 4.3 reflects the distribution of the sample according to age categories. Military officers in the 15-24 age category (exploratory stage) represented 42.90% of the sample, while those in the 25-44 age category (establishment stage) represented the majority with 54.10%. Officers in the sample who were in the 45-64 age category (maintenance stage) constituted 2.10% of the total sample.

Table 4.3   Sample Distribution according to Age Category

Age Category	N	Percent
15-24	143	42.90
25-44	180	54.10
45-64	7	2.10
Missing	3	0.90
Total	333	100

4.1.2.4   Distribution of sample according to level of education

The distribution of the sample according to the military officers' level of education is reflected in Table 4.4. This biographical data reflects that the majority of the officers in the sample (49.80%) had Matric as the highest level of education. Officers with a Post-Matric Certificate represented 15.60%, while those with a National Diploma or Bachelors Degree represented 21.90%. Officers with a postgraduate qualification comprised 5.10% of the total sample.

Table 4.4   Sample Distribution according to Level of Education

Highest Qualification	N	Percent
Matric	166	49.80
Post-Matric Certificate	52	15.60
Diploma/Degree	73	21.9
Postgraduate	17	5.10
Missing	25	7.50
Total	333	100

4.1.2.5   Distribution of sample according to arm of service

Table 4.5 reflects the distribution of the sample according to the arm of service in the South African military. The table indicates that 42.60% of the military officers in the

sample served in the SA Army, 21.00% in the SA Airforce, 13.80% in the SA Navy, and 22.20% in the SA Military Health Services (SAMHS).

Table 4.5   Arm of Service and Gender Crosstabulation

			Gender			
			Female	Male	Missing	Total
Arm of Service	SA Army	Count	57	85	0	142
		% within Arm of Service	40.10%	59.90%	0.00%	100.00%
		% of Total	17.10%	25.50%	0.00%	42.60%
	SA Airforce	Count	17	53	0	70
		% within Arm of Service	24.30%	75.70%	0.00%	100.00%
		% of Total	5.10%	15.90%	0.00%	21.00%
	SA Navy	Count	11	34	1	46
		% within Arm of Service	23.90%	73.90%	2.20%	100.00%
		% of Total	3.30%	10.20%	0.30%	13.80%
	SAMHS	Count	46	28	0	74
		% within Arm of Service	62.20%	37.80%	0.00%	100.00%
		% of Total	13.80%	8.40%	0.00%	22.20%
	Missing	Count	1	0	0	1
		% within Arm of Service	100.00%	0.00%	0.00%	100.00%
		% of Total	0.30%	0.00%	0.00%	0.30%
	Total	Count	132	200	1	333
		% within Arm of Service	39.60%	60.10%	0.30%	100.00%
		% of Total	39.60%	60.10%	0.30%	100.00%

4.1.2.6   Distribution of sample according to military rank

Table 4.6 indicates that 51.40% of the military officers held the rank of Candidate Officer or equivalent while 2.40%, 16.20%, 8.10%, and 21.90% held the rank of Second-Lieutenant, Lieutenant, Captain, and Major or equivalent respectively.

Table 4.6   Rank and Gender Cross tabulation

			Gender			
			Female	Male	Missing	Total
Military Rank	Candidate Officer	Count	72	99	0	171
		% within Rank	42.10%	57.90%	0.00%	100.00%
		% of Total	21.60%	29.70%	0.00%	51.40%
	Second-Lieutenant	Count	2	6	0	8
		% within Rank	25.00%	75.00%	0.00%	100.00%
		% of Total	0.60%	1.80%	0.00%	2.40%
	Lieutenant	Count	17	36	1	54
		% within Rank	31.50%	66.70%	1.90%	100.00%
		% of Total	5.10%	10.80%	0.30%	16.20%
	Captain	Count	7	20	0	27
		% within Rank	25.90%	74.10%	0.00%	100.00%
		% of Total	2.10%	6.00%	0.00%	8.10%
	Major	Count	34	39	0	73
		% within Rank	46.60%	53.40%	0.00%	100.00%
		% of Total	10.20%	11.70%	0.00%	21.90%
	Total	Count	132	200	1	333
		% within Rank	39.60%	60.10%	0.30%	100.00%
		% of Total	39.60%	60.10%	0.30%	100.00%

4.1.2.7   Distribution of sample according to mustering category

Table 4.7 reflects the distribution of the sample according to mustering category, that is, whether it is a combat or non-combat category. Military officers in the sample from the combat musterings (such as infantry, armour, artillery, military pilots, and navy combat officers) constituted 47.40% of the total sample. Those from the non-combat musterings (such as engineering, logistics, catering, nursing, communication, and personnel) represented 50.80% of the total sample.

Table 4.7   Sample Distribution according to Mustering Category

Mustering Category	Frequency	Percent
Combat	158	47.40
Non-combat	169	50.80
Missing	6	1.80
Total	333	100

4.2   CHOOSING AND JUSTIFYING THE PSYCHOMETRIC BATTERY

Once the researcher has specified the construct of interest, he or she must select the instrument that properly assesses this construct (Constantine & Ponterotto, 2006). The decision on the choice of appropriate measuring instrument to utilise for this empirical study was informed by the literature study and the South African context. Consequently, this study made use of the following measuring instruments:

- The Career Development Questionnaire (CDQ) (Langley, 1990).

- A biographical questionnaire.

4.2.1 The Career Development Questionnaire (CDQ)

The CDQ was developed by Langley (1990) to determine the readiness of adolescents and young adults to make decisions on their careers. It is a measure of career maturity within the South African context. In this empirical study, the CDQ is discussed with reference to the theoretical basis for its development, rationale, scales, administration, scoring and interpretation, and reliability and validity.

4.2.1.1   *Theoretical basis for the development of the CDQ*

The CDQ is based on the developmental approach which emphasises that career development is a lifelong process during which the individual has to master various developmental tasks during consecutive stages of life before he or she can progress effectively to the next stage of development (Langley et al., 1996). It is a South African instrument that is also based on the integration of existing theories of career maturity (Langley, 1990). According to Langley et al. (1996), career maturity reflects

the extent to which a person is able to master career development tasks that are applicable to his or her particular stage of life.

Langley (1990) and Langley et al. (1996), after a review of previous research on career development and career maturity, identify the following common dimensions as essential stages of development leading to career maturity:

- Obtaining information by the person on him- or herself, and converting this information to self-knowledge.
- Acquiring decision-making skills and applying them in effective decision-making.
- Gathering career information and converting it into knowledge of the occupational world.
- Integration of self-knowledge and knowledge of the occupational world.
- Implementation of knowledge in career planning.

4.2.1.2   Rationale of the CDQ

The CDQ was developed to make an instrument available that could assist in determining the level of career development of the individual concerned (Langley et al., 1996). It is a self-report measure aimed at measuring an individual's career maturity (represented by five dimensions) within the South African context. Consequently, the CDQ gives an indication of which areas of career development an individual may experience problems, and which possible corrective measures may need to be implemented.

4.2.1.3   Scales of the CDQ

The CDQ examines the following five dimensions of career maturity: self-information, decision-making, career information, integration of career information on the self with career information, and career planning. Consequently, the CDQ consists of 100 items that can be subdivided into five scales that represent the identified five dimensions of career maturity (see Table 4.8). An individual's response to the items (statements) of the CDQ is a choice between True and False.

Table 4.8   CDQ Scales

Scale	Description	Items
Self-information (SI)	Refers to the testee's knowledge of such things as the importance of life roles, work values, and occupational interests.	Items 1–20
Decision-Making (DM)	Refers to the testee's ability to make effective decisions.	Items 21-40
Career Information (CI)	Refers to the testee's knowledge of the world of work.	Items 41-60
Integration (I)	Refers to the testee's ability to integrate relevant information on him- or herself with information on the world of work.	Items 61-80
Career Planning (CP)	Refers to the testee's ability to make career decisions and to implement a career plan.	Items 81-100

4.2.1.4   *Administration of the CDQ*

The instructions on how the CDQ should be administered are provided in the CDQ Manual (Langley 1990, Langley et al., 1996) as well as on the questionnaire itself. A competent person who has made him- or herself thoroughly familiar with the content of the instrument can administer the CDQ to an individual or group. Depending on the educational level of the testees, the CDQ should be completed within 20-30 minutes (Langley, 1990; Langley et al., 1996). Individuals respond to the items by marking "True" if they agree with each statement in the questionnaire or "False" if they disagree.

4.2.1.5   *Scoring and interpretation of the CDQ*

The CDQ can be scored manually or by means of an optical reader (Langley 1990, Langley et al., 1996). The maximum score for each of the identified five scales of the

CDQ is 20, and is an indication of career maturity. The total score (of all the five scales) can be divided by 5 to obtain the mean of these scales.

Langley et al. (1996) provide the following guidelines for interpreting the CDQ scores:

- A score of 15–20 on any of the scales (SI, DM, CI, I, and CP) indicate that the testee's knowledge or ability with regard to that scale is adequate.
- A score of 11–14 on any of the scales (SI, DM, CI, I, and CP) indicate that the testee's knowledge or ability with regard to that scale can be improved.
- A score of 7–10 on any of the scales (SI, DM, CI, I, and CP) indicate that the testee's knowledge or skill with regard to that scale is inadequate.
- A score of 0–6 on any of the scales (SI, DM, CI, I, and CP) indicate that the testee has little knowledge with regard to that scale.

4.2.1.6   *Reliability and validity of the CDQ*

Psychological measures such as the CDQ are expected to meet two standard technical requirements to gain professional approval locally and internationally, namely reliability and validity (Foxcroft & Roodt, 2005). "Reliability" means getting consistent results from the same measure, and "validity" refers to getting results that accurately reflect the concept being measured (Babbie, 2004). The CDQ is a well-established instrument that has demonstrated acceptable psychometric properties for all the major language and cultural groups in South Africa (Langley, 1990). Satisfactory psychometric properties allow for the utilisation of the CDQ to assess the level of career maturity or to focus on specific problem areas in career development (Langley, 1990).

(a)   *Reliability*

Langley (1990) reports reliability coefficients of the CDQ that are higher than 0.90 for the total score and higher than 0.70 for the subscales among university students. The internal consistency reliability coefficients reported in the CDQ manual for high

school students across the language groups (depicted in Table 4.9) range from 0.66 to 0.82 (Langley, 1990; Langley et al., 1996).

Table 4.9 **Reliability coefficients of the CDQ for language groups (Langley, 1990; Langley, 1996)**

Scale	English (N = 1843)	Afrikaans (N = 1712)	African Languages (N = 1795)
Self-information (SI)	0.76	0.78	0.71
Decision-Making (DM)	0.79	0.79	0.74
Career Information (CI)	0.82	0.82	0.66
Integration (I)	0.77	0.79	0.73
Career Planning (CP)	0.82	0.79	0.79

(b) *Validity*

The term "validity" refers to the "extent to which an empirical measure adequately reflects the real meaning of the concept under consideration (Babbie, 2004, p. 143). The validity of the CDQ will be discussed in terms of its content validity, intercorrelations of the scales, and construct validity.

(i) *Content validity*

Content validity refers to the extent to which a measure covers the range of meanings included within a concept (Babbie, 2004). According to the directions in the CDQ manual, content validity in this study was addressed using the following methods (Langley, 1990; Langley et al., 1996):

- The items were carefully examined for face validity. To support this procedure a literature study on career development and career maturity was conducted, and a framework of existing theories on these constructs was developed.

- Experts examined the wording of items. Each item was entered in the framework according to the underlying dimensions that had been identified by an expert committee.

- The item scale correlations were examined.

(ii)   Intercorrelations of the scales

According to Langley (1990) and Langley et al. (1996), the intercorrelations between the various scales of the CDQ were expected to be relatively high. The assumption is that an individual who maintains a certain level of career maturity on one dimension would be expected to maintain a similar level on others (Langley, 1990; Langley et al., 1996). The results of the intercorrelations between the scales of the CDQ in Table 4.10 indicate an interdependence between the scales (Langley, 1990).

Table 4.10   Intercorrelations of the scales of the CDQ (Langley, 1990; Langley et al., 1996)

	SI	DM	CI	I	CP
Self-information (SI)	1.00				
Decision-Making (DM)	0.60	1.00			
Career Information (CI)	0.50	0.59	1.00		
Integration (I)	0.53	0.59	0.58	1.00	
Career Planning (CP)	0.45	0.53	0.65	0.54	1.00

Gordon and Meyer (2002) report a statistically significant correlation ($p < 0.01$) between the five scales of the CDQ among a sample of prospective university students (depicted in Table 4.11).

Table 4.11   Spearman correlations between the scales of the CDQ (Gordon & Meyer, 2002)

	SI	DM	CI	I	CP
Self-information (SI)	1.00	0.68	0.41	0.68	0.40
Decision-Making (DM)	0.68	1.00	0.54	0.71	0.56
Career Information (CI)	0.41	0.54	1.00	0.57	0.62
Integration (I)	0.68	0.71	0.57	1.00	0.63
Career Planning (CP)	0.40	0.56	0.62	0.63	1.00

(iii)   Construct validity

Construct validity is regarded as the extent to which an instrument measures the theoretical construct or trait it is supposed to measure (Foxcroft & Roodt, 2005). Results of a confirmatory factor analysis conducted by De Bruin and Bernard-Phera (2002) provide support for the construct validity of the CDQ among previously disadvantaged youths in South Africa. This suggests that the theoretical construct of career maturity, which was developed in the United States of America (USA), retain their meaning for previously disadvantaged South African youth coming from a context that is very different from the USA (De Bruin & Bernard-Phera, 2002).

4.2.1.7   Justification for selection of CDQ

The selection of the CDQ as the instrument of choice for this empirical study was based on its value as a career-maturity measuring instrument in the South African context. The CDQ indicates satisfactory psychometric properties which have been recognised in the racially diverse South African environment (De Bruin & Bernard-Phera, 2002). It is an instrument that "appears to be an effective and pure indicator of the individual's readiness to make career decisions" (De Bruin & Bernard-Phera, 2002, p. 5). The CDQ has also been used widely in career development research and practice in the South African context.

4.2.2 The Biographical Questionnaire

The biographical questionnaire used in this study was compiled to obtain the following information about the participants: gender, race, age, and the highest level of education attained by each participant. As reflected in Appendix A, the biographical questionnaire comprised the top section of the CDQ answer sheet. The biographical questionnaire also assessed the sample's military specific characteristics such as arm of service, rank, and mustering.

4.2.3 Limitations of the Psychometric Battery

The CDQ used in this study is a self-report measure using a structured or forced-choice (true or false) response approach. Self-report measures require research participants to look within themselves and describe their attitudes, feelings, perceptions, and beliefs (Rosnow & Rosenthal, 2008). According to Rosnow and Rosenthal (2008), it is important to consider the dependability of self-report data because people may generally feel apprehensive about being (negatively) evaluated. It is also important to consider whether research participants, even the most well-intentioned, can provide information that can be regarded as valid and reliable (Rosnow & Rosenthal, 2008).

According to Brown and Bartram (2009), forced-choice measures are designed to reduce response biases by compelling respondents to choose between two or more desirable options that describe their preferences or behaviour. Despite having been shown to successfully reduce uniform response biases, forced-choice measures have been criticised because their traditional scoring methodology results in ipsative data (Brown & Bartram, 2009). Data is regarded as ipsative when the sum of the raw scores obtained over all measured scales is a constant for any individual (Broverman, 1962; Brown & Bartram, 2009). It is usually contrasted with normative data or scores which reflect the deviations of individual performances from the group's mean level of performance (Broverman, 1962). According to Brown and Bartram (2009), ipsative data poses threats to construct validity and score interpretation since comparisons between people become problematic. Broverman

(1962) states that ipsative measurements assume that each individual is, him- or herself, a universe within which variations in behaviour occur.

4.2.4 Ethical Issues

Ethical issues were taken into consideration since anyone involved in scientific research needs to be aware of the general agreements shared by researchers about what is proper or improper conduct in scientific inquiry (Babbie, 2004). According to Rosnow and Rosenthal (2008), in science, "ethics" refers to the values by which the conduct of researchers, and the morality of the research strategies they use, is evaluated. Researchers should constantly remind themselves of their responsibility not to do harm to participants, and to do potentially beneficial research in a way that will produce valid results (Rosnow & Rosenthal, 2008). In the South African context, the Employment Equity Act, Act 55 of 1998 prohibits the administration of psychological assessments unless it can be scientifically proven that such psychological assessments are valid and reliable and can be applied fairly to all employees without being biased against any employee or group.

At the onset of the present study, the researcher secured both the security and ethical clearances from the SANDF which are necessary for conducting such research among SANDF members. Written permission was granted by the Defence Intelligence (DI) Division and the South African Military Health Services (SAMHS) Ethical Clearance Committee respectively. The researcher also secured the assistance of postgraduate students in the field of industrial and organisational psychology to administer the CDQ among the participants. These postgraduate students were also military officers competent in the administration of psychological instruments and conversant with ethical requirements.

4.3   ADMINISTRATION OF PSYCHOMETRIC BATTERY

The CDQ and biographical questionnaires were administered to military officers in the SANDF in this empirical study. The researcher took care of the data- gathering process to ensure that the aspects of validity and reliability were not compromised. Consequently, the data was gathered and analysed following ethical procedures.

The CDQ and biographical questionnaires were administered by the researcher and assisting postgraduate students at various military bases of the SANDF, namely the South African Military Academy, the SA Army College, the Personnel Service School, the SA Airforce College, the SA Navy Base in Simonstown, the Naval Headquarters (HQ), and the SAMHS Academy and Nursing College. The researcher obtained permission from each military unit's Officer Commanding to utilise their facilities and administer the CDQ. The military officers who participated in the study were either military students or staff members in these bases.

The participants were welcomed at each administration session and put at ease by making it clear that their participation was voluntary. They were requested to complete the CDQ as honestly and accurate as possible, and with regard to the biographical questionnaire, they were asked to provide only the biographical information that they were comfortable sharing. Respondents were also provided with verbal instructions regarding the completion of the questionnaires, and were assured of the confidentiality of the research. The participants were also informed that the results would be analysed and reported at group level.

4.4   STATISTICAL DATA PROCESSING

In this empirical study the answer sheets were scored manually, and each answer sheet was allocated a serial number for control purposes. The responses of the 333 participants were captured using the Statistical Package for the Social Sciences (SPSS) version 16. The SPSS is a widely used data management and statistical software package which covers a broad range of statistical procedures that allow the user to summarise data, determine whether there are significant differences between groups, and graph results (Ngokha, 2008).

The design of this research ensured that the data analysis would be quantitative in nature. Consequently, the processing of data will be presented in terms of quantitative procedures and statistical techniques. For this study, both descriptive and inferential statistics were used to analyse the data.

4.4.1 Descriptive Statistics

Descriptive statistics is concerned with organising and summarising the data at hand, to render it more comprehensible (Mouton, 1996). For this study, the descriptive statistics of the sample, the independent variable (career stages) and the dependent variable (career maturity) were obtained to gain insight into their nature. Frequency distribution tables will facilitate the reporting of the sample's biographical information. Frequency distributions are useful for emphasising the overall pattern of the data (Rosnow & Rosenthal, 2008) as they efficiently summarise the information in a raw data matrix by showing the number of scores that fall into each category.

The mean, standard deviation, and the minimum and maximum values were also used to describe the results. The "mean" (or average) refers to the sum of all the scores in the distribution divided by the number of scores in the distribution (Gravetter & Wallnau, 2008) and will be utilised to compute the average scores obtained for the various components of the CDQ. The standard deviation will give an indication of how much the scores vary (Gravetter & Wallnau, 2008). The larger the standard deviation, the further the scores vary and vice versa.

4.4.2 Internal Consistency Reliability Analysis of the CDQ

According to Langley (1990), the items comprising each of the CDQ scales were compiled in a manner that would reflect the identified dimensions of the CDQ. Consequently, an item analysis was performed on each of the CDQ scales to assess the internal consistency of each scale. The Kuder-Richardson 20 (KR 20) was used to assess the internal consistency reliability of the CDQ. The KR 20 is relevant when a measure consists of items that are dichotomous, that is, they score 1 or 0 (for right/wrong or true/false responses) (Foxcroft & Roodt, 2005).

4.4.3 Inferential Statistics

Inferential statistics can be utilised to make judgements of the probability that an observed difference between groups is a dependable one, or one that might have

happened by chance in the empirical study (Trochim, 2006). They are useful in an attempt to make inferences from the sample results about the population from which it was drawn (Babbie, 2004). Inferential statistics used for this study include *t*-tests and the analysis of variance (ANOVA).

4.4.3.1 T-tests for two independent samples

The *t*-test for two independent samples allows researchers to evaluate the mean difference between two populations using the data from two separate (or independent) samples (Gravetter & Wallnau, 2008). These *t*-tests were used to determine if there were any significant differences in the means of the two groups studied, for example, between males and females or between combat and non-combat military members.

4.4.3.2 Analysis of variance (ANOVA)

The ANOVA is a hypothesis-testing procedure that is used to evaluate mean differences between two or more groups, and allows researchers to evaluate all the mean differences in a single hypothesis test, using a single level of significance (Gravetter & Wallnau, 2008). For this study the ANOVA was used to find if there were significant differences among the means of biographical variables such as race, age group, level of education, arm of service, mustering, or rank.

4.4.3.3 Statistical significance

"Statistical (or level of) significance" refers to the probability that the observed result could have occurred randomly if it has no true underlying effect. Since inferential statistics use limited information as a basis for reaching a general conclusion, there is always a possibility that an incorrect conclusion will be drawn (Gravetter & Wallnau, 2008). Errors associated with inferential statistics or hypothesis testing are referred to as "Type I" or "Type II" errors. A Type I error occurs when a researcher rejects a null hypothesis that is actually true, for example, concluding that a significant mean difference exists when in fact there is no significant mean difference. On the other hand, a Type II error occurs when a researcher fails to reject

a null hypothesis that is really false, for example, concluding that there is no significant mean difference when in fact there is such a difference.

The following three concepts are used to refer to the level of significance: the risk (or probability) of making a Type I error (rejecting a true null hypothesis), alpha (α) level, and the p value (Rosnow & Rosenthal, 2008). Conventionally, the alpha levels 0.001, 0.01 or 0.05 are used by many researchers as levels of significance for statistical tests (Gravetter & Wallnau, 2008). In the present study, the level of significance of 0.05 (which is a conventional level) was considered satisfactory.

4.4.3.4   *Post hoc tests*

When statistical tests such as the ANOVA are used and the conclusion is that there are significant mean differences among the different groups compared, post hoc tests (or post-tests) are conducted to determine exactly which groups are different and which are not (Gravetter & Wallnau, 2008). One of the most widely used post hoc tests is the Scheffe test, which uses an F-ratio to evaluate the significance of the difference between any two of the groups compared (Gravetter & Wallnau, 2008). According to Gravetter and Wallnau (2008), the Scheffe test was introduced because it provides the greatest protection from Type I errors. A larger mean difference needs to exist before the researcher can conclude that the difference is significant.

4.5   FORMULATION OF RESEARCH HYPOTHESES

A "hypothesis" is a conjectural statement or supposition that a researcher can use to give direction to his or her systematic observations (Rosnow & Rosenthal, 2008). It is a "specified testable expectation about empirical reality that follows from a more general proposition" (Babbie, 2004, p. 44). The present study was designed to explore the level of career maturity across the various career stages in the SA military as well its developmental progression and relationship with the diverse demographic factors in the military environment. The following null hypotheses were formulated:

H_{01}:   There are no significant differences in career maturity among the demographic variables of the participating South African military officers.

H_{02}:   There are no significant differences in career maturity among the military-specific variables of the participating South African military officers.

H_{03}:   There is no developmental progression of career maturity according to age, level of education, and military rank of the participating South African military officers.

4.6   CHAPTER SUMMARY

The objective of this chapter was to describe how the empirical study was conducted, by outlining the process followed in determining the level of career maturity across career stages in the South African military. The chapter began with a description of the population and sample used. The selection of the measuring instruments was also discussed. The measuring instruments were the CDQ as well as a biographical questionnaire.

The chapter also discussed how the data was collected during the study. The quantitative procedures and statistical techniques used for processing the data were also explained. Finally, the hypothesis formulation for this study was discussed. In Chapter 5, the researcher will focus on reports and interpretation of the empirical data. This forms part of steps 6 to 8 of the research process. It deals with both descriptive and inferential statistics, including the integration of the literature and the empirical research.

CHAPTER 5   RESULTS

This chapter discusses the data analysis and interpretation, which are part of steps 6 and 8 of the research process. The results are presented in the form of descriptive and inferential statistics, followed by an integration of the literature with the empirical findings. The descriptive statistics will commence with a confirmation of the reliability of the Career Development Questionnaire (CDQ) for this specific sample. The descriptive statistics are analysed by looking at the mean scores of the CDQ to reflect the level of career maturity among the participating South African military officers. A further analysis is done by means of inferential statistics to determine significant mean differences and the linear progression of career maturity. This is followed by an interpretation and integration of the literature with the empirical findings. The chapter then concludes with a chapter summary.

5.1   CONFIRMATION OF THE RELIABILITY AND VALIDITY OF THE CDQ

According to Babbie (2004), the reliability of measurements is a fundamental issue in social research. Researchers are expected to demonstrate instrument reliability, because without reliability the research results are not replicable, and replicability is fundamental to the scientific method (Garson, 2009). The reliability of the CDQ was determined by computing the Kuder-Richardson 20 (KR 20) for its scales. Intercorrelation coefficients of the CDQ scales were also computed to confirm its validity.

5.1.1 Reliability Statistics of the CDQ Scales

The reliability coefficients of the CDQ for this empirical study are reflected in Table 5.1, and reflect KR 20 coefficients ranging from 0.70 to 0.85 for the total sample. This reflects an adequate level of internal consistency (Field, 2005; Nunnally, 1978) for the total sample on the CDQ. KR 20 coefficients for the racial groups also reflect an acceptable level of internal consistency reliability with coefficients ranging from 0.49 to 0.87. For psychological constructs, coefficients below 0.70 can, realistically, be expected because of the diversity of the constructs being measured (Field, 2005).

Table 5.1   Reliability coefficients of the CDQ for racial groups

Scale	Overall *N* = 333	Africans *N* = 206	Coloureds *N* = 51	Whites *N* = 64
Self-Information	0.70	0.72	0.49	0.69
Decision-Making	0.79	0.82	0.77	0.74
Career Information	0.85	0.85	0.88	0.83
Integration	0.80	0.81	0.77	0.78
Career Planning	0.82	0.82	0.75	0.87
Overall Reliability Coefficient	**0.89**	**0.89**	**0.87**	**0.90**

Conventionally, a lenient internal consistency coefficient cut-off of 0.60 is common in exploratory research (Garson, 2009). However, an alpha coefficient should be at least 0.70 or higher to retain an item as adequate, and many researchers require a cut-off of 0.80 (Garson, 2009). According to Kent (2001), the assumption is that an alpha for any scale should exceed 0.70 to be acceptable. The data is deemed reliable for the present study. Since the purpose of this study is not to make individual predictions but rather to explore significant differences of an observed construct, the CDQ is considered psychometrically acceptable for this study.

5.1.2 Intercorrelations of the CDQ Scales

Since the assumption is that an individual who maintains a certain level of career maturity on one dimension or scale of the CDQ would be expected to maintain a similar level on others (Langley, 1990; Langley et al., 1996), intercorrelation coefficients for the CDQ scales were computed, and are reflected in Table 5.2. According to Trochim (2006), correlations between theoretically similar measures are expected to be high, while correlations between theoretically dissimilar measures are expected to be low. Table 5.2 indicates that the intercorrelation coefficients of the CDQ scales for this empirical study range from 0.44 (between Self-information and Career Information) to 0.70 (between Decision-Making and Career Planning, and Integration and Career Planning).

Table 5.2   Intercorrelations of the CDQ Scales

	Self-Information	Decision-Making	Career Information	Integration	Career Planning
Self-Information	1.00	0.66	0.44	0.59	0.62
Decision-Making	0.66	1.00	0.60	0.67	0.70
Career Information	0.44	0.60	1.00	0.64	0.64
Integration	0.59	0.67	0.64	1.00	0.70
Career Planning	0.62	0.70	0.64	0.70	1.00

Since correlation coefficients that are as high as 0.70 are rare, those that are greater than 0.30 are considered satisfactory (Nunnally, 1978). Intercorrelation coefficients lower than 0.30 indicate that the scales of a measure are relatively independent, that is, they are measuring different aspects of the construct. The intercorrelation coefficients between the CDQ scales in Table 5.2 indicate interdependence between the scales of the CDQ, that is, they seem to be measuring the same construct (career maturity). The coefficients reflect a positive relationship among the scales which indicate that those participants who scored higher on one scale maintained a relatively similar score on the other scales. The data is thus acceptable as measuring the theoretical construct career maturity in the present study.

5.2   DESCRIPTIVE STATISTICS

According to Mouton (1996), descriptive statistics assist with organising and summarising the data at hand to render it more comprehensible. Descriptive statistics were also used to describe the data obtained in the current empirical study. The descriptive statistics for the total sample (n = 333) on the CDQ scales are provided in Table 5.3. The overall mean career maturity score is M = 17.15 with a standard deviation (SD) of 2.55. This score reflects an adequate level of career maturity among the participants in this study, that is to say, the participants seem to have an acceptable level of readiness to make career choices. On the self-information scale, the participants reflect an adequate level of self-information (M = 17.07, SD = 2.58), suggesting an awareness of the importance of their life roles,

work values, and occupational interests (Langley et al., 1996). On the decision-making scale the participants' mean scores also reflect an adequate ability to make effective career decisions (M = 17.65, SD = 2.84). The participants' mean scores also reflect adequate knowledge of the world of work (M = 16.82, SD = 3.66) on the career information scale. Their mean scores on the integration scale reflect adequate ability to integrate relevant information about themselves with information on the world of work (M = 17.29, SD = 2.94). The mean scores on the career-planning scale also reflect an adequate ability to make career decisions and to implement a career plan (M = 16.90, SD = 3.21). The skewness statistic in Table 5.3 reflects a negative distribution of the participants' mean scores on all the CDQ scales, which indicates that the participants scored relatively high on overall career maturity and on all the CDQ scales. Since this was a military sample, these results confirm Yates's (1987) findings on a previous study that reflected greater scores for a military sample than a sample of college seniors on career planning, career exploration, and decision-making.

Table 5.3   Means and Standard Deviations for the Total Sample on the CDQ Scales (*n* = 333)

	Self-Information	Decision-Making	Career Information	Integration	Career Planning	**Overall**
Minimum	6	7	2	4	4	**5.6**
Maximum	20	20	20	20	20	**20**
Mean	17.07	17.65	16.82	17.29	16.90	**17.15**
SD	2.58	2.84	3.66	2.94	3.21	**2.55**
Skewness	-1.14	-1.72	-1.29	-1.52	-1.55	**-1.46**
Kurtosis	1.57	2.71	1.12	2.20	2.33	**2.12**

5.3   INFERENTIAL STATISTICS

According to Mouton (1996), inferential statistics deal with the kind of inferences that can be made when generalising from sample data to the entire population. They allow the researcher to make statistical inferences of the probability that the observed difference between groups is a dependable one, or one that merely occurred by chance (Babbie & Mouton, 2001). The variables of the biographical questionnaire and the CDQ are analysed in terms of *t*-tests and ANOVA computations as indicated in Tables 5.4 to 5.41. The Scheffe post hoc test was computed for statistically significant mean differences, and is reported.

5.3.1 Exploring Overall Mean Differences of Career Maturity according to Demographic Variables

This section explores mean differences of career maturity for the total sample (*n* = 333) according to the following socio-demographic variables: gender, race, age, and level of education. This is an attempt to test the first null hypothesis of the empirical study, namely, there are no significant differences in career maturity among the

participating South African military officers. *T*-tests and ANOVA computations were conducted on SPSS and analysed for significance.

5.3.1.1   Exploring career maturity according to gender

Table 5.4 reflects the *t*-test results for the sample according to gender. Male participants scored relatively higher (*M* = 17.34, *SD* = 2.32) than their female counterparts (*M* = 16.87, *SD* = 2.84) on overall career maturity, as well as on all the scales of the CDQ. However, the data indicated no significant mean difference in overall career maturity between the male and female participants except on the CDQ's career information scale (*p* = 0.03).

These results indicate that both male and female participants seem to reflect similar levels of self-awareness, ability to make effective career decisions, ability to integrate their self-awareness and the information on the world of work, and the ability to make career decisions and implement a career plan. The results on the CDQ's career information scale suggest that the male participants' knowledge of the world of work seems to be significantly higher than that of the female participants.

Table 5.4	*T*-Test Results for Females and Males on the CDQ				
CDQ Scale	Gender	*N*	Mean	*SD*	Sig. (*p* ≤ 0.05)
Self-information	Female	132	16.92	2.68	0.35
	Male	200	17.20	2.48	
Decision-Making	Female	132	17.33	3.21	0.11
	Male	200	17.88	2.55	
Career Information	Female	132	16.26	4.07	0.03*
	Male	200	17.20	3.33	
Integration	Female	132	17.18	3.20	0.57
	Male	200	17.38	2.75	
Career Planning	Female	132	16.67	3.53	0.29
	Male	200	17.06	2.98	
Overall Career Maturity	Female	132	16.873	2.84	0.12
	Male	200	17.342	2.32	

*p ≤ 0.05

5.3.1.2   *Exploring career maturity according to race*

Tables 5.5 and 5.6 respectively present the descriptives and ANOVA results of the sample according to their racial groupings. Table 5.5 indicates a relatively higher mean score for the Coloured and Asian participants on overall career maturity (*M* = 17.46, *SD* = 2.30) than their counterparts from the other racial groups. The African participants' mean score career on overall maturity was relatively the lowest among the racial groups (*M* = 17.03, *SD* = 2.61). The ANOVA results (Table 5.6), however, indicate no significant mean differences among the different racial groups comprising this military sample on all the CDQ scales and overall career maturity. These results suggest that the racial groups in this sample seem to reflect similar levels of self-awareness, ability to make effective career decisions, knowledge of the world of work, ability to integrate their self-awareness and the information on the world of work, and the ability to make career decisions and implement a career plan.

Table 5.5	Descriptives according to Race			
		N	Mean	*SD*
Self-information	African	206	16.99	2.71
	Coloured/Asian	56	17.70	1.81
	White	64	17.09	2.51
	Total	326	17.13	2.54
Decision-Making	African	206	17.62	2.99
	Coloured/Asian	56	17.79	2.65
	White	64	17.75	2.56
	Total	326	17.67	2.85
Career Information	African	206	16.80	3.68
	Coloured/Asian	56	16.89	3.81
	White	64	16.94	3.50
	Total	326	16.84	3.66
Integration	African	206	17.11	3.06
	Coloured/Asian	56	17.54	2.67
	White	64	17.78	2.66
	Total	326	17.32	2.92
Career Planning	African	206	16.62	3.26
	Coloured/Asian	56	17.39	2.71
	White	64	17.44	3.41
	Total	326	16.91	3.22
Overall Career Maturity	African	206	17.03	2.61
	Coloured/Asian	56	17.46	2.30
	White	64	17.40	2.51
	Total	326	17.17	2.54

Table 5.6 ANOVA Results according to Race

CDQ Scale		Sum of Squares	df	Mean Square	F	Sig.
Self-information	Between Groups	22.36	2	11.18	1.74	0.18
	Within Groups	2076.23	323	6.43		
	Total	2098.59	325			
Decision-Making	Between Groups	1.64	2	0.82	0.10	0.90
	Within Groups	2631.90	323	8.15		
	Total	2633.53	325			
Career Information	Between Groups	1.16	2	0.58	0.04	0.96
	Within Groups	4348.54	323	13.46		
	Total	4349.71	325			
Integration	Between Groups	25.16	2	12.58	1.48	0.23
	Within Groups	2753.30	323	8.52		
	Total	2778.46	325			
Career Planning	Between Groups	48.61	2	24.31	2.37	0.10
	Within Groups	3319.81	323	10.28		
	Total	3368.42	325			
Overall Career Maturity	Between Groups	12.37	2	6.19	0.96	0.39
	Within Groups	2086.93	323	6.46		
	Total	2099.30	325			

5.3.1.3 *Exploring career maturity according to age category*

The descriptives and ANOVA results of the sample on the CDQ according to age category are reflected in Tables 5.7 and 5.8 respectively. The participants were clustered into three age categories, thus reflecting which participants were in the exploration, establishment, and maintenance stages of career development during the study. Table 5.7 indicates that the participants in the maintenance stage scored relatively higher (M = 18.14, SD = 1.63) than those in the exploration and establishment stages on overall career maturity.

The ANOVA results presented in Table 5.8, however, indicate no significant mean differences in career maturity and its dimensions among the various age groups comprising this sample. This suggests that the readiness to deal with career-related tasks seems to be similar among the different age groups (representing the exploration, establishment, and maintenance stages of career development in this sample).

Table 5.7   Descriptives according to Age Category

		N	Mean	SD
Self-information	Age 18-24 (Exploration Stage)	143	17.06	2.47
	Age 25-44 (Establishment Stage)	180	17.04	2.67
	Age 45-64 (Maintenance Stage)	7	19.00	0.82
	Total	330	17.09	2.57
Decision-Making	Age 18-24 (Exploration Stage)	143	17.68	2.57
	Age 25-44 (Establishment Stage)	180	17.62	3.08
	Age 45-64 (Maintenance Stage)	7	17.86	1.95
	Total	330	17.65	2.85
Career Information	Age 18-24 (Exploration Stage)	143	16.96	3.28
	Age 25-44 (Establishment Stage)	180	16.74	3.93
	Age 45-64 (Maintenance Stage)	7	16.86	4.74
	Total	330	16.84	3.67
Integration	Age 18-24 (Exploration Stage)	143	17.26	2.55
	Age 25-44 (Establishment Stage)	180	17.27	3.26
	Age 45-64 (Maintenance Stage)	7	19.00	0.82
	Total	330	17.30	2.94
Career Planning	Age 18-24 (Exploration Stage)	143	17.06	3.07
	Age 25-44 (Establishment Stage)	180	16.75	3.35
	Age 45-64 (Maintenance Stage)	7	18.00	2.16
	Total	330	16.91	3.21
Overall Career Maturity	Age 18-24 (Exploration Stage)	143	17.20	2.31
	Age 25-44 (Establishment Stage)	180	17.09	2.76
	Age 45-64 (Maintenance Stage)	7	18.14	1.63
	Total	330	17.16	2.55

Table 5.8   ANOVA Results according to Age Category

CDQ Scale		Sum of Squares	df	Mean Square	F	Sig.
Self-information	Between Groups	26.17	2	13.09	1.99	0.14
	Within Groups	2148.28	327	6.57		
	Total	2174.45	329			
Decision-Making	Between Groups	0.55	2	0.28	0.03	0.97
	Within Groups	2662.37	327	8.14		
	Total	2662.92	329			
Career Information	Between Groups	3.64	2	1.82	0.13	0.87
	Within Groups	4424.85	327	13.53		
	Total	4428.49	329			
Integration	Between Groups	20.61	2	10.31	1.19	0.31
	Within Groups	2825.09	327	8.64		
	Total	2845.70	329			
Career Planning	Between Groups	15.97	2	7.99	0.77	0.46
	Within Groups	3377.30	327	10.33		
	Total	3393.27	329			
Overall Career Maturity	Between Groups	8.00	2	4.00	0.61	0.54
	Within Groups	2137.38	327	6.54		
	Total	2145.38	329			

5.3.1.4   *Exploring career maturity according to level of education*

Tables 5.9 and 5.10 respectively present the descriptives and ANOVA results of the sample on the CDQ scales according to level of education. The participants were also clustered into three levels of education to distinguish participants with matric from those with a post-matric certificate and a national diploma or university degree. With regard to overall career maturity (reflected in Table 5.9), the participants with a national diploma or a university degree scored relatively higher (M = 17.30, SD = 2.28) than those with matric and a post-matric certificate. They also scored relatively higher on the following CDQ scales: career information (M = 17.16, SD = 3.55), integration (M = 17.70, SD = 2.77), and career planning (M = 17.20, SD = 2.67). However, they scored relatively lowest on the following CDQ scales: self-information

(*M* = 16.84, *SD* = 2.45) and decision-making (*M* = 17.58, *SD* = 2.58). The participants with a post-matric certificate scored relatively higher self-information (*M* = 17.29, *SD* = 3.02) and decision-making (*M* = 18.04, *SD* = 2.91) than their counterparts.

The ANOVA results reflected in Table 5.10, however, indicate no significant mean differences in career maturity and its dimensions among the various levels of education clusters in this sample. This supports previous research that found no significant differences in career maturity among students from different grades (Post-Kammer, 1987; Fouad, 1988). Despite their different levels of education, the participating military officers in this study reflect a similar level of readiness to deal with career-related tasks.

Table 5.9	Descriptives according to Level of Education			
		N	Mean	*SD*
Self-information	Matric	166	17.24	2.32
	Post-Matric Certificate	52	17.29	3.02
	Diploma/Degree	90	16.84	2.45
	Total	308	17.13	2.49
Decision-Making	Matric	166	17.67	2.87
	Post-Matric Certificate	52	18.04	2.91
	Diploma/Degree	90	17.58	2.58
	Total	308	17.71	2.79
Career Information	Matric	166	16.86	3.38
	Post-Matric Certificate	52	16.65	4.38
	Diploma/Degree	90	17.16	3.55
	Total	308	16.91	3.61
Integration	Matric	166	17.27	2.78
	Post-Matric Certificate	52	17.12	3.27
	Diploma/Degree	90	17.70	2.77
	Total	308	17.37	2.87
Career Planning	Matric	166	17.07	2.90
	Post-Matric Certificate	52	16.46	4.09
	Diploma/Degree	90	17.20	2.67
	Total	308	17.00	3.07
Overall Career Maturity	Matric	166	17.22	2.36
	Post-Matric Certificate	52	17.11	3.07
	Diploma/Degree	90	17.30	2.28
	Total	308	17.22	2.47

Table 5.10   ANOVA Results according to Level of Education

CDQ Scale		Sum of Squares	df	Mean Square	F	Sig.
Self-information	Between Groups	10.69	2	5.34	0.86	0.42
	Within Groups	1886.86	305	6.19		
	Total	1897.54	307			
Decision-Making	Between Groups	7.39	2	3.69	0.47	0.62
	Within Groups	2386.31	305	7.82		
	Total	2393.70	307			
Career Information	Between Groups	9.33	2	4.67	0.36	0.70
	Within Groups	3980.12	305	13.05		
	Total	3989.46	307			
Integration	Between Groups	15.00	2	7.50	0.91	0.40
	Within Groups	2506.55	305	8.22		
	Total	2521.54	307			
Career Planning	Between Groups	19.40	2	9.70	1.03	0.36
	Within Groups	2877.59	305	9.44		
	Total	2897.00	307			
Overall Career Maturity	Between Groups	1.12	2	0.56	0.09	0.91
	Within Groups	1864.74	305	6.11		
	Total	1865.86	307			

5.3.2 Exploring Overall Mean Differences of Career Maturity according to Military-Specific Variables

This section explores mean differences of career maturity for the total sample ($n = 333$) according to the following military-specific variables: arm of service, military rank, and mustering category. This is an attempt to test the second null hypothesis of the empirical study, namely, there are no significant differences in career maturity among the participating South African military officers. *T*-tests and ANOVA computations were conducted on SPSS and analysed for significance.

5.3.2.1   Exploring career maturity according to arm of service

The descriptives and ANOVA results on the level of career maturity according to the participants' arm of service in the SA military are reported in Tables 5.11 and 5.12 respectively. Table 5.11 indicates that the SA Airforce participants scored relatively higher on overall career maturity ($M = 17.92$, $SD = 2.27$) than their counterparts in this sample: SA Army ($M = 16.99$, $SD = 2.61$), SA Navy ($M = 16.96$, $SD = 2.40$), SAMHS ($M = 16.89$, $SD = 2.64$). They also scored relatively higher on all the CDQ scales than the participants from the other arms of service.

The ANOVA results in Table 5.12 reflect significant mean differences on the following CDQ scales and overall career maturity among the participants from the various arms of service in the SA military: self-information ($F = 2.68$, $p = 0.05$), career information ($F = 4.92$, $p = 0.00$), career planning ($F = 2.69$, $p = 0.05$), and overall career maturity ($F = 2.73$, $p = 0.04$). In essence, the results presented in Table 5.12 suggest that the participants' readiness to deal with career-related tasks differ significantly according to their arms of service.

The Scheffe post hoc test, however, reflects a significant difference between the SA Army and SA Airforce participants ($p \leq 0.01$) as well as the SA Airforce and SAMHS participants ($p \leq 0.05$) on the career information scale of the CDQ. Both SA Army ($M = 16.33$, $SD = 4.05$) and SAMHS ($M = 16.31$, $SD = 3.77$) participants scored significantly lower than the SA Airforce participants ($M = 18.20$, $SD = 2.64$) on this dimension. This suggests that the SA Army and SAMHS participants' knowledge of the world of work seems to be significantly lower than that of their counterparts in the SA Airforce.

Table 5.11	Descriptives according to Arm of Service	N	Mean	SD
Self-information	SA Army	142	17.23	2.62
	SA Airforce	70	17.54	2.36
	SA Navy	46	16.24	2.90
	SAMHS	74	16.93	2.31
	Total	332	17.09	2.56
Decision-Making	SA Army	142	17.65	2.87
	SA Airforce	70	18.09	2.89
	SA Navy	46	17.65	2.36
	SAMHS	74	17.28	3.01
	Total	332	17.66	2.84
Career Information	SA Army	142	16.33	4.05
	SA Airforce	70	18.20	2.64
	SA Navy	46	17.13	3.03
	SAMHS	74	16.31	3.77
	Total	332	16.83	3.66
Integration	SA Army	142	16.98	3.13
	SA Airforce	70	17.96	2.51
	SA Navy	46	17.02	3.11
	SAMHS	74	17.51	2.64
	Total	332	17.31	2.91
Career Planning	SA Army	142	16.77	3.04
	SA Airforce	70	17.83	2.76
	SA Navy	46	16.76	3.11
	SAMHS	74	16.41	3.79
	Total	332	16.91	3.20
Overall Career Maturity	SA Army	142	16.99	2.61
	SA Airforce	70	17.92	2.27
	SA Navy	46	16.96	2.40
	SAMHS	74	16.89	2.64
	Total	332	17.16	2.54

Table 5.12   ANOVA Results according to Arm of Service

CDQ Scale		Sum of Squares	df	Mean Square	F	Sig.
Self-information	Between Groups	52.10	3	17.37	2.68	0.05*
	Within Groups	2123.19	328	6.47		
	Total	2175.29	331			
Decision-Making	Between Groups	23.18	3	7.73	0.96	0.41
	Within Groups	2645.36	328	8.07		
	Total	2668.54	331			
Career Information	Between Groups	190.84	3	63.61	4.92	0.00**
	Within Groups	4241.71	328	12.93		
	Total	4432.55	331			
Integration	Between Groups	51.78	3	17.26	2.05	0.11
	Within Groups	2757.27	328	8.41		
	Total	2809.05	331			
Career Planning	Between Groups	81.53	3	27.18	2.69	0.05*
	Within Groups	3310.94	328	10.09		
	Total	3392.47	331			
Overall Career Maturity	Between Groups	52.02	3	17.34	2.73	0.04*
	Within Groups	2081.51	328	6.35		
	Total	2133.53	331			

*$p \leq 0.05$; **$p \leq 0.01$

5.3.2.2   Exploring career maturity according to rank

Tables 5.13 and 5.14 respectively present the descriptives and ANOVA results on the CDQ scales according to the military rank groups of the sample in this study. Table 5.13 indicates that the most junior participants (in rank) who held the rank of Candidate Officer scored relatively higher in career maturity (M = 17.37, SD = 2.28) than their senior counterparts (in rank). They also scored relatively higher than their counterparts on the following CDQ scales: self-information (M = 17.41, SD = 2.21), decision-making (M = 17.86, SD = 2.58), integration (M = 17.46, SD = 2.32), and career planning (M = 17.12, SD = 3.02). However, participants who held the rank of Captain scored relatively higher than their counterparts on the CDQ's career information scale (M = 17.22, SD = 3.38).

The ANOVA results in Table 5.14 indicate no significant mean differences in overall career maturity among these participants clustered according to military rank. No significant mean differences were reflected on the CDQ's scales among the military rank groups of the sample except on the CDQ's self-information scale (F = 3.83, p = 0.01). The results indicate that the participants, when clustered according to military rank, reflect significant differences on their level of knowledge on aspects such as the importance of life roles, work values, and occupational interests (Langley et al., 1996). The Scheffe post hoc test reveals that a significant difference on the self-information scale ($p \leq 0.05$) lies between participants who held the rank of Candidate Officer (M = 17.41, SD = 2.21) and those who held the rank of Captain (M = 15.70, SD = 3.33). This suggests that the participants holding the rank of Candidate Officer reflect a significantly higher level of self-knowledge than those who held the rank of Captain in this sample.

Table 5.13	Descriptives according to Military Rank			
		N	Mean	*SD*
Self-information	Candidate Officer	171	17.41	2.21
	Lieutenant	62	16.81	2.51
	Captain	27	15.70	3.33
	Major	73	17.01	2.97
	Total	333	17.07	2.58
Decision-Making	Candidate Officer	171	17.86	2.58
	Lieutenant	62	17.66	3.09
	Captain	27	16.63	3.51
	Major	73	17.53	2.91
	Total	333	17.65	2.84
Career Information	Candidate Officer	171	16.98	3.48
	Lieutenant	62	16.90	3.21
	Captain	27	17.22	3.38
	Major	73	16.23	4.44
	Total	333	16.82	3.66
Integration	Candidate Officer	171	17.46	2.32
	Lieutenant	62	17.39	2.89
	Captain	27	16.48	3.63
	Major	73	17.11	3.86
	Total	333	17.29	2.94
Career Planning	Candidate Officer	171	17.12	3.02
	Lieutenant	62	16.65	2.90
	Captain	27	16.22	3.90
	Major	73	16.84	3.60
	Total	333	16.90	3.21
Overall Career Maturity	Candidate Officer	171	17.37	2.28
	Lieutenant	62	17.08	2.28
	Captain	27	16.45	3.22
	Major	73	16.95	3.02
	Total	333	17.15	2.55

Table 5.14   ANOVA Results according to Military Rank

CDQ Scale		Sum of Squares	df	Mean Square	F	Sig.
Self-information	Between Groups	74.63	3	24.88	3.83	0.01**
	Within Groups	2137.64	329	6.50		
	Total	2212.27	332			
Decision-Making	Between Groups	36.61	3	12.20	1.52	0.21
	Within Groups	2638.98	329	8.02		
	Total	2675.59	332			
Career Information	Between Groups	34.47	3	11.49	0.86	0.46
	Within Groups	4406.07	329	13.39		
	Total	4440.55	332			
Integration	Between Groups	25.33	3	8.44	0.98	0.40
	Within Groups	2837.00	329	8.62		
	Total	2862.32	332			
Career Planning	Between Groups	25.22	3	8.41	0.82	0.49
	Within Groups	3391.31	329	10.31		
	Total	3416.53	332			
Overall Career Maturity	Between Groups	24.50	3	8.17	1.26	0.29
	Within Groups	2131.63	329	6.48		
	Total	2156.13	332			

**p ≤ 0.01*

5.3.2.3   Exploring career maturity according to mustering category

The sample was also divided into two military mustering categories to allow the comparison of participants from the combat musterings with those from the non-combat musterings. The results from these two mustering categories are presented in Table 5.15. On overall career maturity, Table 5.15 indicates that the participants from the combat mustering category scored relatively higher on overall career maturity (M = 17.44, SD = 2.26) than their counterparts from the non-combat mustering category (M = 16.97, SD = 2.75). They also scored relatively higher on all the CDQ scales than their non-combat counterparts.

The *t*-test results, however, reflect no significant mean differences in overall career maturity and the CDQ scales except on the career planning scale (p = 0.04). This suggests that the combat participants (*M* = 17.32, *SD* = 2.77) reflect a significantly higher ability to make career decisions and to implement career plans than their non-combat counterparts (*M* = 16.61, *SD* = 3.51) (Langley et al., 1996).

Table 5.15 *T*-Test Results between the Combat and Non-Combat Participants

CDQ Scale	Mustering	*N*	Mean	*SD*	Sig. ($p \le 0.05$)
Self-information	Combat	158	17.30	2.49	0.30
	Non-Combat	169	17.00	2.57	
Decision-Making	Combat	158	17.97	2.45	0.08
	Non-Combat	169	17.42	3.14	
Career Information	Combat	158	17.27	3.30	0.06
	Non-Combat	169	16.51	3.94	
Integration	Combat	158	17.37	2.62	0.84
	Non-Combat	169	17.30	3.18	
Career Planning	Combat	158	17.32	2.77	0.04*
	Non-Combat	169	16.61	3.51	
Overall Career Maturity	Combat	158	17.44	2.26	0.09
	Non-Combat	169	16.97	2.75	

*p ≤ 0.05

5.3.3 Exploring Gender Differences in Career Maturity

This section provides a closer exploration of mean differences of career maturity between the female and male participants in the current study according to the following variables: race, age category, level of education, arm of service, military rank, and mustering category.

5.3.3.1   Exploring gender differences according to race

Table 5.16 reflects the *t*-test results on the CDQ between the female and male participants in this sample. The results indicate no significant mean differences between the scores of female and male African participants on all the CDQ scales. Nor were significant mean differences found on the career maturity scores of female and male Coloured participants. No significant gender differences were observed between the mean scores of the White participants, despite the female White participants scoring relatively lower than the male White participants on all the CDQ scales. These results, therefore, indicate no gender differences in the level of readiness to deal with career-related tasks according to race.

Table 5.16 *T*-Test Results for Gender Differences according to Race

Race	CDQ Scale	Gender	*N*	Mean	*SD*	Sig. (*p* ≤ 0.05)
African	Self-information	Female	82	17.06	2.74	0.75
		Male	124	16.94	2.69	
	Decision-making	Female	82	17.35	3.42	0.32
		Male	124	17.80	2.67	
	Career information	Female	82	16.20	4.31	0.07
		Male	124	17.19	3.15	
	Integration	Female	82	17.04	3.37	0.78
		Male	124	17.16	2.84	
	Career planning	Female	82	16.44	3.48	0.54
		Male	124	16.73	3.12	
	Overall career maturity	Female	82	16.82	2.94	0.37
		Male	124	17.17	2.38	
Asian/ Coloured	Self-information	Female	20	17.35	1.66	0.27
		Male	36	17.89	1.88	
	Decision-making	Female	20	17.55	2.89	0.64
		Male	36	17.92	2.55	
	Career information	Female	20	17.15	2.87	0.68
		Male	36	16.75	4.28	
	Integration	Female	20	17.90	2.25	0.42
		Male	36	17.33	2.89	
	Career planning	Female	20	18.10	2.29	0.12
		Male	36	17.00	2.87	
	Overall career maturity	Female	20	17.61	1.90	0.70
		Male	36	17.38	2.51	
White	Self-information	Female	27	16.44	2.85	0.90
		Male	37	17.57	2.14	
	Decision-making	Female	27	17.22	2.91	0.18
		Male	37	18.14	2.24	
	Career information	Female	27	15.93	4.11	0.06
		Male	37	17.68	2.80	
	Integration	Female	27	17.37	3.04	0.32
		Male	37	18.08	2.34	
	Career planning	Female	27	16.44	4.22	0.07
		Male	37	18.16	2.50	
	Overall career maturity	Female	27	16.68	2.97	0.07
		Male	37	17.92	1.99	

5.3.3.2   Exploring gender differences according to age category

The results (presented in Table 5.17) reflect no significant mean differences between the scores of female and male participants across the different age categories on all the CDQ scales. The data thus indicate no gender differences in the level of career

maturity among this sample according to their age categories. This suggests that the female and male participants' level of career maturity is similar across the various age categories.

Table 5.17 *T*-Test Results for Gender Differences according to Age Category

Age Category	CDQ Scale	Gender	*N*	Mean	*SD*	Sig. ($p \leq 0.05$)
Exploration	Self-information	Female	52	16.87	2.23	0.47
		Male	91	17.16	2.61	
	Decision-making	Female	52	17.21	2.82	0.12
		Male	91	17.95	2.40	
	Career information	Female	52	16.33	3.37	0.09
		Male	91	17.32	3.18	
	Integration	Female	52	17.25	2.34	0.97
		Male	91	17.26	2.67	
	Career planning	Female	52	16.75	3.41	0.39
		Male	91	17.23	2.86	
	Overall career maturity	Female	52	16.88	2.33	0.21
		Male	91	17.39	2.29	
Establishment	Self-information	Female	75	16.85	3.01	0.45
		Male	105	17.17	2.40	
	Decision-making	Female	75	17.36	3.55	0.36
		Male	105	17.81	2.70	
	Career information	Female	75	16.29	4.47	0.21
		Male	105	17.07	3.48	
	Integration	Female	75	17.03	3.75	0.42
		Male	105	17.45	2.86	
	Career planning	Female	75	16.47	3.69	0.35
		Male	105	16.95	3.09	
	Overall career maturity	Female	75	16.80	3.21	0.27
		Male	105	17.29	2.38	

5.3.3.3 *Exploring gender differences according to level of education*

Table 5.18 presents the *t*-test results between the male and female participants according to their level of education. Among the participants with matric, career maturity scores of females were found to be significantly lower than those of their male counterparts on the following CDQ scales: decision-making ($p = 0.02$), career information ($p = 0.05$), and overall career maturity ($p = 0.02$). Females with a post-matric certificate scored significantly lower than their male counterparts on the career information scale ($p = 0.04$). However, female participants with a national diploma or university degree scored significantly higher than their male counterparts on the

following CDQ scales: self-information (p = 0.03), decision-making (p = 0.03), integration (p = 0.01), and overall career maturity (p = 0.05).

The observed significant gender differences indicate the following:

- Among the participants with matric, females had significantly lower ability to make effective career decisions, significantly lower knowledge of the world of work, and a significantly lower level of readiness to make career choices than the male participants.
- Among the participants with a post-matric certificate, females had a significantly lower knowledge of the world of work than the male participants.
- Among the participants with a national diploma or university degree, females reflected a significantly higher level of self-knowledge, significantly greater ability to make effective career decisions, significantly greater ability to integrate self-knowledge with the information about the world of work, and a significantly higher level of readiness to make career choices than the male participants. In essence, these results indicate that the female participants seemed to score higher on career maturity than their male counterparts as their level of education advanced.

Table 5.18 *T*-Test Results for Gender Differences according to Level of Education

Level of Education	CDQ Scale	Gender	*N*	Mean	*SD*	Sig. ($p \leq 0.05$)
Matric	Self-information	Female	57	16.89	2.48	0.18
		Male	109	17.42	2.22	
	Decision-making	Female	57	16.84	3.46	0.02*
		Male	109	18.11	2.42	
	Career information	Female	57	16.11	3.65	0.05*
		Male	109	17.25	3.17	
	Integration	Female	57	16.65	3.15	0.06
		Male	109	17.59	2.53	
	Career planning	Female	57	16.60	3.21	0.15
		Male	109	17.31	2.71	
	Overall career maturity	Female	57	16.62	2.57	0.02*
		Male	109	17.54	2.20	
Post-matric certificate	Self-information	Female	19	16.16	3.47	0.06
		Male	33	17.94	2.56	
	Decision-making	Female	19	17.37	3.52	0.26
		Male	33	18.42	2.48	
	Career information	Female	19	14.79	5.51	0.04*
		Male	33	17.73	3.20	
	Integration	Female	19	16.26	4.05	0.21
		Male	33	17.61	2.67	
	Career planning	Female	19	15.21	5.38	0.15
		Male	33	17.18	2.98	
	Overall career maturity	Female	19	15.96	3.94	0.08
		Male	33	17.78	2.24	
Diploma/ Degree	Self-information	Female	42	17.45	2.22	0.03*
		Male	48	16.31	2.55	
	Decision-making	Female	42	18.21	2.18	0.03*
		Male	48	17.02	2.79	
	Career information	Female	42	17.21	3.74	0.89
		Male	48	17.10	3.41	
	Integration	Female	42	18.55	2.05	0.01**
		Male	48	16.96	3.11	
	Career planning	Female	42	17.60	2.26	0.18
		Male	48	16.85	2.96	
	Overall career maturity	Female	42	17.81	2.04	0.05*
		Male	48	16.85	2.41	

*$p \leq 0.05$; **$p \leq 0.01$

The phenomena observed in these results seem to reflect the greater complexities women face in career development, such as not being introduced to the world of work from a young age compared to men, and the dilemma of having to choose

between career and motherhood (Patton & Creed, 2001). These complexities seem to diminish as their level of education advances.

5.3.3.4 *Exploring gender differences according to arm of service*

Table 5.19 reflects the *t*-test results of the male and female participants according to their arm of service in the South African military. Female participants from the SA Army scored relatively lower than male SA Army participants on all the CDQ scales. The mean differences in these scores were, however, insignificant. No significant gender differences were found in the mean scores of participants from the SA Airforce. The female SA Navy participants scored significantly higher than their male counterparts on the following CDQ scales: self-information (p = 0.00), decision-making (p = 0.04), integration (p = 0.04), career planning (p = 0.01), and overall career maturity (p = 0.00). No significant mean differences were found between the scores of male and female participants from the SA Military Health Services (SAMHS).

These results indicate no gender differences among the SA Army, SA Airforce, and SAMHS participants on career maturity. The Navy participants, however, reflect significant gender differences, which suggests that the female participants seem to have a significantly higher level of self-awareness, as well as significantly greater ability to make effective career decisions, to integrate self-knowledge with information about the world of work, and implement career plans, and a significantly higher level of readiness to make career choices, than their male counterparts.

Table 5.19   *T*-Test Results for Gender Differences according to Arm of Service

Arm of Service	CDQ Scale	Gender	N	Mean	SD	Sig. (p ≤ 0.05)
SA Army	Self-information	Female	57	16.74	3.06	0.09
		Male	85	17.55	2.24	
	Decision-making	Female	57	17.14	3.47	0.11
		Male	85	17.99	2.34	
	Career information	Female	57	15.75	4.44	0.18
		Male	85	16.72	3.75	
	Integration	Female	57	16.67	3.66	0.36
		Male	85	17.19	2.72	
	Career planning	Female	57	16.60	3.31	0.58
		Male	85	16.89	2.86	
	Overall career maturity	Female	57	16.58	3.03	0.15
		Male	85	17.27	2.25	
SA Airforce	Self-information	Female	17	16.76	2.28	0.12
		Male	53	17.79	2.36	
	Decision-making	Female	17	17.53	3.56	0.44
		Male	53	18.26	2.66	
	Career information	Female	17	17.88	2.62	0.57
		Male	53	18.30	2.66	
	Integration	Female	17	17.76	2.66	0.73
		Male	53	18.02	2.48	
	Career planning	Female	17	17.12	3.10	0.27
		Male	53	18.06	2.63	
	Overall career maturity	Female	17	17.41	2.38	0.31
		Male	53	18.09	2.24	
SA Navy	Self-information	Female	11	18.00	1.55	0.00**
		Male	34	15.82	2.95	
	Decision-making	Female	11	18.64	1.29	0.04*
		Male	34	17.41	2.55	
	Career information	Female	11	18.36	2.50	0.10
		Male	34	16.76	3.15	
	Integration	Female	11	18.36	1.69	0.04*
		Male	34	16.68	3.36	
	Career planning	Female	11	18.36	1.43	0.01**
		Male	34	16.29	3.37	
	Overall career maturity	Female	11	18.35	1.23	0.00**
		Male	34	16.59	2.53	
SAMHS	Self-information	Female	46	17.09	2.40	0.46
		Male	28	16.68	2.18	
	Decision-making	Female	46	17.24	3.09	0.87
		Male	28	17.36	2.91	
	Career information	Female	46	15.83	4.14	0.13
		Male	28	17.11	2.95	
	Integration	Female	46	17.48	2.82	0.88
		Male	28	17.57	2.36	
	Career planning	Female	46	16.28	4.16	0.71
		Male	28	16.61	3.16	
	Overall career maturity	Female	46	16.78	2.91	0.64
		Male	28	17.06	2.16	

*p ≤ 0.05; **p ≤ 0.01

5.3.3.5   Exploring gender differences according to military rank

The *t*-test results between the female and male participants on the CDQ according to military rank are reported in Table 5.20. Female participants who held the rank of Candidate Officer scored significantly lower than their male counterparts on the following CDQ scales: decision-making (p = 0.03), career information (p = 0.02), career planning (p = 0.04), and overall career maturity (p = 0.02). No significant gender differences were found among the participants who held the rank of Lieutenant, despite the female participants scoring relatively higher (*M* = 17.65, *SD* = 2.16) than the male participants (*M* = 16.89, *SD* = 2.31) on overall career maturity. Statistically insignificant mean differences were also observed between male and female participants holding the rank of Captain and Major.

The significant gender differences observed on career maturity among participants who held the rank of Candidate Officer suggest than male participants in this category had a significantly greater ability to make effective career decisions, as well as a significantly greater knowledge of the world of work and the ability to implement career plans, and had a higher level of readiness to make career choices than their female counterparts.

Table 5.20   *T*-Test Results for Gender Differences according to Military Rank

Rank	CDQ Scale	Gender	*N*	Mean	*SD*	Sig. (*p* ≤ 0.05)
Candidate Officer	Self-information	Female	72	17.04	2.29	0.07
		Male	99	17.68	2.11	
	Decision-making	Female	72	17.33	2.78	0.03*
		Male	99	18.24	2.36	
	Career information	Female	72	16.21	3.83	0.02*
		Male	99	17.55	3.11	
	Integration	Female	72	17.15	2.47	0.15
		Male	99	17.68	2.18	
	Career planning	Female	72	16.54	3.57	0.04*
		Male	99	17.55	2.48	
	Overall career maturity	Female	72	16.86	2.51	0.02*
		Male	99	17.74	2.04	
Lieutenant	Self-information	Female	19	17.26	1.79	0.37
		Male	42	16.74	2.66	
	Decision-making	Female	19	17.58	3.93	0.86
		Male	42	17.76	2.69	
	Career information	Female	19	17.89	2.31	0.07
		Male	42	16.48	3.52	
	Integration	Female	19	18.16	2.69	0.18
		Male	42	17.12	2.94	
	Career planning	Female	19	17.37	2.27	0.16
		Male	42	16.36	3.14	
	Overall career maturity	Female	19	17.65	2.16	0.22
		Male	42	16.89	2.31	
Captain	Self-information	Female	7	15.71	4.31	0.99
		Male	20	15.70	3.05	
	Decision-making	Female	7	16.71	3.86	0.95
		Male	20	16.60	3.49	
	Career information	Female	7	17.14	3.08	0.94
		Male	20	17.25	3.55	
	Integration	Female	7	16.29	3.55	0.87
		Male	20	16.55	3.75	
	Career planning	Female	7	16.29	4.03	0.96
		Male	20	16.20	3.96	
	Overall career maturity	Female	7	16.43	3.68	0.98
		Male	20	16.46	3.15	
Major	Self-information	Female	34	16.74	3.42	0.47
		Male	39	17.26	2.54	
	Decision-making	Female	34	17.32	3.62	0.58
		Male	39	17.72	2.14	
	Career information	Female	34	15.26	5.18	0.09
		Male	39	17.08	3.53	
	Integration	Female	34	16.88	4.52	0.65
		Male	39	17.31	3.22	
	Career planning	Female	34	16.62	3.98	0.64
		Male	39	17.03	3.27	
	Overall career maturity	Female	34	16.57	3.60	0.33
		Male	39	17.28	2.42	

*p ≤ 0.05

5.3.3.6   Exploring gender differences according to mustering category

Table 5.21 reflects the *t*-test results of female and male participants on the CDQ according to mustering category. Female participants in the combat mustering scored relatively lower than their male counterparts on all the CDQ scales, but the mean differences were statistically insignificant. In the non-combat mustering, female participants scored relatively higher than their male counterparts, but the mean differences were also found to be insignificant.

Table 5.21   *T*-Test Results for Gender Differences according to Mustering Category

Mustering	CDQ Scale	Gender	N	Mean	SD	Sig. (p ≤ 0.05)
Combat	Self-information	Female	38	16.95	2.19	0.23
		Male	119	17.46	2.52	
	Decision-making	Female	38	17.26	2.84	0.06
		Male	119	18.23	2.27	
	Career information	Female	38	16.42	3.50	0.08
		Male	119	17.55	3.21	
	Integration	Female	38	16.79	2.57	0.11
		Male	119	17.58	2.61	
	Career planning	Female	38	16.97	2.76	0.36
		Male	119	17.45	2.78	
	Overall career maturity	Female	38	16.88	2.22	0.07
		Male	119	17.65	2.24	
Non-Combat	Self-information	Female	91	17.04	2.80	0.81
		Male	78	16.95	2.28	
	Decision-making	Female	91	17.44	3.36	0.93
		Male	78	17.40	2.88	
	Career information	Female	91	16.26	4.34	0.36
		Male	78	16.81	3.42	
	Integration	Female	91	17.47	3.36	0.45
		Male	78	17.10	2.97	
	Career planning	Female	91	16.64	3.82	0.91
		Male	78	16.58	3.14	
	Overall career maturity	Female	91	16.97	3.05	0.99
		Male	78	16.97	2.38	

5.3.3.7   Exploring female participants' scores only

The data was analysed further for significant differences among females only on variables such as race, age category, level of education, arm of service, military rank, and mustering category. The female participants' mean scores did not reflect significant differences on all the CDQ scales according to race and age category.

Significant mean differences were observed on the ANOVA results for females (Table 5.22) according to their level of education on the following CDQ scales: integration (p = 0.00), career planning (p = 0.04), and on overall career maturity (p = 0.02). The Scheffe post hoc test indicates that a significant difference on the CDQ's integration scale exists between female participants with matric and those with a national diploma or university degree (p = 0.01), and between female participants with a post-matric certificate and those with a national diploma or university degree (p = 0.02). This reveals that female participants with a national diploma or university degree scored significantly higher on the CDQ's integration scale (M = 18.55, SD = 2.05) than their female counterparts with matric (M = 16.65, SD = 3.15) or those with a post-matric certificate (M = 16.26, SD = 4.05).

The Scheffe post hoc test also indicates that the significant difference on the CDQ's career planning scale lies between the female participants with a post-matric certificate and those with a national diploma or university degree (p ≤ 0.05). This reveals that female participants with a national diploma or university degree scored significantly higher (M = 17.60, SD = 2.26) than their female counterparts with a post-matric certificate (M = 15.21, SD = 5.38) on the CDQ's career planning scale.

In terms of overall career maturity, the Scheffe post hoc test indicates that a significant difference exists between female participants with a post-matric certificate and those with a national diploma or university degree (p ≤ 0.05). Once again, this reveals that female participants with a national diploma or university degree scored significantly higher (M = 17.81, SD = 2.04) than their female counterparts with a post-matric certificate (M = 15.96, SD = 3.94) on overall career maturity.

Despite females from the SA Navy scoring relatively higher than their female counterparts from the other arms of service, and the SA Army females scoring relatively the lowest, these mean differences were found to be statistically insignificant. The mean differences of the scores according to females and military rank were also statistically insignificant. Female participants from the combat mustering scored relatively lower than female participants from the non-combat mustering, but the mean difference was statistically insignificant.

Table 5.22	**Descriptives and ANOVA Results for Females according to Level of Education**								
Descriptives					**ANOVA**				
CDQ Scale	Level of Education	*N*	Mean	*SD*		Sum of Squares	*df*	Mean Square	*F*	Sig.
Self-information	Matric	57	16.89	2.48	*Between*	22.62	2	11.31	1.71	0.19
	Post-matric certificate	19	16.16	3.47	*Within*	762.30	115	6.63		
	Diploma/ Degree	42	17.45	2.22	*Total*	784.92	117			
	Total	118	16.97	2.59						
Decision-making	Matric	57	16.84	3.46	*Between*	45.58	2	22.79	2.41	0.09
	Post-matric certificate	19	17.37	3.52	*Within*	1087.07	115	9.45		
	Diploma/ Degree	42	18.21	2.18	*Total*	1132.65	117			
	Total	118	17.42	3.11						
Career information	Matric	57	16.11	3.65	*Between*	80.61	2	40.30	2.48	0.09
	Post-matric certificate	19	14.79	5.51	*Within*	1867.60	115	16.24		
	Diploma/ Degree	42	17.21	3.74	*Total*	1948.20	117			
	Total	118	16.29	4.08						
Integration	Matric	57	16.65	3.15	*Between*	109.79	2	54.89	6.17	0.00**
	Post-matric certificate	19	16.26	4.05	*Within*	1023.07	115	8.90		
	Diploma/ Degree	42	18.55	2.05	*Total*	1132.86	117			
	Total	118	17.26	3.11						
Career planning	Matric	57	16.60	3.21	*Between*	76.33	2	38.16	3.35	0.04*
	Post-matric certificate	19	15.21	5.38	*Within*	1309.00	115	11.38		
	Diploma/ Degree	42	17.60	2.26	*Total*	1385.32	117			
	Total	118	16.73	3.44						
Overall career maturity	Matric	57	16.62	2.57	*Between*	55.66	2	27.83	3.90	0.02*
	Post-matric certificate	19	15.96	3.94	*Within*	819.79	115	7.13		
	Diploma/ Degree	42	17.81	2.04	*Total*	875.44	117			
	Total	118	16.93	2.74						

*$p \leq 0.05$; **$p \leq 0.01$

5.3.3.8   Exploring male participants' scores only

The data was also analysed for significant differences among male participants only on variables such as race, age category, level of education, arm of service, military rank, and mustering category. No significant mean differences were found either among male participants according to their racial groupings and age categories.

Table 5.23 reflects significant mean differences found on the following CDQ scales for male participants' scores according to their level of education: self-information (p = 0.01) and decision-making (p = 0.02). The Scheffe post hoc test indicates a significant mean difference on the CDQ's self-information scale between male participants with a post-matric certificate (M = 17.94, SD = 2.56) and those with a national diploma or university degree (M = 16.31, SD = 2.55) ($p \leq$ 0.05), and between male participants with matric (M = 17.42, SD = 2.22) and those with a national diploma or university degree (M = 16.31, SD = 2.55) ($p \leq$ 0.05). This reveals that male participants with a national diploma or university degree scored significantly lower on self-awareness than their male counterparts with matric or a post-matric certificate.

The Scheffe post hoc test also indicates that a significant difference on the CDQ's decision-making scale exists between male participants with a post-matric certificate (M = 18.42, SD = 2.48) and those with a national diploma or university degree (M = 17.02, SD = 2.79) (p = 0.01). This reveals that male participants with a national diploma or university degree scored significantly lower than their male counterparts with a post-matric certificate on their abilities to make effective career decisions (Langley et al., 1996).

Table 5.23   Descriptives and ANOVA Results for Males according to Level of Education

	Descriptives					ANOVA				
CDQ Scale	Level of Education	N	Mean	SD			Sum of Squares	Df	Mean Square	F	Sig.
Self-information	Matric	109	17.42	2.22		Between	61.03	2	30.52	5.45	0.01**
	Post-matric certificate	33	17.94	2.56		Within	1046.78	187	5.60		
	Diploma/ Degree	48	16.31	2.55		Total	1107.81	189			
	Total	190	17.23	2.42							
Decision-making	Matric	109	18.11	2.42		Between	50.96	2	25.48	3.99	0.02*
	Post-matric certificate	33	18.42	2.48		Within	1193.72	187	6.38		
	Diploma/ Degree	48	17.02	2.79		Total	1244.68	189			
	Total	190	17.89	2.57							
Career information	Matric	109	17.25	3.17		Between	8.16	2	4.08	0.39	0.68
	Post-matric certificate	33	17.73	3.20		Within	1959.34	187	10.48		
	Diploma/ Degree	48	17.10	3.41		Total	1967.50	189			
	Total	190	17.29	3.23							
Integration	Matric	109	17.59	2.53		Between	14.39	2	7.20	0.98	0.38
	Post-matric certificate	33	17.61	2.67		Within	1372.22	187	7.34		
	Diploma/ Degree	48	16.96	3.11		Total	1386.61	189			
	Total	190	17.43	2.71							
Career planning	Matric	109	17.31	2.71		Between	6.99	2	3.49	0.44	0.65
	Post-matric certificate	33	17.18	2.98		Within	1490.28	187	7.97		
	Diploma/ Degree	48	16.85	2.96		Total	1497.27	189			
	Total	190	17.17	2.82							
Overall career maturity	Matric	109	17.54	2.20		Between	21.19	2	10.59	2.08	0.13
	Post-matric certificate	33	17.78	2.24		Within	953.13	187	5.10		
	Diploma/ Degree	48	16.85	2.41		Total	974.32	189			
	Total	190	17.40	2.27							

*$p \leq 0.05$; **$p \leq 0.01$

Table 5.24 reflects significant mean differences found on the following CDQ scales for male participants' scores according to their arm of service: self-information (p =

0.00), career information (p = 0.04), career planning (p = 0.03), and overall career maturity (p = 0.02). The SA Airforce male participants scored relatively higher on all the CDQ scales than their male counterparts from the other arms of service whilst the SA Navy male participants scored relatively the lowest.

The Scheffe post hoc test indicates that significant differences on the CDQ's self-information scale exists between male participants from the SA Army (M = 17.55, SD = 2.24) and those from the SA Navy (M = 15.82, SD = 2.95) ($p \leq 0.01$), and between male participants from the SA Airforce (M = 17.79, SD = 2.36) and those from the SA Navy (M = 15.82, SD = 2.95) ($p \leq 0.01$). This reveals that male participants from the SA Navy scored significantly lower than their male counterparts from the SA Army and SA Airforce on self-awareness. The Scheffe post hoc test shows no significant differences among the male participants on the CDQ's career information and career-planning scales according to their arms of service.

In terms of the male participants' overall level of career maturity, the Scheffe post hoc test indicates that a significant difference lies between the male participants from the SA Airforce (M = 18.09, SD = 2.24) and those from the SA Navy (M = 16.59, SD = 2.53) ($p \leq 0.05$). This reveals that male participants from the SA Navy scored significantly lower than their male counterparts from the SA Airforce on their readiness to deal with career tasks.

Another significant difference was observed for the male participants according to their military rank on the CDQ's self-information scale (p = 0.01) (Table 5.25). The Scheffe post hoc test indicates that a significant difference on the CDQ's self-information scale lies between male participants who held the rank of Candidate Officer (M = 17.68, SD = 2.11) and those who held the rank of Captain (M = 15.70, SD = 3.05) ($p \leq 0.05$). This reveals that the male participants who held the rank of Candidate Officer have a significantly higher level of self-knowledge than those who held the rank of Captain.

Table 5.24	Descriptives and ANOVA Results for Males according to Arm of Service									
Descriptives					**ANOVA**					
CDQ Scale	**Arm of Service**	**N**	**Mean**	**SD**		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Self-information	SA Army	85	17.55	2.24	*Between*	101.22	3	33.74	5.88	0.00**
	SA Airforce	53	17.79	2.36	*Within*	1124.78	196	5.74		
	SA Navy	34	15.82	2.95	*Total*	1226.00	199			
	SAMHS	28	16.68	2.18						
	Total	200	17.20	2.48						
Decision-making	SA Army	85	17.99	2.34	*Between*	23.92	3	7.97	1.23	0.30
	SA Airforce	53	18.26	2.66	*Within*	1269.95	196	6.48		
	SA Navy	34	17.41	2.55	*Total*	1293.88	199			
	SAMHS	28	17.36	2.91						
	Total	200	17.88	2.55						
Career information	SA Army	85	16.72	3.75	*Between*	90.81	3	30.27	2.81	0.04*
	SA Airforce	53	18.30	2.66	*Within*	2109.19	196	10.76		
	SA Navy	34	16.76	3.15	*Total*	2200.00	199			
	SAMHS	28	17.11	2.95						
	Total	200	17.20	3.33						
Integration	SA Army	85	17.19	2.723	*Between*	42.61	3	14.20	1.90	0.13
	SA Airforce	53	18.02	2.48	*Within*	1466.27	196	7.48		
	SA Navy	34	16.68	3.36	*Total*	1508.88	199			
	SAMHS	28	17.57	2.36						
	Total	200	17.38	2.75						
Career planning	SA Army	85	16.89	2.86	*Between*	80.67	3	26.89	3.12	0.03*
	SA Airforce	53	18.06	2.63	*Within*	1690.62	196	8.63		
	SA Navy	34	16.29	3.37	*Total*	1771.28	199			
	SAMHS	28	16.61	3.16						
	Total	200	17.06	2.98						
Overall career maturity	SA Army	85	17.27	2.25	*Between*	51.04	3	17.01	3.26	0.02*
	SA Airforce	53	18.09	2.24	*Within*	1023.89	196	5.22		
	SA Navy	34	16.59	2.53	*Total*	1074.93	199			
	SAMHS	28	17.06	2.16						
	Total	200	17.34	2.32						

*$p \leq 0.05$; **$p \leq 0.01$

Table 5.25	Descriptives and ANOVA Results for Males according to Military Rank									
Descriptives					**ANOVA**					
CDQ Scale	**Rank**	**N**	**Mean**	**SD**		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Self-information	Candidate Officer	99	17.68	2.11	*Between*	76.59	3	25.53	4.35	0.01**
	Lieutenant	42	16.74	2.66	*Within*	1149.41	196	5.86		
	Captain	20	15.70	3.05	*Total*	1226.00	199			
	Major	39	17.26	2.54						
	Total	200	17.20	2.48						
Decision-making	Candidate Officer	99	18.24	2.36	*Between*	47.38	3	15.79	2.48	0.06
	Lieutenant	42	17.76	2.69	*Within*	1246.50	196	6.36		
	Captain	20	16.60	3.49	*Total*	1293.88	199			
	Major	39	17.72	2.14						
	Total	200	17.88	2.55						
Career information	Candidate Officer	99	17.55	3.11	*Between*	34.46	3	11.49	1.04	0.38
	Lieutenant	42	16.48	3.52	*Within*	2165.54	196	11.05		
	Captain	20	17.25	3.55	*Total*	2200.00	199			
	Major	39	17.08	3.53						
	Total	200	17.20	3.33						
Integration	Candidate Officer	99	17.68	2.18	*Between*	25.56	3	8.52	1.13	0.34
	Lieutenant	42	17.12	2.94	*Within*	1483.32	196	7.57		
	Captain	20	16.55	3.75	*Total*	1508.88	199			
	Major	39	17.31	3.22						
	Total	200	17.38	2.75						
Career planning	Candidate Officer	99	17.55	2.48	*Between*	58.92	3	19.64	2.25	0.08
	Lieutenant	42	16.36	3.14	*Within*	1712.36	196	8.74		
	Captain	20	16.20	3.96	*Total*	1771.28	199			
	Major	39	17.03	3.27						
	Total	200	17.06	2.98						
Overall career maturity	Candidate Officer	99	17.74	2.04	*Between*	39.76	3	13.25	2.51	0.06
	Lieutenant	42	16.89	2.31	*Within*	1035.17	196	5.28		
	Captain	20	16.46	3.15	*Total*	1074.93	199			
	Major	39	17.28	2.42						
	Total	200	17.34	2.32						

**p ≤ 0.01

Table 5.26 reflects the *t*-test results for male participants on the CDQ according to their mustering category. Male participants from the combat mustering scored significantly higher on overall career maturity ($p = 0.05$) than their male counterparts from the non-combat mustering as well as on the following CDQ scales: decision-making ($p = 0.03$) and career planning ($p = 0.05$). This indicates that the participants from the combat mustering reflect a higher level of readiness to deal with career tasks than their counterparts from the non-combat mustering, and seem to reflect more effective career decision-making skills and the ability to implement a career plan (Langley, 1996).

Table 5.26 *T*-Test Results for Males according to Mustering Category

CDQ Scale	Mustering	N	Mean	SD	Sig. (p ≤ 0.05)
Self-information	Combat	119	17.46	2.52	0.14
	Non-combat	78	16.95	2.28	
Decision-making	Combat	119	18.23	2.27	0.03*
	Non-combat	78	17.40	2.88	
Career information	Combat	119	17.55	3.21	0.13
	Non-combat	78	16.81	3.42	
Integration	Combat	119	17.58	2.61	0.25
	Non-combat	78	17.10	2.97	
Career planning	Combat	119	17.45	2.78	0.05*
	Non-combat	78	16.58	3.14	
Overall career maturity	Combat	119	17.65	2.24	0.05*
	Non-combat	78	16.97	2.38	

*p ≤ 0.05

5.3.4 Exploring Career Maturity and Military Mustering

This section explores mean differences in career maturity between participants' scores from a combat mustering and the non-combat mustering according to variables such as race, age category, level of education, arm of service, rank, and mustering category.

5.3.4.1 *Exploring the mustering category according to race*

Table 5.27 presents the *t*-test results for the participants' mustering categories on the CDQ according to race. As reflected in Table 5.27, the African participants from the combat mustering scored significantly higher than African participants from the non-combat mustering in the following CDQ scales: decision-making (M = 18.18, SD = 2.22, p = 0.02), career information (M = 17.38, SD = 3.11, p = 0.05), career planning (M = 17.18, SD = 2.64, p = 0.03), and overall career maturity (M = 17.47, SD = 2.14, p = 0.04). The combined group of Coloured and Asian participants from the non-combat mustering scored relatively higher (M = 17.73, SD = 2.02) than their counterparts from the combat mustering (M = 17.28, SD = 2.56) on overall career maturity, but the mean difference was statistically insignificant. White participants from the combat mustering scored relatively higher (M = 17.73, SD = 2.34) than White participants from the non-combat mustering (M = 17.05, SD = 2.67), but the mean difference was also statistically insignificant.

Table 5.27 *T*-Test Results for Mustering Category according to Race

Race	CDQ Scale	Mustering	*N*	Mean	*SD*	Sig. (*p* ≤ 0.05)
African	Self-information	Combat	94	17.22	2.65	0.40
		Non-combat	108	16.91	2.68	
	Decision-making	Combat	94	18.18	2.22	0.02*
		Non-combat	108	17.22	3.46	
	Career information	Combat	94	17.38	3.11	0.05*
		Non-combat	108	16.36	4.10	
	Integration	Combat	94	17.37	2.50	0.29
		Non-combat	108	16.93	3.49	
	Career planning	Combat	94	17.18	2.64	0.03*
		Non-combat	108	16.23	3.65	
	Overall career maturity	Combat	94	17.47	2.14	0.04*
		Non-combat	108	16.73	2.92	
Asian/ Coloured	Self-information	Combat	27	18.11	1.76	0.15
		Non-combat	28	17.43	1.71	
	Decision-making	Combat	27	17.52	3.16	0.48
		Non-combat	28	18.04	2.15	
	Career information	Combat	27	16.41	4.17	0.24
		Non-combat	28	17.61	3.21	
	Integration	Combat	27	17.11	3.08	0.21
		Non-combat	28	18.04	2.17	
	Career planning	Combat	27	17.26	2.73	0.71
		Non-combat	28	17.54	2.78	
	Overall career maturity	Combat	27	17.28	2.56	0.48
		Non-combat	28	17.73	2.02	
White	Self-information	Combat	33	17.27	2.18	0.56
		Non-combat	31	16.90	2.83	
	Decision-making	Combat	33	18.06	2.40	0.32
		Non-combat	31	17.42	2.73	
	Career information	Combat	33	17.73	2.93	0.06
		Non-combat	31	16.10	3.89	
	Integration	Combat	33	17.73	2.63	0.87
		Non-combat	31	17.84	2.73	
	Career planning	Combat	33	17.88	3.24	0.29
		Non-combat	31	16.97	3.58	
	Overall career maturity	Combat	33	17.73	2.34	0.28
		Non-combat	31	17.05	2.67	

*p ≤ 0.05

5.3.4.2   Exploring the mustering category according to age category

Table 28 presents the *t*-test results between the combat and non-combat mustering according to the participants' age category on the CDQ. As reflected in Table 5.28, the combat participants in the exploration stage (18 to 24 years) scored relatively higher than their non-combat counterparts on all the CDQ scales. The mean differences were, however, not statistically significant. Combat participants in the establishment stage (25 to 44 years) also scored relatively higher than their counterparts from the non-combat mustering on overall career maturity, but the mean differences were also statistically insignificant. These results indicate no significant differences between the combat and non-combat participants' readiness to deal with career-related tasks and challenges according to age category.

Table 5.28 T-Test Results for Mustering according to Age Category

Age Category	CDQ Scale	Mustering	N	Mean	SD	Sig. (p ≤ 0.05)
18 to 24 **(Exploration)**	Self-information	Combat	92	17.20	2.62	0.53
		Non-combat	48	16.94	2.13	
	Decision-making	Combat	92	17.99	2.15	0.16
		Non-combat	48	17.27	3.12	
	Career information	Combat	92	17.34	3.09	0.13
		Non-combat	48	16.40	3.57	
	Integration	Combat	92	17.32	2.56	0.82
		Non-combat	48	17.21	2.55	
	Career planning	Combat	92	17.43	2.69	0.10
		Non-combat	48	16.44	3.68	
	Overall career maturity	Combat	92	17.45	2.19	0.16
		Non-combat	48	16.85	2.49	
25 to 44 **(Establishment)**	Self-information	Combat	63	17.52	2.21	0.61
		Non-combat	114	16.91	2.76	
	Decision-making	Combat	63	17.98	2.87	0.26
		Non-combat	114	17.45	3.22	
	Career information	Combat	63	17.21	3.64	0.29
		Non-combat	114	16.58	4.07	
	Integration	Combat	63	17.52	2.73	0.55
		Non-combat	114	17.24	3.49	
	Career planning	Combat	63	17.25	2.90	0.17
		Non-combat	114	16.58	3.50	
	Overall career maturity	Combat	63	17.50	2.39	0.18
		Non-combat	114	16.95	2.91	

5.3.4.3   *Exploring the mustering category according to level of education*

The *t*-test results for the combat and non-combat participants on the CDQ according to their level of education are reported in Table 5.29. Combat participants with matric scored significantly higher than their non-combat counterparts with a similar level of education on the following CDQ scales: decision-making (M = 18.23, SD = 2.20, p = 0.01), career information (M = 17.55, SD = 3.02, p = 0.00), career planning (M = 17.75, SD = 2.22, p = 0.00), and on overall career maturity (M = 17.74, SD = 1.98, p = 0.00). These results seem to indicate that the combat participants with matric reflected a significantly higher ability to make effective career decisions, higher knowledge of the world of work, and a higher ability to implement a career plan than their non-combat counterparts with a similar level of education. Combat participants with post-matric certificates also scored relatively higher than non-combat participants with post-matric certificate on all the CDQ scales. However, the mean differences were statistically not significant except on the CDQ's decision-making scale (p = 0.05).

On the other hand, non-combat participants with a national diploma or university degree scored significantly higher (M = 17.31, SD = 2.27) than their combat counterparts with an equivalent education (M = 15.76, SD 2.59) on the CDQ's self-information scale. Despite statistically insignificant findings, they also scored relatively higher on all the other CDQ scales and on overall career maturity.

Table 5.29 *T*-Test Results for Mustering Category according to Level of Education

Level of Education	CDQ Scale	Mustering	*N*	Mean	*SD*	Sig. ($p \leq 0.05$)
Matric	Self-information	Combat	101	17.54	2.24	0.07
		Non-combat	63	16.87	2.29	
	Decision-making	Combat	101	18.23	2.20	0.01**
		Non-combat	63	16.89	3.57	
	Career information	Combat	101	17.55	3.02	0.00**
		Non-combat	63	15.81	3.68	
	Integration	Combat	101	17.62	2.25	0.08
		Non-combat	63	16.78	3.33	
	Career planning	Combat	101	17.75	2.22	0.00***
		Non-combat	63	16.05	3.50	
	Overall career maturity	Combat	101	17.74	1.98	0.00**
		Non-combat	63	16.48	2.68	
Post-matric certificate	Self-information	Combat	23	18.13	2.42	0.07
		Non-combat	28	16.64	3.37	
	Decision-making	Combat	23	18.87	1.49	0.05*
		Non-combat	28	17.36	3.62	
	Career information	Combat	23	17.57	3.34	0.18
		Non-combat	28	15.93	5.09	
	Integration	Combat	23	17.35	2.89	0.68
		Non-combat	28	16.96	3.65	
	Career planning	Combat	23	17.26	3.11	0.22
		Non-combat	28	15.89	4.76	
	Overall career maturity	Combat	23	17.84	2.06	0.13
		Non-combat	28	16.56	3.68	
Diploma/ Degree	Self-information	Combat	25	15.76	2.59	0.01**
		Non-combat	64	17.31	2.27	
	Decision-making	Combat	25	16.76	3.13	0.11
		Non-combat	64	17.89	2.31	
	Career information	Combat	25	16.76	3.53	0.43
		Non-combat	64	17.42	3.48	
	Integration	Combat	25	16.96	3.06	0.13
		Non-combat	64	18.03	2.61	
	Career planning	Combat	25	16.44	3.23	0.15
		Non-combat	64	17.50	2.40	
	Overall career maturity	Combat	25	16.54	2.61	0.07
		Non-combat	64	17.63	2.08	

*$p \leq 0.05$; **$p \leq 0.01$; ***$p \leq 0.001$

5.3.4.4   Exploring the mustering category according to arm of service

Combat participants from the SA Army scored relatively higher than non-combat participants from the SA Army on all the CDQ scales and on overall career maturity, but the mean differences were statistically insignificant. Table 5.30 indicates that among the SA Airforce participants, those from the combat mustering scored significantly higher than those from the non-combat mustering on all the CDQ scales and on overall career maturity. Table 5.31 reflects the SA Navy participants' scores, which indicate that those from the non-combat mustering scored significantly higher than those from the combat mustering on all the CDQ scales and on overall career maturity.

Table 5.30   SA Airforce Combat and Non-Combat Participants' Mean Scores

CDQ Scale	Mustering	N	Mean	SD	Sig. ($p < .05$)
Self-information	Combat	41	18.10	1.95	0.03*
	Non-Combat	29	16.76	2.70	
Decision-Making	Combat	41	19.02	1.26	0.01**
	Non-Combat	29	16.76	3.91	
Career Information	Combat	41	18.90	2.02	0.01*
	Non-Combat	29	17.21	3.09	
Integration	Combat	41	18.54	1.73	0.04*
	Non-Combat	29	17.14	3.16	
Career Planning	Combat	41	18.90	1.56	0.00***
	Non-Combat	29	16.31	3.34	
Overall Career Maturity	Combat	41	18.69	1.22	0.00**
	Non-Combat	29	16.83	2.92	

*$p \le 0.05$; **$p \le 0.01$; ***$p \le 0.001$

Table 5.31   SA Navy Combat and Non-Combat Participants' Mean Scores

CDQ Scale	Mustering	N	Mean	SD	Sig. (p < .05)
Self-information	Combat	38	15.82	2.98	0.00***
	Non-Combat	8	18.25	1.28	
Decision-Making	Combat	38	17.32	2.38	0.01**
	Non-Combat	8	19.25	1.49	
Career Information	Combat	38	16.71	3.13	0.00**
	Non-Combat	8	19.13	1.36	
Integration	Combat	38	16.55	3.19	0.00***
	Non-Combat	8	19.25	1.17	
Career Planning	Combat	38	16.39	3.28	0.00**
	Non-Combat	8	18.50	1.07	
Overall Career Maturity	Combat	38	16.56	2.43	0.00***
	Non-Combat	8	18.88	0.94	

**p ≤ 0.01; ***p ≤ 0.001

The results in Table 5.30 indicate that the level of readiness to deal with career-related tasks seems to be significantly higher among the combat participants of the SA Airforce than that of their non-combat counterparts. Table 5.31, however, reflects a significantly higher level of readiness to deal with career tasks among the non-combat SA Navy participants compared to their combat counterparts.

5.3.4.5   Exploring the mustering category according to military rank

Table 5.32 indicates that among the participants who held the rank of Candidate Officer, those from the combat mustering scored significantly higher than those from the non-combat mustering on all the CDQ scales except the integration scale. There were no statistically significant mean differences between combat and non-combat participants holding the rank of Lieutenant despite combat participants scoring relatively lower on all the CDQ scales. The combat participants also scored relatively lower among those holding the ranks of Captain and Major, but the results were once again statistically insignificant.

Table 5.32 Candidate Officers' Scores according to Mustering Category

CDQ Scale	Mustering	N	Mean	SD	Sig. ($p < 0.05$)
Self-information	Combat	100	17.78	2.05	0.02*
	Non-Combat	68	16.99	2.29	
Decision-Making	Combat	100	18.46	1.85	0.00**
	Non-Combat	68	17.12	3.16	
Career Information	Combat	100	17.63	3.09	0.01**
	Non-Combat	68	16.15	3.86	
Integration	Combat	100	17.71	1.99	0.14
	Non-Combat	68	17.13	2.71	
Career Planning	Combat	100	17.89	2.06	0.00***
	Non-Combat	68	16.07	3.83	
Overall Career Maturity	Combat	100	17.89	1.78	0.00**
	Non-Combat	68	16.69	2.71	

*$p \leq 0.05$; **$p \leq 0.01$; ***$p \leq 0.001$

5.3.4.6   *Exploring combat participants' scores only*

The data was analysed further for significant differences among the combat participants only on variables such as race, age category, level of education, arm of service, and military rank. The results revealed no significant differences among the scores of combat mustering participants according to the race and age category.

A significant difference was found among the mean scores of combat mustering participants according to their level of education on the following CDQ scales: self-information, $F(2,146) = 7.46$, $p = 0.00$, decision-making, $F(2,146) = 5.74$, $p = 0.00$, and on overall career maturity, $F(2,146) = 3.52$, $p = 0.03$. The Scheffe post hoc test indicates that a significant difference on the CDQ's self-information scale exists between combat participants with matric ($M = 17.54$, $SD = 2.24$) and those with a national diploma or university degree ($M = 15.76$, $SD = 2.59$) ($p \leq 0.01$), and between combat participants with a post-matric certificate ($M = 18.13$, $SD = 2.42$) and those with a national diploma or university degree ($M = 15.76$, $SD = 2.59$) ($p \leq 0.01$). This reveals that combat participants with a national diploma or university

degree scored significantly lower than those with matric or a post-matric certificate on the level of self-awareness.

The Scheffe post hoc test also indicates that a significant difference on the CDQ's decision-making scale exists between combat participants with matric (M = 18.23, SD = 2.20) and those with a national diploma or university degree (M = 16.76, SD = 3.13) ($p \leq 0.05$), as well as between combat participants with a post-matric certificate (M = 18.87, SD = 1.49) and those with a national diploma or university degree (M = 16.76, SD = 3.13) ($p \leq 0.01$). This also reveals that combat participants with a national diploma or university degree scored significantly lower than those with matric or a post-matric certificate on effective career decision-making.

In terms of overall level of career maturity, the Scheffe post hoc test indicates that a significant difference lies between combat participants with matric (M = 17.74, SD = 1.98) and those with a national diploma or university degree (M = 16.54, SD = 2.61) ($p \leq 0.05$). This suggests that the combat participants with a national diploma or university degree scored significantly lower than those with matric on their level of readiness to make career choices or to deal with career-related tasks.

Table 5.33 presents the combat participants' mean career maturity scores, which seem to indicate a decline in the career maturity scores as the level of education advances. This phenomenon contradicts previous research suggesting that participants on a higher grade of education tend to be more career-mature than those in a lower grade of education (Achebe, 1982; Herr & Enderlein, 1976; Lokan, Boss & Patsula, 1982; Naidoo, Bowman & Gerstein, 1998). One may argue that the nature of the combat military environment is incompatible with the type of education held by the participants thus the decline in their career maturity scores.

Table 5.33 Combat Participants' Overall Mean Scores across the Level of Education

Level of Education	N	Mean	SD
Matric	101	17.74	1.98
Post-Matric Certificate	23	17.84	2.06
Diploma/Degree	22	16.67	2.59
Postgraduate	3	15.53	3.13
Total	**149**	**17.55**	**2.14**

Table 5.34 reflects the combat participants' ANOVA computations according to arm of service, which shows significant differences among the SA Army, SA Airforce, and SA Navy on all the CDQ scales and overall career maturity. The Scheffe post hoc test reflects the following significant differences among the arms of services:

- CDQ's self-information scale: significant differences exist between the combat participants from the SA Army (M = 17.59, SD = 2.20) and those from the SA Navy (M = 15.82, SD = 2.98) ($p \leq 0.00$), and between combat participants from the SA Airforce (M = 18.10, SD = 1.95) and those from the SA Navy (M = 15.82, SD = 2.98) ($p \leq 0.00$). This reveals that the combat participants from the SA Navy have significantly lower self-knowledge than those from the SA Army and the SA Airforce.

- CDQ's decision-making scale: significant differences exist between the combat participants from the SA Army (M = 17.75, SD = 2.79) and those from the SA Airforce (M = 19.02, SD = 1.26) ($p \leq 0.05$), and between combat participants from the SA Airforce (M = 19.02, SD = 1.26) and those from the SA Navy (M = 17.32, SD = 2.38) ($p \leq 0.01$). This reveals that the combat participants from the SA Airforce have a significantly greater ability to make effective career decisions than those from the SA Army and the SA Navy.

- CDQ's career information scale: significant differences exist between the combat participants from the SA Army (M = 16.68, SD = 3.64) and those from the SA Airforce (M = 18.90, SD = 2.02) ($p \leq 0.01$), and between combat participants from the SA Airforce (M = 18.90, SD = 2.02) and those from the SA Navy (M = 16.71,

SD = 3.13) (*p* ≤ 0.01). This suggests that the combat participants from the SA Airforce have significantly more knowledge of the world of work than those from the SA Army and the SA Navy.

- CDQ's integration scale: significant differences exist between the combat participants from the SA Army (*M* = 17.15, *SD* = 2.52) and those from the SA Airforce (*M* = 18.54, *SD* = 1.73) (*p* ≤ 0.05), and between combat participants from the SA Airforce (*M* = 18.54, *SD* = 1.73) and those from the SA Navy (*M* = 16.55, *SD* = 3.19) (*p* ≤ 0.01). This reveals that the combat participants from the SA Airforce have a significantly greater ability to integrate self-information and their knowledge of the world of work than those from the SA Army and the SA Navy.

- CDQ's career-planning scale: significant differences exist between the combat participants from the SA Army (*M* = 16.94, *SD* = 2.69) and those from the SA Airforce (*M* = 18.90, *SD* = 1.56) (*p* ≤ 0.00), and between combat participants from the SA Airforce (*M* = 18.90, *SD* = 1.56) and those from the SA Navy (*M* = 16.39, *SD* = 3.28) (*p* ≤ 0.00). This reveals that the combat participants from the SA Airforce scored significantly higher than those from the SA Army and the SA Navy on the ability to make career decisions and implement a career plan.

- Overall career maturity: significant differences existed between the combat participants form the SA Army (*M* = 17.22, *SD* = 2.35) and those from the SA Airforce (*M* = 18.69, *SD* = 1.22) (*p* ≤ 0.01), and between combat participants from the SA Airforce (*M* = 18.69, *SD* = 1.22) and those from the SA Navy (*M* = 16.56, *SD* = 2.43) (*p* ≤ 0.00). This reveals that the combat participants from the SA Airforce scored significantly higher than those from the SA Army and the SA Navy on their readiness to deal with career-related tasks.

Table 5.34   ANOVA Results of Combat Participants according to Arm of Service

		Sum of Squares	df	Mean Square	F	Sig.
Self-information	Between Groups	116.66	2	58.33	10.56	0.00***
	Within Groups	856.36	155	5.53		
	Total	973.02	157			
Decision-Making	Between Groups	65.78	2	32.89	5.81	0.00**
	Within Groups	878.12	155	5.67		
	Total	943.90	157			
Career Information	Between Groups	148.32	2	74.16	7.39	0.00***
	Within Groups	1556.51	155	10.04		
	Total	1704.84	157			
Integration	Between Groups	84.94	2	42.47	6.62	0.00**
	Within Groups	993.77	155	6.41		
	Total	1078.71	157			
Career Planning	Between Groups	146.81	2	73.40	10.76	0.00***
	Within Groups	1057.37	155	6.82		
	Total	1204.18	157			
Overall Career Maturity	Between Groups	97.63	2	48.82	10.71	0.00***
	Within Groups	706.50	155	4.56		
	Total	804.13	157			

$**p \leq 0.01$; $***p \leq 0.001$

Analysing the data according to military rank, the results revealed significant differences among combat participants' scores on the following CDQ scales (as reflected in Table 5.35): self-information, decision-making, career planning, and overall career maturity. The Scheffe post hoc test reflects the following significant differences among the military ranks:

- CDQ's self-information scale: significant differences exist between the combat participants who held the rank of Candidate Officer ($M = 17.78$, $SD = 2.05$) and those who held the rank of Lieutenant ($M = 16.59$, $SD = 2.94$) ($p \leq 0.05$), and between combat participants who held the rank of Candidate Officer ($M = 17.78$, $SD = 2.05$) and those who held the ranks of Captain/Major (combined group) (M

= 16.24, *SD* = 3.00) (*p* ≤ 0.05). This reveals that the combat participants who held the rank of Candidate Officer scored significantly higher than those who held the ranks of Lieutenant, Captain and Major on self-awareness.

- CDQ's decision-making scale: significant differences exist between the combat participants who held the rank of Candidate Officer (*M* = 18.46, *SD* = 1.85) and those who held the rank of Lieutenant (*M* = 17.30, *SD* = 3.09) (*p* ≤ 0.04), and between combat participants who held the rank of Candidate Officer (*M* = 18.46, *SD* = 1.85) and those who held the ranks of Captain/Major (*M* = 16.86, *SD* = 3.14) (*p* ≤ 0.05). This reveals that the combat participants who held the rank of Candidate Officer scored significantly higher than those who held the ranks of Lieutenant, Captain and Major on effective career decision-making.

- CDQ's career-planning scale: significant differences exist between the combat participants who held the rank of Candidate Officer (*M* = 17.89, *SD* = 2.06) and those who held the rank of Lieutenant (*M* = 16.41, *SD* = 2.99) (*p* ≤ 0.05), and between combat participants who held the rank of Candidate Officer (*M* = 17.89, *SD* = 2.06) and those who held the ranks of Captain/Major (*M* = 16.19, *SD* = 4.31) (*p* ≤ 0.05). This reveals that the combat participants who held the rank of Candidate Officer scored significantly higher than those who held the ranks of Lieutenant, Captain and Major on career decision-making and the implementation of a career plan.

- Overall career maturity: significant differences exist between the combat participants who held the rank of Candidate Officer (*M* = 17.89, *SD* = 1.78) and those who held the ranks of Lieutenant (*M* = 16.74, *SD* = 2.49) (*p* ≤ 0.05), and between combat participants who held the rank of Candidate Officer (*M* = 17.89, *SD* = 1.78) and those who held the ranks of Captain/Major (*M* = 16.54, *SD* = 3.26) (*p* ≤ 0.04). This reveals that the combat participants who held the rank of Candidate Officer scored significantly higher than those who held the ranks of Lieutenant, Captain and Major on overall career maturity.

Table 5.35   ANOVA Results of Combat Participants according to Military Rank

		Sum of Squares	df	Mean Square	F	Sig.
Self-information	Between Groups	65.13	2	32.57	5.56	0.01**
	Within Groups	907.89	155	5.86		
	Total	973.02	157			
Decision-Making	Between Groups	66.76	2	33.38	5.90	0.00**
	Within Groups	877.14	155	5.66		
	Total	943.90	157			
Career Information	Between Groups	37.10	2	18.55	1.72	0.18
	Within Groups	1667.74	155	10.76		
	Total	1704.84	157			
Integration	Between Groups	32.84	2	16.42	2.43	0.09
	Within Groups	1045.87	155	6.75		
	Total	1078.71	157			
Career Planning	Between Groups	90.23	2	45.12	6.28	0.00**
	Within Groups	1113.95	155	7.19		
	Total	1204.18	157			
Overall Career Maturity	Between Groups	55.61	2	27.81	5.76	0.00**
	Within Groups	748.52	155	4.83		
	Total	804.13	157			

**$p \leq 0.01$

5.3.4.7   Exploring non-combat participants' scores only

The data was also analysed for significant differences among the non-combat participants on the variables race, age category, level of education, arm of service, and military rank. However, the results showed no significant differences among the scores of the non-combat participants with regard to race, age category, and level of education. Non-combat participants from the SA Navy scored relatively higher (M = 18.88, SD = .94) than their counterparts from the other services: SAMHS (M = 16.97, SD = 2.65), SA Airforce (M = 16.83, SD = 2.92), and SA Army (M = 16.79, SD = 2.90). These mean differences were, however, not statistically significant. No

significant differences were found either among the non-combat participants' scores according to their military rank.

5.3.5 Exploring the Developmental Progression of Career Maturity According to Age Category

This section closely explores the third null hypothesis, namely: there is no developmental progression of career maturity according to age category, level of education, and military rank among the participating South African military officers. Since the independent variables used to analyse the developmental progression of career maturity (dependent variable) are ordinal variables (i.e. age category, level of education, and military rank), the reported results consist of statistical computations of the t-tests, ANOVA, and Scheffe post hoc test which analyse for significant mean differences for these independent variables.

5.3.5.1 *Exploring the developmental progression of career maturity for the total sample*

Tables 5.36 to 5.38 present the career maturity means of the total sample according to the age categories, levels of education, and military ranks of this sample. The results indicate no significant mean differences of career maturity according to age category, level of education, and military rank. These results suggest that there is no gain or developmental progression in career maturity as the participants' age categories, level of education, and military rank increases.

Table 5.36   Overall Career Maturity Mean Differences According to Age Category

N	18 to 24	*N*	25 to 44	Sig ($p < 0.05$)
143	17.20	180	17.09	0.68

Table 5.37   Overall Career Maturity Mean Differences According to Level of Education

N	Matric	N	Post-Matric Certificate	N	Diploma/ Degree	Sig (*p* < 0.05)
166	17.22	52	17.11	90	17.29	0.91

Table 5.38   Overall Career Maturity Mean Differences According to Military Rank

N	Candidate Officer	N	Lieutenant	N	Captain	N	Major	Sig (*p* < 0.05)
171	17.37	62	17.08	27	16.45	73	16.95	0.29

5.3.5.2   Exploring the developmental progression of career maturity according to age category

This section further explores the developmental progression of career maturity within the demographic and military-specific variables according to age category in this sample as reflected in Table 5.39. The *t*-test results of the 18-24 and the 25-44 age categories revealed no significant mean differences except among the participants from the SA Airforce (*p* = 0.01) and SA Navy (*p* = 0.02). These results seem to be equivocal because the significant mean differences in the SA Airforce seem to reflect a decline in career maturity with progression in age category, whilst the mean difference in the SA Navy reflect a significant gain in career maturity.

Table 5.39   Career Maturity Mean Differences According to Age Category

	N	18 to 24	*N*	25 to 44	Sig (*p* ≤ 0.05)
Female	52	16.88	72	16.80	0.87
Male	91	17.39	105	17.29	0.78
Matric	97	17.22	68	17.21	0.98
African	93	17.04	107	16.96	0.83
Coloured	21	17.63	29	17.26	0.56
White	26	17.59	36	17.25	0.60
Post-Matric Certificate	26	17.35	24	16.78	0.53
Diploma/Degree	12	16.67	72	17.36	0.42
SA Army	52	17.28	89	16.81	0.26
SA Airforce	36	18.65	33	17.15	0.01**
SA Navy	23	16.26	21	17.91	0.02*
SAMHS	32	16.12	36	17.35	0.06
Candidate Officer	123	17.42	48	17.23	0.65
Lieutenant	18	16.34	42	17.50	0.09
Combat Mustering	92	17.45	63	17.50	0.91
Non-Combat Mustering	48	16.89	114	16.95	0.82

*p ≤ 0.05; **p ≤ 0.01

5.3.5.3   Exploring the developmental progression of career maturity according to level of education

This section explores the developmental progression of career maturity within the demographic and military-specific variables according to level of education in this sample as reflected in Table 5.40. The results reveal a significant mean difference in career maturity (*p* = 0.02) among females according to level of education. The Scheffe post hoc test shows that this significant difference lies between female participants with a post-matric certificate and those with a national diploma or university degree (*p* ≤ 0.05) thus suggesting a significant gain in career maturity between these two groups.

Another significant mean difference (p = 0.03) was observed among the combat participants and seems to suggest a significant decline in career maturity among the combat participants as the level of education increases. The Scheffe post hoc test reveals that the significant decline in career maturity lies between the combat participants with matric and those with a national diploma or university degree ($p \leq$ 0.05). The non-combat participants, on the other hand, reflected a significant gain in career maturity with the increase in the level of education (p = 0.04). The Scheffe post hoc test, however, reveals an insignificant mean difference between non-combat participants with matric and those with a national diploma or university degree (p > 0.05).

Table 5.40   Career Maturity Mean Differences According to Level of Education

	N	Matric	N	Post-Matric Certificate	N	Diploma/ Degree	Sig (p ≤ 0.05)
Female	57	16.62	19	15.96	42	17.81	<mark>0.02*</mark>
Male	109	17.54	33	17.78	48	16.85	0.13
African	105	16.96	38	16.93	48	17.29	0.74
Coloured	26	17.59	09	18.22	13	16.79	0.34
White	30	18.13	05	16.48	24	17.29	0.16
18 to 24	97	17.22	26	17.35	12	16.67	0.68
25 to 44	68	17.21	24	16.78	72	17.36	0.65
SA Army	85	17.20	13	17.25	36	16.83	0.75
SA Airforce	36	17.82	14	18.06	14	18.30	0.78
SA Navy	17	17.60	07	16.06	18	16.94	0.35
SAMHS	27	16.44	18	16.69	22	17.71	0.20
Candidate Officer	116	17.36	35	17.40	07	17.00	0.91
Lieutenant	18	16.78	10	16.38	32	17.49	0.32
Major	22	17.04	06	16.27	39	17.51	0.57
Combat Mustering	101	17.74	23	17.84	25	16.54	<mark>0.03*</mark>
Non-Combat Mustering	63	16.48	28	16.56	64	17.63	<mark>0.04*</mark>

<mark>*p ≤ 0.05</mark>

5.3.5.4   *Exploring the developmental progression of career maturity according to military rank*

This section explores the developmental progression of career maturity within the demographic and military-specific variables according to military rank (see Table 5.41). A significant decline in career maturity seem to appear among the White participants as their military rank increases ($p = 0.02$). The Scheffe post hoc test shows that this decline in career maturity among these SA Airforce participants lies between participants who held the rank of Candidate Officer and those who held the rank of Captain ($p ≤ 0.05$). Thereafter, the Scheffe post hoc test suggests a gain in career maturity between the SA Airforce participants who held the rank of Captain

and those who held the rank of Major ($p ≤ 0.05$). The significant mean difference reflected in Table 5.41 among the SA Army participants ($p = 0.02$) indicates a decline in career maturity as military rank increases among these participants. The Scheffe post hoc test indicates that the observed decline is significant between the SA Army participants who held the rank of Candidate Officer and those who held the rank of Major ($p ≤ 0.05$).

A significant gain in career maturity was also observed between the SAMHS participants who held the rank of Candidate Officer and those who held the rank of Major ($p = 0.00$). A significant decline in career maturity was also observed among the combat participants as their military rank increases ($p = 0.01$). The Scheffe post hoc test, however, found no meaningful difference in career maturity among the combat participants.

Table 5.41   Career Maturity Mean Differences According to Military Rank

	N	Candidate Officer	N	Lieutenant	N	Captain	N	Major	Sig $p \leq 0.05$
Female	72	16.86	19	17.65	07	16.43	34	16.57	0.58
Male	99	17.74	42	16.89	20	16.46	39	17.28	0.06
African	119	17.19	39	17.37	15	16.48	33	16.29	0.22
Coloured	23	17.94	16	16.66	NR	NR	09	16.91	0.21
White	25	17.98	06	16.77	07	14.74	26	17.70	0.02*
18 to 24	123	17.42	18	16.34	NR	NR	NR	NR	0.08
25 to 44	48	17.23	42	17.46	25	16.85	65	16.81	0.60
SA Army	66	17.52	35	17.22	NR	NR	40	16.06	0.02*
SA Airforce	41	18.42	05	16.44	07	15.63	17	18.11	0.01**
SA Navy	12	17.55	19	16.82	15	16.67	NR	NR	0.61
SAMHS	52	16.30	NR	NR	NR	NR	15	18.29	0.00***
Combat Mustering	100	17.89	37	16.74	14	16.43	07	16.77	0.01**
Non-Combat Mustering	68	16.69	24	17.70	13	16.48	64	17.09	0.41

NR: not relevant, n too small for statistical computations.
*p ≤ 0.05; **p ≤ 0.01; ***p ≤ 0.001

5.4   INTEGRATION OF RESEARCH FINDINGS

The empirical study provided information on career maturity in a sample of South African military officers. This section is intended to integrate the significant findings of the empirical study with the findings of the literature review (see Chapters 2 and 3).

Table 5.42 reflects the hypotheses that were proposed on career maturity among the participating South African military officers. The conventional alpha level (p = 0.05) was used to decide whether to accept or reject these null hypotheses. If the probability was found to be equal to or less than the set alpha level, then the null hypothesis was rejected for the alternative hypothesis.

Table 5.42	Summary of Decisions on Null Hypotheses	
	Research Hypothesis	**Decision**
H_{01}	There are no significant differences in career maturity among the demographic variables of participating South African military officers.	Accepted
H_{02}	There are no significant differences in career maturity among the arms of services of participating South African military officers.	Rejected
H_{03}	There are no significant differences in career maturity among the military ranks of participating South African military officers.	Accepted
H_{04}	There are no significant difference in career maturity between the combat and non-combat mustering of participating South African military officers.	Accepted
H_{05}	There is no developmental progression of career maturity according to the age, level of education, and military rank of participating South African military officers.	Accepted

This exploratory study has provided statistical evidence that supported previous research on career maturity, and Table 5.43 provides a summary of the findings of this empirical study on career maturity in a sample of South African military officers. Furthermore, the empirical study has provided statistical evidence that led to the rejection of the null hypothesis stating that there are no significant differences in career maturity among the arms of service of participating South African military officers.

Table 5.43	Summary of Research Findings
Findings on the level of career maturity among the participants	A high level of career maturity was observed for this sample of South African military officers. Career maturity is thus regarded as adequate among all the demographic and military-specific variables in this empirical study.
Findings regarding gender differences on career maturity among the participants	The following equivocal gender differences were observed: • The female participants with a diploma or university degree scored significantly higher on career maturity than the male participants with a similar level of education. • The SA Navy female participants scored significantly higher on career maturity than the SA Navy male participants. • The White male participants scored relatively higher on career maturity than the White female participants with a similar level of education, but the differences were not statistically significant. • The male participants with matric scored significantly higher on career maturity than the female participants with a similar level of education. • The male participants who held the rank of Candidate Officer scored significantly higher on career maturity than the female participants with a similar military rank. Further gender analysis revealed the following: • An analysis of the female participants' scores revealed that the female participants with a diploma or university degree scored significantly higher on career maturity than the female participants with a post-matric certificate. • The SA Airforce male participants scored significantly higher on career maturity than the male participants from the other arms of service, with the SA Navy male participants scoring the lowest on career maturity. • The combat mustering male participants scored significantly higher on career maturity than the non-combat male participants.
Findings regarding racial differences in career maturity among the participants	No statistically significant differences were observed on career maturity despite the Coloured and Asian participants scoring relatively higher on career maturity and the African participants scoring relatively lower.

Findings regarding age differences in career maturity among the participants	No statistically significant differences in career maturity were observed among the age categories in this sample.
Findings on career maturity and arm of service among the participants	The SA Airforce participants scored significantly higher on career maturity whilst the SA Navy participants scored lowest in career maturity.
Findings on career maturity and military mustering among the participants	Overall, the combat participants in this sample scored relatively higher than their non-combat counterparts. The following differences were also observed: • The African combat participants scored significantly higher in career maturity than their non-combat African counterparts. • The combat participants with matric scored significantly higher in career maturity than their non-combat counterparts with a similar level of education. • The combat participants who held the rank of Candidate Officer scored significantly higher on career maturity than their non-combat counterparts with similar military rank. • The non-combat participants with a diploma or university degree scored significantly higher in career maturity than their combat counterparts with a similar level of education. • The combat participants with a diploma or university degree scored significantly lower in career maturity than the combat participants with matric. • The combat participants who held the rank of Candidate Officer scored significantly higher in career maturity than the combat participants who held the ranks of Lieutenant, Captain, and Major. This finding suggests a decline in career maturity. • The SA Airforce combat participants scored significantly higher than the SA Army and SA Navy combat participants on career maturity.
Findings on the developmental progression of career maturity among the participants	The following findings were reported: • The SA Navy participants reflected a gain in career maturity with their age categories. • Female participants with a diploma or university degree reflected some gain in career maturity with their level of education. • The SAMHS participants also reflected a gain in career maturity with military rank.

Findings regarding the decline in career maturity among the participants	The following findings were reported: • The SA Airforce participants reflected a decline in career maturity with age category. • The combat participants reflected a decline in career maturity with level of education. • The combat participants reflected a decline in career maturity with military rank. • The White participants reflected a decline in career maturity with military rank. • The SA Army participants also reflected a decline in career maturity with military rank.

The results of the empirical study reflected an adequate level of career maturity among the participating South African military officers. Overall, the results revealed no significant gender differences in career maturity among the participants. This finding supports previous research that found no significant difference between females and males on their level of career maturity (Beggs, 1991; Lee, 2001; Powell & Luzzo, 1998; Van der Merwe, 1993; Watson, et al., 1995; White, 1987; Wigington, 1982). However, a further analysis of the data from this empirical study reflected the equivocal nature of career maturity research regarding gender differences. For example, the career maturity scores for White female participants were found to be significantly lower than those of the White male participants. Among the participants with matric, the career maturity scores of females were also found to be significantly lower than those of their male counterparts. The same phenomenon was observed among participants who held the rank of Candidate Officer or equivalent. These results confirmed previous research indicating that males score higher than females on career maturity (Achebe, 1982; Lokan, Boss & Patsula, 1982).

On the other hand, female participants with a national diploma or university degree and female participants from the SA Navy scored significantly higher than their male counterparts on career maturity. This finding supports previous research indicating that females score higher than males on career maturity (Fouad, 1988; Herr & Enderlein, 1976; Luzzo, 1995; Kornspan & Etzel, 2001; Naidoo, et al., 1998; Patton & Creed, 2001; Post-Kammer, 1987; Super & Nevill, 1984; Westbrook et al., 1980).

The results of the empirical study also showed no significant mean difference on career maturity among the participants' racial groups. This is in contrast to previous findings which found significant differences in career maturity among the racial groups (Pieterse, 2005; Reid-Van Niekerk & Van Niekerk, 1990; Watson, et al., 1995; White, 1987).

No significant differences in career maturity were observed among the various age groups of this adult sample. The age groups in this study reflected the exploration, establishment, and maintenance career stages of Super's career development theory. This finding is in contrast to the underlying assumption that career maturity is developmental in nature. However, it supports Powell and Luzzo's (1998) study that found no significant correlation between participants' age and their level of career maturity. It is thus possible that an increase in career maturity is not necessarily the result of a linear, steadily progressing process, but rather is influenced by contextual factors (Powell & Luzzo, 1998).

With regard to the participants' level of education, no significant mean differences on career maturity were found in this empirical study. This finding supports previous research findings that found no significant difference in the level of career maturity among the participants (Post-Kammer, 1987; Fouad, 1988). However, one needs to highlight the glaring differences in the samples of these studies: the current study consisted of military adults whilst previous studies mainly comprised high school students.

In terms of the military-specific variables explored in this empirical study, the results indicated a significant difference on career maturity among the various arms of service in this sample. Overall, the other military-specific variables revealed no significant mean differences in the level of career maturity among the participants. Previous research on military-specific variables is very limited or non-existent in the current literature.

5.5   CHAPTER SUMMARY

This chapter dealt with the results of the empirical study and the discussion focused on data analysis and interpretation with regard to the empirical findings and the literature review. The reliability and validity of the CDQ were first discussed to confirm its reliability and validity for this specific sample. Descriptive statistics were presented to reflect the level of career maturity among the participants, which set the background for further analysis of significant mean differences in career maturity according to the sample's demographic and military-specific variables.

A further analysis of the quantitative results was conducted through inferential statistics (*t*-tests, ANOVA, and the Scheffe post hoc test). This analysis focused on determining significant mean differences in career maturity as well as analysing the developmental progression of career maturity among the participants. Thereafter, the chapter concluded with a summary of the empirical findings and an integration of the empirical findings with the findings of the literature review.

Next in **Chapter 6** the conclusions and limitations of the study are discussed, and recommendations for practice and future research will be made.

CHAPTER 6   CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

The current chapter concludes the dissertation. It follows the research methodology proposed in Chapter 1: first the conclusions are drawn, followed by a discussion of any possible limitations of the study, and lastly recommendations are made for career development practices in the field of Industrial and Organisational Psychology.

6.1   CONCLUSIONS RELATING TO DEFINED AIMS

The focus of this dissertation was to investigate the level of career maturity across career stages in the South African military. Following the research aims (see Chapter 1, section 1.4), the next section formulates research conclusions on the literature review and the empirical study.

6.1.1   Conclusions regarding the Literature Review

The general aim of this study was to explore the level of career maturity across career stages in a sample of South African military officers, and to determine whether the respondents differed significantly in their level of career maturity. The general aim was achieved by addressing and achieving the specific objectives of the research.

Conclusions are drawn about each of the specific objectives regarding the level of career maturity in the South African military.

6.1.1.1   Conceptualising career maturity

The first aim, namely, to conceptualise career maturity, was achieved in Chapter 2. A comprehensive literature review was provided which incorporated a definition of the construct "career maturity", its conceptual foundation, and its relation to other variables such as gender, age, education, and race. The discussion indicated that career maturity is a complex construct that has been researched for over fifty years,

and research is evolving to address how career maturity relates to context and time variables.

6.1.1.2   Conclusion about the construct career maturity

Super (1957) introduced the construct "career maturity" and defined it as the degree of development a person has reached on the continuum of career development across the lifespan. Super thought about how progress could be measured within the developmental perspective of career development so that individuals could be compared both ipsatively and with others at the same developmental stage (Patton & Lokan, 2001). Career maturity can thus be assessed normatively, by comparing an individual's career behaviour to the career behaviour expected at his or her life stage (Super & Overstreet, 1960; Super & Bohn, 1970).

A clear understanding of career maturity assists in identifying and describing both immature and mature career behaviour. The career moves of a person as he or she changes position as a student or employee after leaving high school can be conceived as either floundering or stabilising (Super & Bohn, 1970). A career-mature person can be identified by his or her capability to eliminate floundering behaviour (Super, 1957). According to Jordaan and Heyde (1979), a career-mature young person tends to have more career information, appear to be more realistic in career aspirations, and to be more in keeping with own abilities and socio-economic circumstances.

Career maturity is a complex construct (Jordaan & Heyde, 1979; Patton & Lokan, 2001) that has generated a mass of research and reviews since it was first introduced by Super in the 1950s. Owing to its complex nature, research on career maturity has identified numerous correlates and moderator variables. Research findings on career maturity and its correlates have, however, proven to be inconsistent and equivocal over the years. This is already an indicator of the need to explore the construct further and in different contexts. The plethora of research on the construct career maturity has also been criticised as being highly focused on high-school students (Crites, 1976; Dillard, 1976), ignoring issues of context,

historical time, and culture (Raskin, 1998; Schmitt-Rodermund & Silbereisen, 1998; Vondracek & Reitzle, 1998).

Despite the criticism, career maturity has important implications for career counselling practices (Super & Overstreet, 1960) and is regarded as an outcome measure for career counselling (Coetzee & Roythorne-Jacobs, 2007). According to Flouri and Buchanan (2002), a good understanding of career maturity and its correlates may assist in enhancing the strategies of fostering career development among young people. Career maturity has also been used as a major criterion for evaluating career education programmes (Westbrook, Cutts, Madison & Arcia, 1980), and numerous measures of career maturity have also been developed for utilisation in career development practices and research.

6.1.1.3   Conceptualising career stages

The second aim was to conceptualise career stages, and was achieved in Chapter 3. A comprehensive literature review was provided, which incorporated a definition, conceptual foundation, and various theoretical models of career stages. A discussion and integration of the various terms and approaches indicated that the construct "career stages" has been conceptualised from different perspectives.

6.1.1.4   Conclusion about the construct career stages

Career stages is a construct that has evolved from the conceptualisation of the human lifespan by psychoanalysts (such as Erikson, 1963), developmental psychologists and sociologists who independently studied stages of life and work (Wrobel et al., 2003). "Career stages" refer to the evolutionary phases of an individual's working life (Wrobel et al., 2003). Whilst developmental psychologists concentrated on stages of psychological development, sociologists on the other hand identified periods of individuals' working lives, and a combination of these two foci led to the emergence of the construct "career stages" in the literature (Wrobel et al., 2003).

Career stage models have been criticised for their approach of adopting a more traditional and linear perspective of career development in contrast to the nature of modern careers which are more multidirectional, dynamic, and fluid (Baruch, 2004). They are also criticised for their approach of demarcating career stages in terms of specific age categories (Aranya, 1984), and questions have been raised on the applicability of career stage models to women, since the research conducted had a strong focus on men (Ornstein & Isabella, 1990).

Super's influential career development model charters a life-span model consisting of career stages with their characteristic developmental tasks and recommended coping behaviours (Savickas, 2001). Even though Super demarcated the career stages with age and specific tasks, and held an initial view of the stages as chronological, it is important to reiterate that he also acknowledged an age-independent, task-centred view of these career stages which allows a person to experience the career stages as minicycles within a maxicycle (Sverko, 2006). Super's career stage perspective needs to be applied in the military context in a manner that caters for both the traditional and contemporary perspectives of career development, which is a phenomenon linked to military service and the transition from a military career to a second civilian career (Baruch & Quick, 2007).

6.1.1.5   Determining the theoretical relationship between career maturity and career stages

The third aim, which was to determine whether a theoretical relationship exists between career maturity and career stages, was achieved in the integration section of Chapter 3. After a comprehensive study of the literature it was found that a theoretical relationship between career maturity and career stages exists. Both these constructs emanate from the same career development perspective advocated in Super's career development theory.

A clear understanding of career stages and career maturity assists in identifying appropriate career behaviour for each career stage, which can then be viewed as career-mature behaviour. According to Super (1957), a career-mature person can be identified by the ability to eliminate floundering behaviour found during the

exploration stage of many young people. The dimensions of career maturity identified by Super (1957) are consistent with the developmental tasks identified by Campbell and Cellini (1981) as common across all the career stages, that is, career decision-making and implementing a career plan that will reflect an acceptable level of performance and adjustment to the organisation or institution.

A good understanding of career stages and career maturity in an environment such as the military may contribute in identifying career development issues that these individuals experience during their career lives, from the exploration to the decline stage. Furthermore, military career development practices may benefit by identifying career strategies that foster career-mature behaviour across the different military career stages.

6.1.2 Conclusions Regarding the Empirical Study

With reference to the empirical aims of this research, the findings for each of the research aims and hypotheses that warrant discussion will be presented, and the following conclusions can be drawn:

6.1.2.1   *The first research aim*

The first empirical research aim, namely, to determine the level of career maturity across the various career stages of a sample of South African military officers, was achieved in Chapters 4 and 5.

Findings in this study led to the general conclusion that the level of career maturity was adequate among participating South African military officers. Age category and military rank was utilised to operationalise career stages among the participants in this empirical study. Three career stages were established according to the sample's age categories, namely the exploration stage, the establishment stage, and the maintenance stage. The level of career maturity was found to be adequate among the participating South African military officers according to these career stages. The level of career maturity was also found to be adequate among the participating South African military officers according to military rank. In essence, the participating South

African military officers reflected an adequate level of readiness to deal with career-related tasks across the identified career stages.

6.1.2.2   The second research aim

The second research aim, that is, to determine if there were any significant mean differences in career maturity and demographic factors (such as gender, age category, race, and level of education) in the SA military, was achieved in Chapters 4 and 5.

Findings in this study led to the conclusion that no significant gender differences in career maturity seemed to exist among the participating South African military officers. A further and much closer analysis of these gender differences reflected the equivocal nature of previous career maturity research. The level of career maturity seemed to be similar among the participating South African military officers according to their age category, race, and level of education.

6.1.2.3   The third research aim

The third research aim, namely, to determine if there were any significant mean differences in career maturity and among the military-specific variables such as arm of service, military rank, and mustering category in the SA military, was achieved in Chapter 5.

Findings in this study led to the conclusion that there seemed to be significant differences in career maturity among the participating South African military officers from the different arms of service. This result is inconsistent with what Yates (1987) discovered in previous research, which revealed no significant differences in career maturity among the participants from different military arms of service. The participating South African military officers reflected a similar level of career maturity according to their military ranks and mustering category which, in this case, seems to reflect what Yates (1987) suggested as the presence of shared experiences among military members, which seem to be common to military occupational environments

6.1.2.4   The fourth research aim

The fourth research aim, which was to determine the developmental progression of career maturity across military career stages in the SA military, was also achieved in Chapter 5.

Findings in this study led to the conclusion that there seemed to be no significant overall developmental progression in career maturity for these participating South African military officers. The empirical findings, once again, confirmed the inconsistencies of previous career maturity research, as a closer analysis of the results revealed a gain in career maturity on certain variables whilst indicating a decline in career maturity on other variables.

6.1.3 Conclusions Regarding the Central Hypothesis

The central hypothesis of this study was formulated to explore significant differences in career maturity across the career stages of the participating South African military officers. It was formulated to assess whether significant differences in career maturity existed across the career stages of the participating South African military officers. With regard to this central hypothesis, it can be concluded that no significant differences in career maturity seemed to exist across the career stages of the participants. The empirical study provided statistical evidence that supported this conclusion regarding the central hypothesis.

6.1.4 Conclusions about Contributions to the Field of Industrial and Organisational Psychology

The findings of the literature review and the empirical results contributed to the field of Industrial and Organisational Psychology, in particular to career development practices in the military context. The literature review provided insight into the importance of achieving an adequate level of career maturity as a person progresses through career stages. The literature review also provided insight into the different concepts and theoretical models that underlie career maturity and career stages.

The complex nature of the construct "career maturity" and its critique was reflected through the literature review (Crites, 1976; Dillard, 1976; Raskin, 1998; Schmitt-Rodermund & Silbereisen, 1998; Vondracek & Reitzle, 1998).

In an attempt to satisfy the need to investigate the construct "career maturity" in different contexts, the current study contributed to the field of Industrial and Organisational Psychology by focusing research on career maturity within the military context, using military adults in different career stages. The empirical findings contributed new knowledge on the level of career maturity in the South African military. Furthermore, the empirical findings provided insight into significant differences in career maturity according to demographic and military-specific variables in the South African military. Based on these findings, organisations and practitioners in the field of industrial and organisational psychology can gain a deeper understanding of the influence of these variables in the broader career development practices in the military context.

The practical implications of the empirical findings for career development practices in the organisational context can be summarised as follows:

- Since it reflects a person's readiness to deal with career-related tasks, career maturity is an important outcome measure in career counselling practice which can be assessed normatively. Organisations and practitioners in the field of Industrial and Organisational Psychology can assess employees to determine whether their career behaviours reflect those expected in their respective career stages. This may provide organisations with valuable information on whether their employees could deal effectively with the tasks and challenges of their career stages.
- For career development practice, a clear understanding of the theoretical foundations of career maturity is fundamental in the conceptualisation and operationalisation of career maturity by practitioners in the field of Industrial and Organisational Psychology. A good knowledge of the dimensions of career maturity may provide a basis for formulating career development strategies to enhance career maturity among individuals. A high level of self-awareness,

effective career decision-making skills, a good knowledge of the world of work, the ability to integrate self-knowledge and the information on the world of work, and the ability to formulate career plans, are some of the aspects that practitioners can consider to enhance career maturity.

- The complexity of career maturity is reflected by its numerous correlates, inconsistent research findings, and the criticism levelled against it. Practitioners should, therefore, always consider the influence of context and culture in the career development of individuals. Assumptions should not be made that career maturity will reflect uniformly across different contexts and cultures.

- Since the majority of career maturity research has focused on high-school and university students, it is important for practitioners to consider the nature and culture (or subcultures) of organisations, and how these influence (or correlate with) career maturity among adults in the workplace.

- Practitioners should be mindful of the psychometric properties of career maturity measuring instruments prior to utilisation in organisational initiatives. Instruments used must be supported by sufficient reliability and validity data to support their use, particularly in the South African context.

- Practitioners need a good understanding of the theoretical foundations of the construct career stages, its strengths and limitations, and how it relates to career maturity in the contemporary workplace, when formulating career development interventions for organisations. They also need to conceptualise career stage models in a manner that integrates women, and both the traditional and modern perspectives of careers.

- Super's (1957) career development theory regarding career stages and career maturity can be used in the military environment to diagnose career development issues and to devise strategies for addressing these career related issues. However, practitioners need to consider the influence of demographic and military-specific variables when devising career development strategies or implementing career development support practices in military organisations.

- For individuals at the exploration stage, an adequate level of career maturity is necessary when signing up for military service, to realise the diverse career opportunities offered by military organisations and to determine whether those opportunities are congruent with one's self-concept. Military members who are

beyond the exploration stage of career development require an adequate level of career maturity to explore second careers in the civilian environment.

- The military can enhance career maturity among its members by establishing a work environment that facilitates greater self-awareness and improves effective career decision-making among its members.

- Career stages in the military can be conceptualised by either adopting the traditional linear approach to career development or the modern approach which allows for the recycling of career stages as a person progresses in his or her lifespan. Career stages can be conceived as age categories or in terms of military rank with different career-related tasks and challenges.

6.2   LIMITATIONS OF THE PRESENT STUDY

In this section the limitations of this study will be discussed with regard to the literature review and empirical study.

6.2.1 Limitations of the Literature Review

The following limitations were encountered in the literature review:

Research conducted on the construct "career maturity" in the adult population is generally limited. Furthermore, there is a very limited exploratory research on the constructs "career maturity" and "career stages" in the military in the South African context. This lack of scientific information limited the researcher in determining the existence of a theoretical relationship.

6.2.2 Limitations of the Empirical Study

The following limitations were encountered in the empirical study:

6.2.2.1   The sample

The small sample size (*n* = 333) of this empirical study can be mentioned as the main limitation towards the generalisability of the empirical results. Furthermore, the fact that the sample comprised South African military officers from certain ranks also limits the generalisation possibilities of these results.

6.2.2.2   The measuring instrument

The present study employed a quantitative psychometric instrument (CDQ) to measure career maturity on a mainly adult sample from the South African military. Only one self-report instrument was used on this sample of South African military officers. This means that the results of the empirical study relied on the perception and self-insight of the respondents, which could further limit the generalisation of the results. A further limitation of the measuring instrument would be that the CDQ uses a forced-choice (true or false) response approach.

6.2.2.3   Generalisability

Although the results of this study are limited by its empirical restrictions, in that the interpretations can only be applied to the demographic confines of the sample, they have added and reinforced other studies that investigated similar variables in relation to the construct "career maturity". These include correlates of career maturity such as gender (Patton & Creed, 2001; Post-Kammer, 1987; Super & Nevill, 1984; Westbrook et al., 1980), race (Powell & Luzzo, 1998), age (Powell & Luzzo, 1998), and level of education (Fouad, 1988; Post-Kammer, 1987).

6.3   RECOMMENDATIONS

The researcher makes the following recommendations for Industrial and Organisational Psychologists in the field of career development and further research.

6.3.1 Industrial and Organisational Psychologists in the Field of Career Development

Since this was an exploratory study of career maturity in the military context, it highlighted the need to take into consideration demographic and context-specific variables when designing and implementing career development practices in military organisations. Based on the research findings, the following recommendations can thus be made for career development practices within the military context:

- The military can improve the level of career maturity among its young and new members by facilitating greater self-awareness, improving the supply of information regarding military career opportunities, and enhancing effective career decision-making.

- The military can facilitate career maturity among older military members by providing career counselling practices that encourage exploration of career opportunities and effective career decision-making beyond the exploration stage.

- Despite military officers in this study reflecting adequate levels of career maturity, the military should recognise that individual differences existed among these officers, requiring career development interventions tailored for individual needs.

- The military should introduce career development practices that address the specific needs of women in their respective career stages, and generally enhance their career maturity.

- The military should recognise the influence of military-specific variables on the readiness of its members to deal with career-related tasks and challenges.

- The military should also recognise the influence of its members' cultural and socio-economic factors when dealing with career-related tasks and challenges.

- The military can explore the role of education in facilitating career maturity as part of its career development strategy.

6.3.2 Future Research

The following recommendations for future research are offered:

- Since this was an exploratory study, the need exists for a future replication with a larger sample of South African military officers, to ensure better representation of military members and allow for generalisation of empirical findings.

- There is a need for more research on career maturity and the CDQ, focusing on non-commissioned officers of the South African military.

- There is a need for future research on career maturity using different instruments and applying different research methodologies, such as qualitative and longitudinal approaches.

- Similar studies should be conducted in future with participants from the non-commissioned military members of the South African military.

- Since the existing literature is limited in terms of career development in the military, future research is necessary that will focus on the validation of the specific dimensions of career maturity in the military context.

- Future research needs to be conducted on military members' career stages to investigate the career tasks and challenges faced by members of the South African military.

- Future research that seeks to explain the exact nature of the differences found among the military-specific variables of the South African military is necessary.

- Future research on South African women in the military is necessary in an attempt to explain the role of education on their level of readiness to deal with career tasks and challenges.

- More comparative and explanatory studies are needed between combat and non-combat musterings in the South African military, in an attempt to explain the relationship between career maturity in these musterings and the level of education.

- Future research is necessary to explain the developmental progression of career maturity, using a longitudinal approach among South African military members.

- Future research is also necessary to explain the decline (or gain) in career maturity and its relationship with the respective career stages of South African military members.

6.4   INTEGRATION OF THE STUDY

This dissertation explored career maturity across the career stages of South African military members. These variables are critical for the career development practices of organisations in the contemporary work environment.

The literature review indicated that the constructs "career maturity" and "career stages" do relate in the career development of individuals. The literature review also indicated that these constructs find application in the military context from the time military members enlist for military service until they retire from their military careers. The unique demands of the military environment reflect a need for its members to maintain adequate levels of career maturity throughout their military careers.

A clear understanding of the complex nature of the constructs "career maturity" and "career stages" leads to a facilitation of greater levels of readiness in dealing with career-related tasks and challenges. The dimensions of career maturity reflect a basis for formulating career development strategies that enhance career maturity across career stages. By knowing their members' level of career maturity as well as typical tasks and challenges faced by military members in their respective career stages, military organisations may benefit by introducing appropriate career development interventions.

The empirical study explored the level of career maturity across the career stages of a sample of South African military officers. Furthermore, it explored significant differences in career maturity according to demographic and military-specific variables. The study provided statistical evidence to conclude (against the central hypothesis) that no significant differences in career maturity seemed to exist across these career stages in the South African military. The empirical findings also reflected the equivocal nature of previous career maturity research, which consistently requires further research on the construct.

In conclusion, it is trusted that the findings of this study have provided insight on career maturity across career stages in the South African military context, and that

industrial psychologists and the military may be able to effectively utilise this insight in enhancing career development practices. Recommendations have been made for further research, and this study should be seen as a step towards making a positive contribution to the field of Industrial and Organisational Psychology in the South African context.

6.5   CHAPTER SUMMARY

The current chapter discussed the conclusions from the study, in terms of both the theoretical and empirical aims (see Chapter 1). Possible limitations of the study were discussed with reference to both the literature review and the empirical study. Recommendations for both the field of Industrial and Organisational Psychology and for future research were offered. The study then concluded with an integration of the research.

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