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**PERSONALITY AND CAREER CHOICES OF SOUTH AFRICAN
ADOLESCENTS**

by

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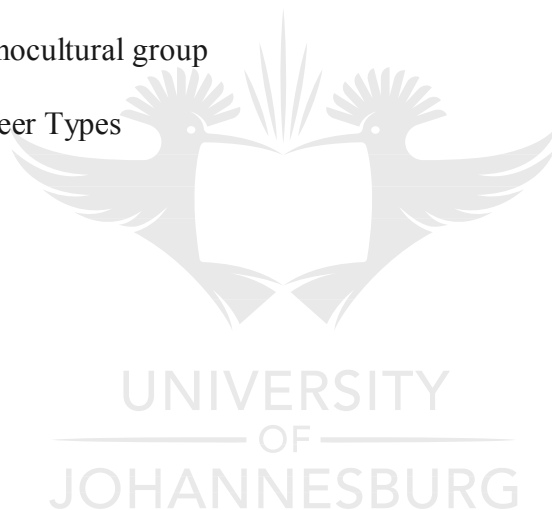
ABSTRACT

The purpose of this study was to examine how personality traits as measured by the South African Personality Inventory (SAPI) would be associated with career choices (given in free descriptions) of South African adolescents. A detailed literature of the history of the Big Five personality was provided. The literature on the developments of the non-Western perspectives of personality was also provided. Moreover, the literature on the theories of career choices was given. There were a total of 380 learners from four schools in the Gauteng province who completed 188 SAPI items, the demographic questions, and the descriptions of their career choices. These career descriptions were linked with Holland's Six Vocational Types. The study was quantitative in nature and therefore, the career descriptions were transformed into categorical variables. A final sample of 205(51 Black, 44 Coloured, 108 Indian, and 2 White) learners was used for the study while the remaining 175 were removed due to performing poorly on the vocabulary test consisting of 10 items of personality. The results from the Pearson Chi square indicated significant differences in career choices across cultures except for the Realistic type. The Multivariate Analysis of Covariance (MANCOVA) was run, while age and socioeconomic status of adolescents were controlled for. The results indicated significant differences in personality across gender. The results however, did not indicate significant differences in personality across the ethnocultural groups (Black, Coloured, and Indian) and career choices. It was concluded that culture does not have an impact on personality and career choices of adolescents.

Keywords: *Personality, Career choices, Adolescents, Holland's career choices, South Africa*

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CHAPTER 1

INTRODUCTION

1.1. Chapter Introduction

This chapter will provide the background of the study. The discussion will highlight the challenges facing the South African education system in order to understand the context within which adolescent learners have to make career choices. Further to this, a discussion of the main constructs of the study, including personality and career choices will be provided. Thereafter, the problem statement will be included to illustrate the gaps this research aims to fill. The aims and objectives of the study will then be presented as this section describes the aims of the current study. The motivation of the study will be the next topic which will be followed by a brief description of the methodology that was applied. The chapter summary will appear as the last section of the chapter.

1.2. Background of this Dissertation

The South African education system seems to face many different challenges (Mouton, Louw & Strydom, 2012). There exists a tremendous difference in the level of the educational experience in schools, with schools attended by the Black learners being predominately underfunded and overextended. Educators and schools' administrators are under tremendous pressure from the education departments to ensure learners graduate. Owing to this, the standard of education in South Africa has been lowered. While these aspects are generally attributed to all schools, this is particularly the case for schools within historically disadvantaged communities (i.e. Black, Coloured, and Indian schools) (Jansen, 2011). High school learners are often expected to make career choices without sufficient knowledge about themselves, their personalities, their career options and how these factors may be related (Graham, 2011). It is for this reason that career guidance may be valuable in the South African context as it could make transitioning into a certain career path less stressful for

adolescents. Personality is considered an important psychological construct when it comes to individuals' career success and how these individuals make career choices (Coertse & Scheepers, 2004). Therefore it is important to initially understand adolescents' personality in order to guide their career choices.

Personality is defined as the relatively stable patterns of behaviour of individuals (Greenberg & Baron, 2000; Kaplan & Saccuzzo, 2005; Moerdyk, 2009). Literature shows that many studies focus on personality for occupational, clinical, and educational purposes (Bartram, 2004; de Bruin, 2005; Foxcroft & Roodt, 2005; Hill et al., 2013). Personality has been regarded as being an important factor during adolescence (i.e. individuals between the ages of 13 to 21), as these individuals are at an important stage in the development of their self-concept and discovering themselves (Super, 1992). In this dissertation it is important to understand personality in relation to adolescent career choices. A career is defined as an occupation which a person holds for a period of time (Arthur, Hall, & Lawrance, 1989). Career choices are described as a match between personality and the work place (Holland, 1973; 1985). It is during adolescence, that individuals begin to explore their career possibilities (Coetzee & Schreuder, 2011; Super, 1992), and where they seek to discover their interests and possibly engage in action that will help them later in their career choices. Therefore, the adolescence stage is an important part of the career development phase. It is also an important part for understanding personality as a mechanism related to individual's future performance at work.

1.3. Problem Statement

Considering the diverse nature of South African society, the diverse backgrounds present, and the differences in the education which adolescents receive, one would expect differences in the career choices of South African adolescents, as well as how personality would relate to these career choices. Specifically, the study examined the differences in career choices

across different ethnocultural groups. In addition to this, the study examined the differences in personality traits, across gender, ethnocultural groups, and career choices of adolescent learners in South African high schools.

1.4. Aims and Objectives of the Current Study

The current study had several aims, firstly it sought to examine how career choices would be associated with the ethnocultural groups of adolescents when measured through free descriptions. In this study, the ethnocultural groups are described in terms of the four racial groups Black, Coloured, Indian, and White. Another aim of the study was to investigate how personality traits, as measured by the SAPI (Nel et al., 2013), would be associated with the gender, culture, and career choices of South African adolescents. Adolescence as a developmental stage is important, in that this factor is generally the stage where individuals make preliminary decisions regarding their future careers. This choice made by adolescents may be considered as one of the most important decisions of their lives. The current study aimed to show how personality is associated with career choices in light of the developmental perspectives held by career and personality psychology.

1.5. Motivation for the Study

In South Africa, personality measures are often administered to individuals applying for job positions or students entering higher education to assist these individuals in making career and educational decisions. The South African Personality Inventory (hereafter referred to as the SAPI) is a personality measure developed specially with the South African context in mind. While the SAPI considers the unique features of personality in South Africa, there exists little evidence for its applicability to adolescents. The current study was aimed to establish whether the SAPI may be useful for understanding adolescents' career choices. This may provide learners, educators, and practitioners a glimpse into the practical value of the SAPI for adolescents by providing insights into their career choices in relation to their

personality types. Furthermore, schools will be able to develop career guidance for learners to help them study the subjects that are required to further their careers. A mixed method approach was utilised in which free career choice descriptions were coded and used as categorical values. This approach was carried out in order to distinguish which personality aspects as measured by the SAPI were associated with the career choices of adolescents.

1.6. Research Design

This study used across-sectional design. The use of this design allowed for a large number of participants to be included in the study (Salkind, 2012). In this study, a mixed methodology using both quantitative and qualitative data was applied. Carr (1994) defines a quantitative study as an objective and formal systematic process whereby numerical data is utilised to measure phenomena as well as to generate outcomes. A qualitative study is defined as a process whereby a researcher aims to understand the meaning that certain individuals have constructed (Merriam, 2009). Personality was assessed by means of a quantitative measure, which made it possible to establish different personality factors objectively, while adolescents were allowed to provide free career choice descriptions in an open ended question. This questioning was completed qualitatively so as to allow adolescents the opportunity to freely describe their career choices.

1.7. Summary of the Chapter

This chapter provided the background of the study, which was important to introduce the constructs of the research. The constructs were clearly and briefly defined in the background. The background was followed by the problem statement, which gave an overview of the existing challenges regarding the personality and career choices of South African adolescent learners, who were the target population of the study. This consideration became a drive to the motivation of the study, which was the next section. The aims and objectives were further

discussed, which indicated what the study aimed to achieve. Furthermore, the research design provided a plan of how the objectives of the study were achieved.

1.8. Structure of the Manuscript

Chapter 2 will review literature about personality and career choices in detail. Chapter 3 will present the detailed methodology of the study. This will be followed by the results of the study, which are presented/discussed in chapter 4. The discussion of the results will follow in Chapter 5. Lastly, the general conclusions of the study which will also include limitation of the study, and recommendations based on the findings, will be in Chapter 6.



CHAPTER 2: LITERATURE REVIEW

2.1. Chapter Introduction

This chapter provides a detailed discussion of the literature available on personality and career choices. The first section includes a discussion of personality. Thereafter, the history of the Five Factor Model (FFM) will be discussed. The recent developments of personality inventories such as that of the Chinese Personality Assessment Inventory (CPAI), and the South African Personality Inventory (SAPI) will also be provided. It is imperative to gain an understanding of the development of personality especially for adolescents owing to the fact that adolescents are developing individuals. The adolescent development and careers will be provided which will include a developmental theory. Thereafter, a discussion of the relationship between personality and career choices of adolescents will be presented, which includes career theories. This discussion will be followed by the section of personality and career choices during adolescence. The literature introduces a number of questions for the current study, which will thus be addressed as research questions to conclude this chapter. The chapter summary will then follow.

2.2. Personality

Personality is derived from complex patterns of observable and unobservable behaviour (McCrae & Costa, 1997). There are various definitions of personality existing in the literature. Allport (1937) defines personality as the dynamic process of organising those psychosocial systems that determine one's unique adjustments to the environment (Allport, 1937). This definition is considered to be one of the first definitions of personality. McCrae and Costa (1992) define personality as stable patterns of behaviour that exist owing to genetic influences. Greenberg and Baron define personality as "the unique and relatively stable pattern of behaviours, emotions and thoughts shown by an individual"(2000, p.

97). Personality is also considered as both “the constantly changing as well as relatively stable organisation of all physical, spiritual, and psychological characteristics of a person which determine his or her behaviour through interaction within the environment in which the individual finds himself or herself” (Meyer, 2008, p. 11).

This study considers the last definition of personality to be accurate as this description qualifies personality characteristics as somewhat fluid while being relatively stable.

Personality characteristics are likely to change across an individual’s life span (Branje, 2006), but are also likely to become fully developed and relatively stable by the age of 30 (Macrae & Costa, 1994). Personality is most often measured from the trait perspective, which is defined as relatively enduring individual differences in behaviour, feelings, and thoughts (Church, 2000). Research on personality traits originates mainly from Western perspectives in which the Five Factor Model of Personality (FFM), which is also known as the Big Five, provides the benchmark from which personality is often studied.

2.2.1. Trait Personality

Trait personality is defined as “intraindividual consistencies and interindividual uniqueness in propensities in which one behaves in identifiable ways in the presence of situational demands” (Tett & Gutterman, 2000, p.398). The intraindividual consistencies are those that predict future behaviour based on observing past behaviour. The interindividual uniqueness is what describes a person’s trait. Propensities influence one to behave in a particular way, and personality traits are seen as forming part of behaviour (Tett & Burnett, 2003).

2.2.2. Trait personality and the Five Factor Model (FFM) of Personality

The FFM has a long history in personality literature. John and Srivastava (1991) review this history through their discussion of its origins. They maintain that the history of Big Five began with various psychologists such as Allport and Odbert (1936), who conducted a study

by developing personality relevant terms of almost 18,000 and including them in a dictionary. Allport and Odbert (1936) then grouped these terms into four main categories, namely; personality traits, evaluative judgments, temporary states, and physical characteristics. Cattell (1943) made a contribution to the work of Allport and Odbert (1936) when he analysed and reduced these thousands of trait terms into 35 variables, and eliminated about 99% of the original terms. Further to this, Cattell (1943) conducted factor analysis and concluded that there are 12 personality dimensions, which he added four to the existing to create the 16 Personality Factors. The Big Five dimensions were later formed from the 16 Personality Factors. Fiske (1949) contributed to the formation of Big Five by developing simplified descriptions of factor structures from Cattell's dimensions. These factor structures were based on self-ratings, ratings by their peers, and ratings by psychology staff members. Additionally, Tupes and Christal (1961) further analysed correlation matrices using eight various samples ranging from individuals who had no high school education to tertiary students who were studying their first year. This also comprised ratings by peers, supervisors, and teachers or senior clinicians in different contexts.

After these analyses, Tupes and Christal (1961) discovered five recurring factors and found no other results. These Five Factor structures include; Extraversion, Conscientiousness, Agreeableness, Emotional Stability, and Openness or Intellect. These factors were as a result named by Goldberg (1981) as the Big Five owing to their broad nature. It is important to note that the Big Five do not indicate that personality differences are limited to five traits but rather, that these traits represent personality at the widest level of abstraction while summarising different personality characteristics. To this end, many researchers in personality reached an agreement that the domain of personality traits can be well described and summarised into five traits. This consensus is owed to the fact that the factor analysis of different personality scales mainly result in a five factor solution (Foxcroft & Roodt, 2005).

The Big Five dimensions form part of the Five Factor Model and are discussed in more detail below.

2.2.2.1. Neuroticism

Neuroticism is described as the emotional stability of an individual and a general tendency which an individual experiences negative affect in response to the environment. Individuals who report higher on the Neuroticism personality dimension are likely to be depressed, anxious, tense, defensive, and worried. They are likely to be self-conscious whereby they become sensitive to criticisms, and have regular feelings of shame and embarrassment. These individuals also tend to be easily upset, emotionally volatile, and have feelings of anger. They are unable to control impulses and experience difficulty in coping with stress. Neuroticism predicts good performance in some jobs (Rothmann & Coertze, 2003). A low score on Neuroticism is indicative of Emotional Stability which represents characteristics of being calm, relaxed and able to cope with stress (Hourg et al., 1990; Rothmann & Coertze, 2003).

2.2.2.2. Extraversion

Extraversion is the extent to which one enjoys being around others, is fond of excitement and stimulation, and is cheerful in nature. The Extraversion type of personality is characterised by being outgoing, assertive, talkative, energetic, active, and enthusiastic. This personality trait also involves positive affectivity and is characterised by feelings of joy, happiness, love, and enthusiasm. Ascendence is another term that describes this personality dimension. This is described as a tendency to which one enjoys entertaining and leading others or being dominant in large groups of people. At work these individuals are likely to have developed good interpersonal skills and tend to perform well in jobs that require social interaction (Rothmann & Coertze, 2003; Tett & Burnett, 2003).

2.2.2.3. Conscientiousness

Conscientiousness is the degree of effectiveness and efficiency in which one plans, organises and carries out activities. The conscientious type of individuals are characterised as being responsible, thoughtful, achievement oriented, and thorough. They are self-disciplined, and are known to start and complete tasks even in unpleasant situations. They have a tendency to keep everything in a neat and orderly manner. These individuals think things through carefully, check the facts and have a good sense of work ethic. Conscientious individuals have been reported to perform well at work because they tend to achieve the goals they set for themselves (Rothman & Coertze, 2003).

2.2.2.4. Agreeableness

Agreeableness is the extent to which one is able to get along with others and has compassion for those around them. Individuals who score high on the Agreeableness personality dimension are described as being trusting, kind, forgiving, cooperative, likable, and sympathetic. They are likely to be humble and self-effacing, and have sympathy for other people. They have pro-social tendencies whereby they have a concern for the community and are willing to make time to help those who are less privileged. They tend to rely on others to get the tasks done (Tett & Burnett, 2003).

2.2.2.5. Openness to Experience

Openness to Experience is the degree to which a person is willing to experience or experiment new things and is curious about himself or herself and the world. This personality dimension consists of being creative, intelligent, imaginative, original, and curious (Costa & McCrae, 1992; Patton & McMahon, 2006). People who score high on Openness to Experience have a sense of imagination, enjoy fantasies, and creative thinking. They are unconventional and prepared to challenge social, political, and religious ideas. At work, they are able to easily cope in different situations. Open individuals are often curious about both inner and outer worlds, and they want to experience things in life. These individuals are

willing to entertain novel ideas and unconventional values, and they are more likely to experience both positive and negative emotions compared to closed individuals. The literature has shown that individuals of this personality dimension are likely to perform successfully in consulting (Hamilton, 1988). The research findings have shown that adolescents tend to score higher on Openness, Extraversion and Emotional Stability and lower on Agreeableness and Conscientiousness than adults (Costa & McCrae, 1994; McCrae et al., 2004).

2.3. Trait Personality in Non-Western Contexts

Trait personality from a non-Western perspective has been considered in China and South Africa. These perspectives are based on the fact that within these contexts personality inventories were developed to fit the context of the country it was intended for. The literature shows that there is evidence of universality of the Big Five. However, it has been noted that it does not include personality characteristics that are specific for the interest of other cultures. The Big Five is a Western measure translated and adapted for export to other contexts. China and South Africa developed their personality inventories based on an integrated approach (emic-etic approach).

Etic refers to universality or core similarities in all individuals while emic is considered to be a more culture specific approach (Cheung et al., 2001). The emic and etic approaches are derived from an anthropological perspective which emphasises that there are two approaches to study a society's culture system. The emic approach is said to focus on cultural differentiations that are meaningful to the members of a given society (Valchev, van de Vijver, Nel et al., 2012). It is only the members of a native culture who can judge the accuracy of a measure. The etic approach focuses on extrinsic terms and categories that are meaningful to scientific observers and only scientists can judge the accuracy of the measure.

Emic is often described as the insider perspective and etic as the outsider perspective (Pirkey, 2014).

2.3.1. Chinese (Cross-Cultural) Personality Assessment Inventory (CPAI)

Since the 1970s, major Western personality measures were translated and adapted for use in various Chinese societies. Although these etic measures were both considered reliable and valid within this context, there were some cultural differences found at the item, scale and factor levels. These cultural differences resulted in the need to construct indigenous measures to measure personality constructs that are specific to the Chinese population. The Chinese Personality Assessment Inventory was developed with a combined etic-emic approach in the late 1980s (Cheung et al., 2001; Cheung, F. M., Cheung, S. F., & Fan, 2013; Cheung, Fan, & To, 2009; Fan, Cheung, F.M., Zhang, & Cheung, S.F, 2011). The purpose was to develop a measure that meets the local requirements by pointing out culturally unique dimensions and cross-cultural universals. This inventory consists of personality characteristics for normal and diagnostic measures for the Chinese population. The personality constructs that are comprised in the CPAI were developed from groups of person-description showing daily life experiences, research review, and clinical experiences of local professionals. The CPAI as a result of an emic-etic approach is found to be a culturally relevant tool for personality assessment in collectivistic contexts (Cheung, S. F., & Fan, 2013; Cheung, Fan, & To, 2009). Thus, the CPAI added value in understanding the Big Five in the non-Western context.

2.3.2. South African Personality Inventory (SAPI)

The South African Personality Inventory was developed as a result of the Western measure being questioned on the basis of culture. The Big Five measures were developed in Western culture which is individualistic, while the South African context is mainly regarded as collectivistic (Valchev, 2013). The validity of the trait perspective has been criticised owing to the fact that traits might not provide enough conception of personality in some

cultural contexts (Church, 2001). Such literature on the Independent–Interdependent-self tradition (Triandis, 2001) investigated the way in which the idea of self is constructed in different cultures. The SAPI is designed for the ethnocultural groups of South Africa (Nel, 2012). The main aim of the SAPI project is to develop an indigenous personality model and an instrument for its assessment which can be used across the ethnic groups in South Africa. Its development was also aimed at reducing biases in testing (Fetvadjev, Meiring, van de Vijver, Nel & Hill, 2015; Nel, 2012). The items of the SAPI were generated and selected (to a final set of 188) by continuously focusing on cultural adequacy and translatability (Fetvadjev, et al., 2015). The SAPI consists of six personality dimensions. These dimensions are: Extraversion; Emotional Stability; Openness to Experience; Consciousness; Positive Social Relationship; and Negative Social Relationship. What differentiates this measure is its applicability to the South African culture with the inclusion of relational factors (Fetvadjev, et al., 2015; Nel, 2012; Valchev, et al., 2012).

The Extraversion on the SAPI is described as a personality dimension characterised by playfulness and sociability. Openness to Experience consists of characteristics such as broad mindedness, intellect, and epistemic curiosity. Conscientiousness is comprised of emotional maturity, integrity, orderliness, achievement orientation, and traditionalism-religiosity. Emotional Stability personality dimension consists of positive emotionality. Positive Social Relationship Factor is composed of warm heartedness, social intelligence, facilitating, and interpersonal relatedness. Negative Social Relationship has characteristics of conflict seeking, deceitfulness, and hostile egoism (Nel, et al., 2012). The SAPI improved from the Big Five because it developed factors that were specific to the South African context. The Positive and the Negative Social Relational factors make it distinguishable from the Big Five dimensions (Fetvadjev et al., 2015). These factors accommodate all the ethnocultural groups in South Africa.

2.4. Careers and Career Choices

The term career is defined in various ways and in different contexts. In general, a career is an occupation or profession taken for a significant period of one's life and with opportunities for progress (Svennungsen, 2011). A career is considered a developing sequence of one's experience over time (Arthur, Hall, & Lwance, 1989). This concept is said to involve special training or formal education, and viewed as an individual's lifework. A career may also be defined in the context of vocation or calling, as a path that one takes and has its core task to make meaning in one's life (Hansen, 1997; Svennungsen, 2011). Schein (1987) defines career choice in terms of three components: the first is self-perceived talents and abilities; the second is self-perceived motives and needs; and the third is self-perceived attitudes and values. Individuals make choices of the careers based on the perception of these components. Patton and McMahon (2014) provide the latest definition of career. They state that career is linked with work and job among others, whereas job is seen as a collection of tasks which should be performed in a work environment.

2.4.1. The changing nature of careers

In the South African context, there is an observable change in the nature of careers due to the national skills development strategy, which was established to address the skills shortage in the country. The skills development strategy proposed a need for meeting the target of skills development in a certain period of time (a five-year period, to be specific) (Kruss et al., 2012). This has had an impact on the changing nature of careers with the introduction of learnerships in 2001 (Visser & Kruss, 2009). In the South African context, a learnership is described as a learning programme based at work, which leads to the National Qualification Framework (NQF) registered qualification (SAQA, 2014). Although acquiring formal training in educational institutions in order to pursue careers is still a solution for skills development and decreasing unemployment, it has been observed that learnerships rapidly

meet the target of skills development (Kruss, et al., 2012). The learnerships present an opportunity for both employed and unemployed individuals to receive the necessary preparation to enter the labour market. These systems provide room for practical skills acquisition along with education to its participants (Kruss et al., 2012), which differs from formal education. As such, not much research has been conducted regarding the career choices of adolescent learners in this context, and as to whether the learners have interest in learnerships or formal education to pursue their careers. Moreover, the country presents a high rate of unemployed graduates. With this changing nature of careers the literature does not show whether learners are likely to experience challenges in making career choices as a result.

2.5. Personality and Career Choices

There are several theoretical perspectives that view career choice and personality as interconnected (Russel, 2005). For the purpose of this study, five classical theories will be considered which, may be useful for understanding this relationship in adolescents. These theories include: Roe's Theory of Personality; Parson's Trait and Factor Theory; Super's Theory of Career Development; Social Cognitive Career Theory; and Holland's Theory of Personality and Occupational Types. These theories are discussed below.

2.5.1. Roe's Theory of Personality

Roe's Theory of Personality emphasises the influence of parental child-raising styles on the child's later career decisions (Sharf, 2002). Roe (1957, 1984) was concerned with the parent's attitudes toward their children and their actual behaviours. She described three styles of parental attitudes that influence the development of a child's personality and future career decisions. These parental attitudes include concentration on the child, avoidance, and acceptance (Roe, 1984).

In addition to these parental styles, Roe also explained the idea that other factors exist owing to the development of interests and needs of the child, which are based on five components. These five components include: inborn inheritance (traits); personal experiences, cultural and socioeconomic background; involuntary attention; the pattern/shape of psychic energy; and the intensity and satisfaction of needs. In this way, abilities, aptitudes, and interest development depend on both genetic inheritance and personal experiences. All these factors impact on a child's choice of a career because an individual chooses a career that resembles their childhood home environment (Roe, 1964, 1984; Sharf, 2002). As such, this theory is important for the current study as it relates to personality development and how children come to make career choices. Roe's theory implies that the personality development of adolescents is influenced by genetic inheritance and mostly by the environment in which they grow up. For the current study, Roe's theory highlights that adolescents may be likely to make career choices on the basis of their needs of inherited personality characteristics and the environmental influences present.

2.5.2. Parson's Trait and Factor Theory

Parson developed a Trait and Factor Theory which allowed for the measurement of individual characteristics in line with their jobs (Parson, 1909; Scharf, 1992). The theory considers two important aspects for matching an individual with a particular position, the first is traits, as these are individual characteristics. The second is factors, which are the characteristics required to perform a job successfully (Patton, 2006). The traits in this theory are personality characteristics, and factors are attributes related to the type of job. Parson (1909) developed this theory to assist young individuals in making good decisions in order to be employed successfully (Coetzee & Roythorne-Jacobs, 2012; Parson, 1909).

The theory is based on a three pronged approach consisting of the following: the first is individual knowledge such as personality, skills, abilities, interests, values, attitudes,

aptitudes, achievements, and areas of developments; the second is knowledge of the occupation such as conditions and requirements for success, pros and cons, opportunities, advancements, and compensation; and the third is matching of the individual's traits and the job that suits them (Coetzee & Roythorne-Jacobs, 2012; Parson, 1909; Shreuder & Coetzee, 2011). It is important to look at the concept of personality to point out the needs of the individual (Coertse & Schepers, 2004). When individuals learn to understand their personality characteristics, they are likely to make career choices that will create balance between the requirements of the job environment and their personality.

Parson's Theory emphasises the importance of having knowledge of self or personality, the nature of the job, as well as its environment. Knowledge of these aspects is argued to influence the career choices adolescents may make. Within the context of the current study this theory emphasises the importance of understanding one's personality traits, acquiring knowledge about careers associated with certain personality traits, and then choosing a career that will match these traits and the characteristics of the work environment.

2.5.3. Super's Theory of Career Development

Super's theory is the most commonly used developmental approach to career choices as this theory involves all life stages, with each stage comprising tasks that associate with developmental career stages (Coertse & Schepers, 2004; Coetzee & Roythorne-Jacobs, 2012; Leung, 2008). Super (1992) states that the career choice of an individual is on the basis of his or her self-concept. An individual's self-concept is his or her own views of personal characteristics. These personal characteristics are one's personal meaning of abilities, choices, and values. Self-concept develops through the interaction with the environment in which one develops his or her concept in particular roles such as a worker, friend, student, or a family member (Coetzee & Roythorne-Jacobs, 2012; Super, 1992). A person goes through various stages in life (growth, exploration, establishment, maintenance, and disengagement)

and as such, individuals are faced with particular occupational tasks in each of these stages. If these tasks are completed, a person is able to move to the next stage.

The stage of growth is associated with the beginning of self-concept development. The stage of exploration is where individuals determine their self-concept both in work and non-work contexts. At the establishment stage, an individual becomes established with a position at work. The maintenance stage is associated with mid-life crisis where one is striving to be competitive and help others in the same field. The decline stage is where individuals leave the world of work and focus on leisure activities to satisfy their self-concept (Super, 1992; Russel, 2005).

The stage that is associated with adolescence is exploration. According to Super, this stage ranges from 14 to 25 years of age. Individuals at this stage connect their self-concept to the world of work. They explore career possibilities and make the transition from school to further education or work. This theory is applicable to adolescents and the current study as it explains the tasks associated with the adolescent stage. It explains how adolescents are in the process of exploring their careers. This is an important stage where individuals make career choices. The importance of this theory is that it explains the development of adolescents' personality through self-concept development (Super, 1980). Therefore, adolescents make career choices based on the development of their self-concepts and on the understanding of their interests.

2.5.4. Social Cognitive Career Theory

Social Cognitive Career Theory was developed by Brown and Hackett (1996), which traces back the work of Bandura's (1977) Self-Efficacy Theory. The theory focuses on the relationships among social cognitive factors (such as self-efficacy) and their relationships with other factors in a person's social environment such as gender, race, culture, family, community, and political components (Coertse & Schepers, 2006). The integration of self and

the social context allows an opportunity for individuals to gain a sense of control over their career choices and enhances their career-related self-efficacy expectations (Brown, 1999). This theory provides an idea that adolescents' career choices are greatly influenced by their environmental factors. Their social context influences them to choose a particular career and they believe that they can be successful in the chosen career.

2.5.5. Holland's Theory of Personality and Occupational Types

In this theory, the words Occupational Types, Career Types, and Vocational Types are often used interchangeably. Holland's theory describes the influence of environment on a child's personality development. Holland (1973) predicts the characteristics of people and their environment that could result in positive or negative career outcomes. This theory states that career choice is an extension of a person's personality (Coertse & Schepers, 2004). Individuals are interested in a particular role at work that meets their personal needs to use their skills and abilities, while expressing their attitudes and values which gives them satisfaction (Zunker, 2006; Leung, 2008).

The environmental influences of an individual play a role in personality development. Parents produce an environment that matches with their personality type, friends and work. The child becomes involved in the environment that the parent has created, and then models the behaviour that the parent has exhibited. The environment has an impact in producing particular interests in activities of individuals. Based on these environmental influences, this theory proposes that people can be characterised in terms of their six personality types based on specific activities. The types are referred in the RIASEC model as Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. (Coetzee & Roythorne-Jacobs, 2012; Holland, 1997; Patton & McMahon, 2006; Schreuder & Coetzee, 2011). The more an individual resembles the type, the more likely that he or she will model behaviours of the beliefs related to that type (Holland, 1997).

The Realistic type is a personality type that is associated with a preference towards activities that require working with tools, objects, machines or animals, and developing manual, mechanical, agricultural, and electrical skills. Individuals with this type are practical and enjoy performing activities that require physical effort, and are individuals who are accustomed to the outdoors. Occupations associated with this type are builder, electrician repairing electrical equipment, or mechanic (Holland, 1993).

The Investigative type is a personality type that has to do with preferences in activities that involve biological and physical sciences. Individuals of this type develop mathematical and scientific abilities. They are likely to have traits such as being curious, studious, and independent. They value developing and acquiring knowledge, and interacting with others. Occupations associated with this type are those in the scientific and medical fields (Holland, 1993; 1997).

The Artistic type is a personality type with a preference for unsystematic, free, and ambiguous activities through using physical, verbal, and human resources to create art forms. Artistic individuals appreciate creative activities that are not routine and they develop skills in language, art, music, and drama. They enjoy occupations that use these talents and that require creativity, free thinking, and expressing their emotions through activities such as singing, writing, and acting (Holland, 1997).

The Social personality type possesses a preference for activities that have to do with the manipulation of others to inform, train, develop, cure, or enlighten (Holland 1973a). The Social type of personality appreciates activities that involve informing, teaching, and helping others. Individuals of this personality type are likely to develop the ability to work with people and are associated with careers of teaching, nursing, and counselling. Their core traits are being helpful and friendly. They are likely to value fostering the welfare of others and social service, and tend to be empathic and patient.

Enterprising is the personality type comprising of a preference towards activities that involve manipulating others in order to achieve business or economic goals or economic gain. Individuals who have an Enterprising personality appreciate activities that allow leadership or influencing others. They often develop leadership ability, persuasiveness, and other important people skills. They possess the core traits of being ambitious, outgoing, energetic, and self-confident. They value attaining material, political, and social status. They are often described as being extroverts. These individuals prefer the occupation of sales for products or the management of people (Holland, 1993;1997).

The Conventional personality type prefers activities that require orderly explicit, and systematic use of data. Individuals of this type develop organisational, clerical, and arithmetical skills. Their preferred occupations are record keeping, computation, typing, and computer operations. Their core traits are being responsible, dependable, and detailed-oriented (Holland, 1993).

Holland's theory consists of four basic theoretical constructs that are useful to the understanding of career choices when assessing an individual's typology in interaction with the occupational environment. These include congruency, differentiation, consistency, and identity (Holland, 1997). Congruence occurs when there is a match between a personality type and the environment. The more similar the personality is to the environment, the more congruent the relationship. Differentiation occurs when an individual represents a single type such as being only Social. When a person equally indicates different types such as Social and Enterprising, it is undifferentiated. Consistency is referred to the extent to which an individual's two primary types are similar. When the top two types are closer on the hexagonal model, it indicates that there is consistency in an individual's style and behaviour.

Holland's hexagon model (refer to Figure 2.1) positions each type at a corner of the hexagon. The types that are on the opposite corners of the hexagon such as those, which are

three corners apart, are opposite to one another, while the types that are on the adjacent corners such as Investigative, Realistic, and Social are more similar to each other (Arnold & Randall, 2010).

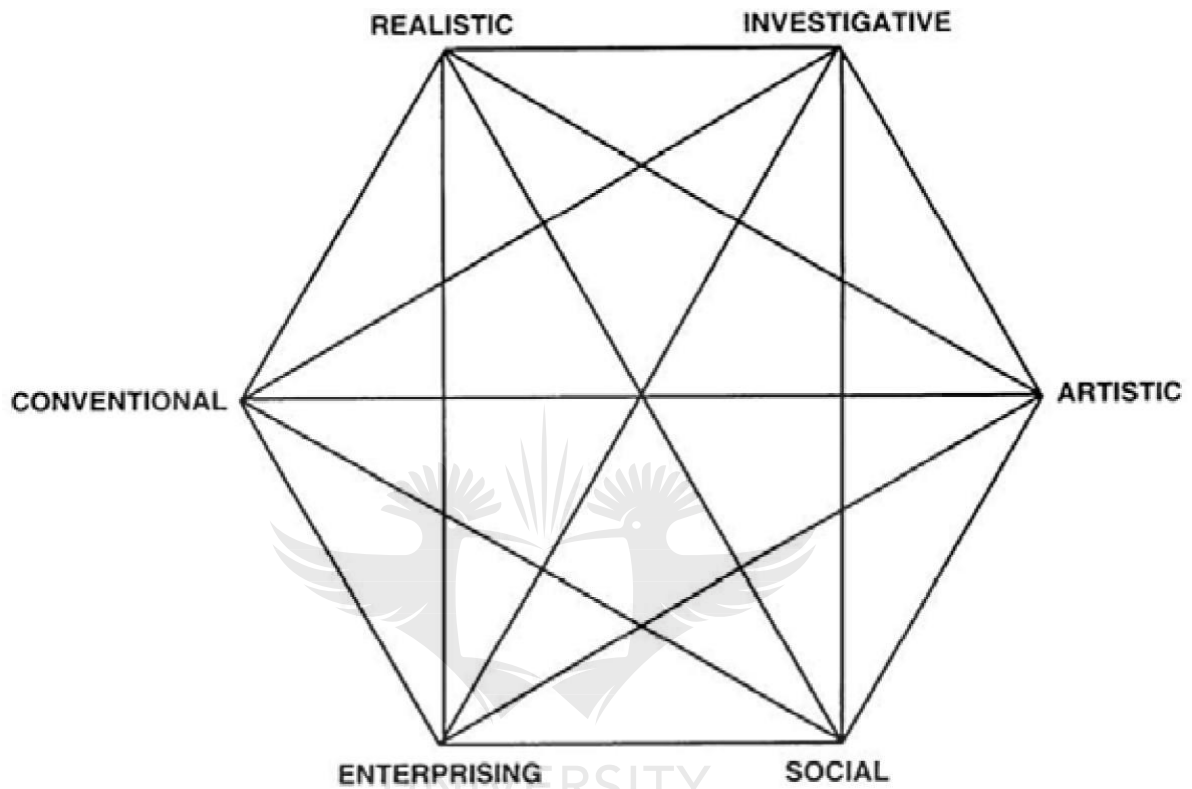


Figure 2.1 Holland's six types of vocational personality (Holland, 1997,6)

The literature shows that there is a link between some of Holland's vocational types with some of the Big Five personality dimensions. The two vocational types: Social and Enterprising have shown to be related to Extraversion. The Social type has proven to be also related to Agreeableness. The Artistic type is found to be related to Openness to Experience. The Investigative type is if found to be linked to Openness to Experience (Costa, McCrae, & Holland, 1984; De Fruit & Mervielde, 1997; Holland, Johnson, & Asama, 1995; Tokar & Swanson, 1995). The literature indicates that there is no link between the Realistic type and any of the Big Five personality types. The Conventional type has shown to be slightly related

to Conscientiousness (Larson, Rottinghaus, & Borgen, 2002). The Conventional type and Conscientiousness have common characteristics such as orderliness, persistence, and obedience (Goldberg, 1981).

Holland's theory provides valuable information necessary for the current study as it explains that social influences play a role in personality development and career choices. The idea is that adolescents are likely to choose a career based on environmental influences. Adolescents may choose a career similar to that of their parents or people around them because they developed an interest that was influenced by a social environment. In addition, the six types are clearly predetermined and may assist in the categorisation of the freely described career choices South African adolescents provide.

There are shortcomings to this theory in the South African context. Holland may not have included the African sample while he developed the career personality matching (Ekore, 2014). Thus, career choices with regards to the ethnocultural differences present in South African adolescents may not be inferred.

2.6. Critical Evaluation of Classical Career Theories in Contemporary Career Theories and Challenges facing Adolescents in Career Choices

The classical career theories provide a background for career theories. However, classical theories have been criticised for being too narrow, focusing only on individual's career theory (Patton & McMahon, 2006). These theories focus only on the person's behavioural influences in career decision-making. The theories discussed above are categorised as traditional career theories as they are based on individual behavioural influences in career choices. Super's theory is based on the development of self-concept; Holland's theory and Roe's theory focus on environmental or parental influences on adolescents' behaviour; Social Cognitive theory is based on the concept of self-efficacy, with the focus on social context influencing adolescent career choices; and Parson's theory is based on environmental behavioural influences. The

classical theories were used in this study because they provide a basis upon which adolescent career development may be understood but, as mentioned above, the traditional theories are narrow and focus on individual behaviour. Therefore, these theories are capable of explaining only individual adolescent career behaviour.

The contemporary career theories differ from classical theories in that their approach is broad, focusing on past, present, and future influences. They were not discussed in the current study because they are mainly based on an individual narrative story. They are good to understand one's career development, particularly adult career development. Patton and McMahon (1999, 2006) provide a base for understanding contemporary career theory: the Systems Theory of Framework. This framework views career development as a dynamic process. The idea is that there are many factors influencing career decision-making, including geographical location and political decisions. In South Africa, for example, the high rate of unemployment may have been influenced by the political climate. As such, adolescents may be more likely to find themselves uncertain about employment opportunities. Adolescents may find a challenge in making career choices as the future employment market is uncertain. The high rate of unemployed graduates creates uncertainty in the future of the employment market. In this context the interpersonal or intrapersonal influences proposed by classical career theories are not the only influences of adolescent career choices. The post-modern perspective is also a base for contemporary theories. This perspective draws back from the classical perspectives and develops a new post-modern approach on career behaviour in the twenty-first century world of work. Such theories that are part of the post-modern perspective include constructivist theory (Savicka; Conchran), humanist-existentialism theory (Frankil), and transpersonal psychology (Boorstein; Walsh). These theories are used in career counselling and do not explain much on adolescent development and career choices and are therefore they not part of the present discussion.

2.7. Adolescence Development and Career Choices

Adolescent development in relation to career choices is best explained by Erikson's Psychosocial theory. This theory proposes that there are eight developmental stages, namely: trust versus mistrust; autonomy versus shame and doubt; initiative versus guilt; industry versus inferiority; identity versus role confusion; intimacy versus isolation; generativity versus self-obsession and stagnation; and ego integrity versus despair. The stage that is associated with adolescence is identity versus crisis. This stage is associated with the social expectation that adolescents are required to make career choices, whereby they need to evaluate themselves (Bee, 1992; Erikson, 1963).

Adolescents are required to discover their identity through discovering their beliefs and values. This is a process that differs during early adolescence, middle adolescence, and late adolescence. During early adolescence (approximately 12 to 14 years old), adolescents often struggle with examining their identity. During middle adolescence (approximately 15 to 16 years old), adolescents begin to improve in discovering their identity as they are able to choose their role models. In late adolescence (between 17 and 19 years old), adolescents have discovered their identity as they are developing emotional stability (Bee, 1992). Adolescents are said to have a sense of identity when they are able to integrate all their explorations, wishes, drives, abilities, and skills with the opportunities society presents to them (Erikson, 1963). When adolescents are uncertain about their identity, they may experience challenges of role confusion (identity crisis). Career choice is regarded as one of the important tasks, especially in late adolescence, and is said to play a major role in identity development (Kunnen, 2013).

Arnett (2000) proposes a concept of emerging adulthood, which he describes as a term of development from late adolescence to the early twenties (between 18 and 25 years old). It is at this stage that individuals explore their career possibilities and reconsider their career

choices. If an individual had previously chosen a particular career during early or middle adolescence, he/she is likely to change it during late adolescence and early twenties. He/she would identify with careers that are in line with his/her values and beliefs (Annet, 1997). As such, this process is considered to be career commitment (Annet, 2000; Kunnen, 2013), because individuals no longer make certain career choices because they find them attractive, but because they are personally involved in such careers (Kunnen, 2013).

This theory provides a basis to understand how adolescents develop to discover themselves. The theory provides an indication that during early and middle adolescence, career choices are made mainly on the basis of how one is attracted to or interested in a certain career, but it is during late adolescence that adolescents have discovered who they are, and are able to discover careers that are suitable for them personally.

2.8. Career Choices and Personality during Adolescence

Some studies have shown that adolescents' career choices and personalities differ in terms of gender, and culture. The following is the discussion of these factors regarding the findings from previous studies.

2.8.1. Gender and Personality

A recent study investigating gender differences is that of de Bolle et al., (2015). This study was conducted across 23 different cultures from Europe, Africa, and Asia with a sample of 4850 adolescents. The objective of the study was to examine gender differences in adolescent personality. Females displayed gender related personality traits (such as Extraversion) at an earlier than males, while males tended to score higher on Assertiveness and Openness to Experience. Cultural differences across gender groups were observed in this study as gender differences were higher in European and American nations. For African and Asian adolescents, the gender differences in personality were low. The findings of this study give insight of gender differences in personality as this factor is influenced by ethnic groups. It

also indicates that females are likely to clearly show their personality types earlier than males. The results of these studies provide information relevant to the current study with regards to personality differences.

2.8.2. Culture and Personality

The available literature indicates that personality traits exist and function in the same way in these cultures. The cross-observer correlation is reported to be high particularly for the Extraversion personality dimension (McCrae et al., 2004). However, cultural differences such as individualism and collectivism affect many psychological processes (McCrae et al., 2004). This finding may be likely to influence personality characteristics of individuals across cultures. The literature on personality and culture differences shows that with regards to the Big Five personality dimensions, Europeans are likely to score higher on Extraversion than Africans and Asians (McCrae & Terracciano, 2005). This finding is important for the current study as it provides an understanding that some personality dimensions such as Extraversion can be expected to be higher in some ethnocultural groups of adolescents in South Africa than others.

2.8.3. Culture and Career Choices

There is limited evidence on the influence of culture differences on career choices of adolescents. The available research findings indicate that there is a minimal difference in career choices across ethnic groups (Fouad & Mohler, 2004). This finding gives an indication for the current study that the differences in ethnocultural groups of adolescents may not have much influence on the career choices of adolescents.

2.9. Research Questions

There are two research questions presented which this dissertation attempted to answer.

The above literature presents differences in adolescent career choices across cultures. Additionally, the culture differences in the country are likely to influence career choices of

adolescent learners. Learners who come from a particular ethnocultural background may choose a career in which the majority of individuals who belong to that ethnocultural group choose.

Research Question 1: Are there any differences in career choices across ethnocultural group membership of South African adolescents?

The above literature includes research that was conducted in other countries and indicates that there are differences in personality in terms of gender and culture. Thus, there is an interest in uncovering these differences in relation to the South African context. The literature indicates that in terms of age, younger adolescents are likely to show common personalities that are different from older adolescents. With regards to gender, the literature indicates that females seem to possess personality types that differ from that of males (de Bolle et al., 2015).

The literature further illustrates differences in adolescents' personalities and culture differences. Additionally, South Africa is diverse with four main ethnocultural groups (Black, coloured, Indian, and White) which are divided into a total of 11 ethno-cultural groups (IsiZulu, IsiXhosa, Afrikaans, Sepedi, English, Setswana, Sesotho, Xitsonga, SiSwati, Tshivenda and IsiNdebele) (Beck, 2000; Mouton, Louw, & Strydom, 2012). Some ethnocultural groups such as English and Afrikaans groups have an individualism cultural background, while some such as those of Black groups have a collectivism cultural background. It is expected in this study that adolescents' personalities differ due to these differences in culture.

The above literature shows association of personality and career choices of adolescents. In the South African context, the current study may find that specific personality dimensions are associated with specific career choices. Holland's model is important for this study because it will help indicate which personality type is associated with the occupational type.

Research Question 2: Are there any differences in personality traits across gender, ethnocultural group membership, and career choices of South African adolescents?

2.10. Chapter Summary

This chapter gave a detailed literature review of the constructs of the study. Previous work on personality was provided by discussing various definitions of personality and trait. The history of the Big Five was presented, followed by the discussion on the Five Factor model. Career choices section was the next section discussed. The developmental perspective of personality and careers were discussed, which included the Roe's Theory of Personality, Trait and Factor Theory, Super's Theory of Career Development, Social Cognitive Career Theory, and Holland's Theory of Personality and Occupational Types. This discussion was followed by the section of personality and career choices during adolescence. All these points of discussion led to the formulation of research questions, which need to be answered in the current study. The next chapter will discuss the methodology that was used in order to achieve the objectives and find answers to the research questions that arose from the literature review.

CHAPTER 3

METHODOLOGY

3.1. Chapter Introduction

This chapter provides a detailed description of the methodology of this dissertation by illustrating the process of the study. The research design and approach is the first point for discussion in the chapter. This discussion will include the ontology and epistemology of this study. The research context and procedure will be presented where the data was collected. The ethical considerations of the procedure will also be discussed. The next section will then be the discussion of the sample and participants of the study. This section will provide an overview of sampling of the participants for the study. The chapter will conclude by discussing the statistical analysis that was used to analyse the data.

3.2. Research Philosophy

Research philosophy is the ontological as well as epistemological approach which the research adopts. Ontology and epistemology are important for researchers to make decisions in terms of their questions and how they approach answering these. Ontology is defined as beliefs and assumptions of existence, reality as well as truth (Al-Debei, 2012). The ontology of the empiricist paradigm was adopted in this study. The empiricism's view is that reality is said to be objective and that individuals may know this reality. Reality is based on experiences through senses such as sight, taste, touch, and sound (Honderich, 1995). The understanding of reality or belief about what exists develops from experiences and senses (Magee, 2001). For empiricism's view of reality, there is cause and effect and for this reason researchers can predict and control the reality. As such, empirical perspective argues that people can use their own measurements to produce accurate information.

Epistemology refers to the nature, origins, and methods of human knowledge. It also refers to the limitations of human knowledge with reference to questions about knowledge

(Reber, 1995). In this study an empiricist epistemology was adopted. Empiricism is the viewpoint that stipulates that the most important manner of acquiring knowledge is through experiences, observations or data obtained through the senses (Hjørland, 2005). In the empiricist paradigm, the epistemology is of the opinion that knowledge can be acquired from observables, direct or indirect experience of seeing hearing, and touching. Empiricism postulates that knowledge comes through an individual's interaction with the environment rather than from ideas that occur separate from personal experience, a priori of ideas and concepts (Ertmer& Newby, 1993). Experience is said to be the way in which criteria for knowledge is obtained and determined. Subsequently it is this criterion that leads to the evaluation of knowledge as well as the extent to which knowledge is valid and valuable (Hossain, 2014).



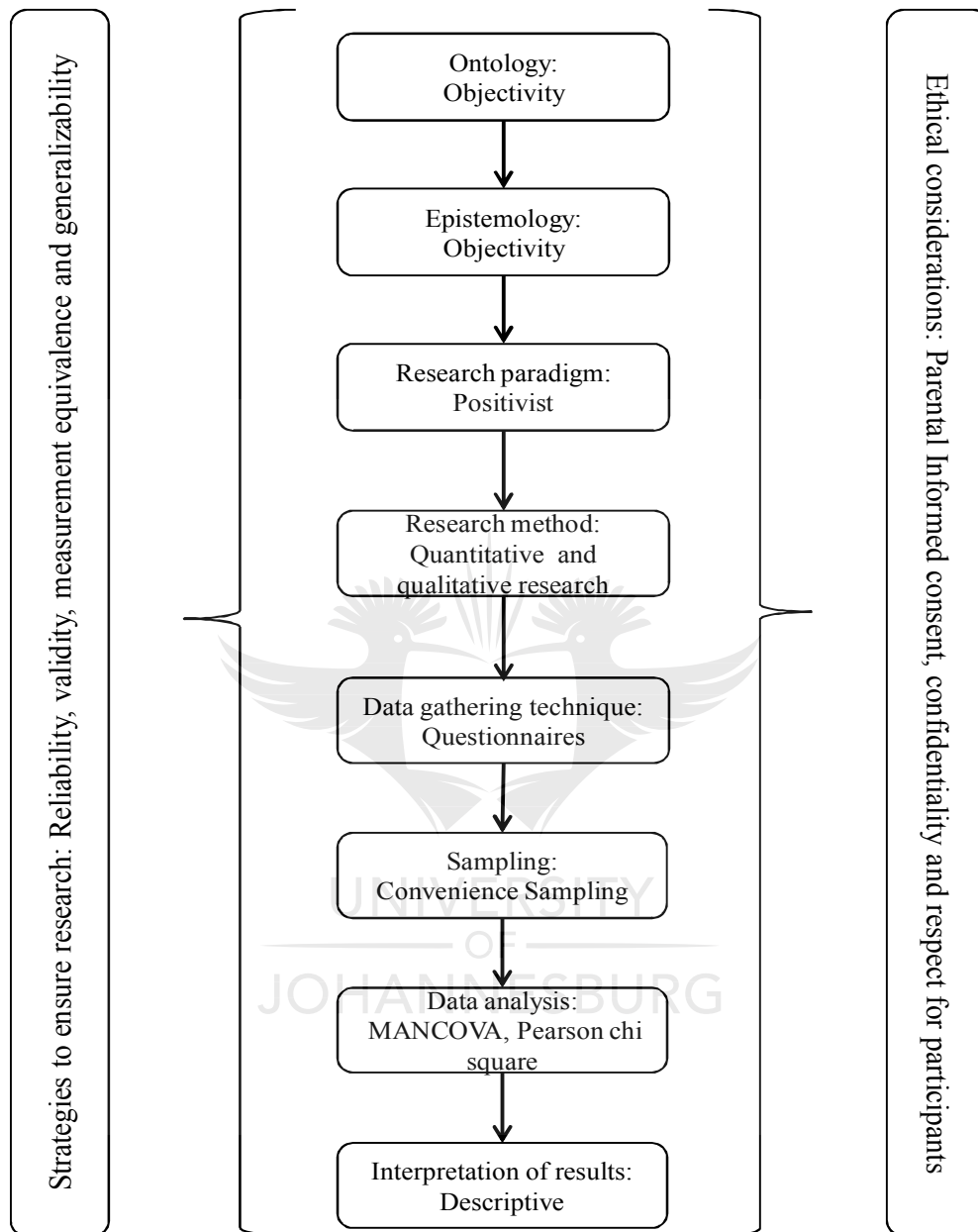


Figure 3.1. Research design flow diagram (Adapted from Donaldson, 2011)

3.3. Research Design and Approach

The research design of this study was both objective (quantitative) and subjective (qualitative). The objective data that was obtained helped gain knowledge about the personality traits of South African adolescents. This knowledge will be added to the body of literature and theory on personality. The participants that were used represented the population and therefore, the results may be generalisable to the entire population. Consequently, an objective, known reality may be created. Furthermore, the self-report measure was used and therefore provided subjective data as learners were required to qualitatively write down their preferred career choices and why they chose those careers. The research design that was used was a cross-sectional, mixed method design. In a cross-sectional design, the information about different variables that is collected represents what is happening at only one point in time (Olsen & George, 2004). This design allowed a large number of participants to be included in the study. The participants were a representative sample in order to make the study generalisable (Salkind, 2012). In order to assess personality, learners were requested to complete a set of quantitative measure. Career choices were assessed through the use of open ended questions to which participants were able to freely describe their career, profession, and job choices.

3.4. Research Context and Procedure

The data was collected from four high schools in the Gauteng area. As the study was part of a larger project on Inclusive Identity, the project leader and supervisor obtained access to the schools through the Gauteng Department of Education. The Gauteng province consists of diverse populations in which individuals speak various languages as compared to other provinces. It was therefore an appropriate location from which to conduct research in order to obtain a multicultural sample. Thus, the schools that were approached were those that would yield a diverse sample as one school comprised a majority of Indian learners, another

comprised a majority of Black learners, with yet another school comprising a majority of both Black and Coloured learners. Access to the school in which the majority of learners were White was not obtained due to their busy schedule. Therefore, access to four schools was obtained, which were divided as follows; one school was comprised of Indian learners, another school comprised of both Black and Coloured learners, and two schools comprised of the majority of Black learners.

3.4.1. Procedure

A paper and pencil questionnaire was administered to the participants during the course of July, August, September, and October 2015. The questionnaire was administered in English which is the main language of instruction and learning at all four schools.

3.5. Sampling and Participants

The population of the study was comprised of high school learners from the schools that were approached to participate in the study. What was common with this population is that the participants were all adolescents attending high school. A convenience sampling was used in terms of giving questionnaires to learners that were easily accessible and were a representation of the population. Convenience sampling enables for easier access to participants, and is also time-efficient (Gravetter & Forzano, 2011). Its selection is not random, and may therefore result in sampling bias. The sample would therefore not be completely representative of the South African population. The aim was to include 500 learners from different racial and ethnic groups with an equal distribution of males and females. The age of participants ranged from 13 to 22 years of age. In one of the schools there were only Grade 11 learners who were available to participate in the study and in another school there were only Grade 10 learners who were available to participate. Another school provided learners from Grades 8 and 9 to be available for the study. The one school made all their learners from Grades 8 to 12 available to participate in the study. Thus, a total

of 382 participants completed the questionnaires. There were a total of 14 participants who did not complete at least 70% of the questions. These participants' responses were removed, resulting in a sample of 368 participants. Furthermore, the participants completed a vocabulary test consisting of ten items that were relevant to the SAPI measure. The nature of the SAPI measure is to assess the general personality types of South African individuals. Therefore, the aim of this test was to ensure that the learners were able to understand the content of the measure. Learners who scored at least five or more on this test were included, and those who scored less than five were removed from the sample. Therefore, the final sample was reduced to 205, consisting of 62.4% females and 37.6% males (refer to Table 3.1).

A preliminary analysis was performed using descriptive statistics to describe the characteristics of the sample (Allan & Unwin, 2002). The sample was comprised of 51 African/Black learners, 42 Coloured learners, 108 Indian learners, and 2 White learners. There were 2 participants who did not indicate their ethnic group (refer to Table 3.1). There were 39 learners who were studying Grade 8, 49 learners who were studying Grade 9, 66 learners who were studying Grade 10, 31 learners who were studying Grade 11, and 20 learners who were studying Grade 12 (refer to Table 3.1). The mean age (M_{age}) of the participants was 15.48 years, while the standard deviation (SD) was 1.70.

Table 3.1 *Sample descriptive statistics*

Item	Category	Sample size (n)	Percentage (%)
Gender	Male	77	37.6
	Female	128	63.4
Ethnocultural group	Black	51	24.9
	Coloured	42	20.5
	Indian	108	52.7
	White	2	1
	Grade	Grade 8	39
	Grade 9	49	23.9
	Grade 10	66	32.2
	Grade 11	31	15.1
	Grade 12	20	9.8

3.6. Ethical Considerations

There are ethical guidelines prescribed for researchers on collecting data for adolescents when conducting their research set out by the American Psychological Association (APA, 2010). Based on this, permission to conduct the research was obtained from the Ethics Committee of the University of Johannesburg. Permission from the Department of Education in the Gauteng province (GDE) was obtained to collect data from the high school learners. Thereafter, permission to collect data from the learners was obtained from the school districts as well as from the school principals of the schools. In this study parental consent was required for learners to participate. The parents were informed about the purpose of the study and the duration expected to complete the questionnaires as well as the procedure that will be followed during the process. The parents were ensured of the confidentiality of their children's results. Parents were also reminded that the learners were to participate voluntarily and that there would be no monetary benefit of participation, rather they would receive recommendations from the results that will indicate ways of interventions in their schools. The consent form also indicated that the learners could withdraw from the study at any time without any adverse consequences to themselves and that they understand the results of withdrawal or refusal to participate in the study (Kazdin, 2003). The consent forms were

distributed to the learners to be given to their parents for consent. The parents were given a time frame of approximately two weeks to read and understand the conditions of the research before they were required to sign. Some parents enquired further through email and telephonically about the study and requested more clarity before they would give consent. The consent form indicated that the learners will not experience harm that could result from participation in the research. They were informed that their results will be used as part of a bigger group of results and not on an individual level.

The current study adhered to the APA (2010) guidelines by ensuring that only accurate data was collected from participants. In instances where there were errors occurring during the process, the researcher took the responsibility to correct the misleading information. Another ethical guideline outlined by the APA is that researchers should not plagiarise the work of others. In this study, the researcher confirms that she has not presented the work of another individual as her own and has acknowledged the relevant authors where secondary sources have been used.

3.7. Measuring instruments

3.7.1. Sociodemographic questions

The first section of the measuring instruments was the socio-demographic questions. In this section, the participants were asked to complete their age, gender, race, as well a ladder question which were used to ascertain socioeconomic status (SES). In the ladder questions, the participants were asked to indicate where they see themselves in terms of their status. The ladder ranged from one to 10 steps, in which step 1 implied lower socioeconomic status and 10 implied higher socioeconomic status.

3.7.2. Personality measures

Personality was measured by the SAPI, (Nel et al., 2013). The SAPI measures the personality model identified in extensive indigenous research in South Africa. This inventory

measures the six personality dimensions (Extraversion, Emotional Stability, Openness, Conscientiousness, Positive Social Relations, and Negative Social Relations). Extraversion was assessed by evaluating people who for example, tend to connect to people easily and laugh a lot; Emotional Stability evaluating individuals who are likely to be calm in most situations and not get easily nervous; Conscientiousness was assessed through evaluating those individuals who have a tendency to do something until they get it right and want things to be neat; Openness evaluating those who are willing to try new things and full of new ideas; while Positive Social Relations evaluating people who are likely to make others feel comfortable and forgive others easily; and Negative Social Relations assessed by evaluating individuals who tend to think that they are better than others and ignore others. The participants had to rate their responses on a scale ranging from 1-Strongly Disagree to 5-Strongly Agree. The questionnaire consisted of 188 items.

Part of the 188 items there were 18 items of Social Desirability, consisting of Social Desirability Positive and Negative (Crowne & Marlowe, 1960). The purpose of these items was to control extra variables that would influence the outcomes of the personality measure on adolescents. These 18 items were therefore, eliminated from the analysis of the six personality dimensions. Moreover, there were 13 items that were expected to load on two dimensions, Conscientiousness and Social Relational Positive. These items were also eliminated from the analysis because they were not unambiguous. For the current study, the items were not considered useful for the sample of adolescents as the purpose was to clearly measure the six personality dimensions. These items are however, important for the large SAPI project. As a result, there were a total of 157 items of the personality measure that were used for analysis.

3.7.3. Career choices

Career Choices were measured qualitatively as adolescents were asked to provide an indication in writing of their selected careers upon completion of their schooling, as well as to indicate the reasons for their selected career. Indicating their career choices assisted in determining those careers which are associated with a specific personality dimension.

3.8. Qualitative Data Analysis

As participants provided open ended descriptions of their careers, the first step that the researcher took was to analyse this data through content analysis. This analysis enabled the categorisation of career choices into logical themes (Weber, 1985), that were aligned with Holland's Career Types as a basis for analysis. In qualitative research there are four aspects that a researcher needs to take into consideration to establish quality assurance. These aspects are credibility, transferability, dependability, and confirmability (Morrow, 2005).

Confirmability is concerned with the trustworthiness of the interpretation or the conclusions drawn (Shanton, 2004; Styles, 1993). Confirmability in this study was limited as the participants were asked once to write down what they thought they wanted to study post matric. Therefore, the researcher took the information as it appeared and coded it. Confirmability was ensured by as the career choices were coded by categorising each career into one of the six Holland's career types (see section 3.8.1). Dependability is concerned with whether the results are similar after accounting for contextual differences. Dependability aims to answer the question of whether different participants say similar things (Shenton, 2004). In this study, the career choice descriptions that were written by the adolescent learners from different ethnocultural groups were analysed to evaluate whether they had chosen similar careers. Transferability has to do with the extent to which the results may be generalised (Shenton, 2004; Meriam, 2009). The results of the career descriptions of learners cannot be generalisable as the sample of the study is not representative of the entire population of the

study. The white group of learners was not part of the sample. Additionally, there were only four schools that participated in the study, and these were all from one province; schools from the other eight provinces did not participate. Credibility is described as the confidence one can have in the truth of the research findings (Mcnee & McCabe, 2008). To ensure credibility, the participants were asked to complete the questionnaire voluntarily and during their free periods or after school in class.

3.8.1. Code book

The code book was developed to analyse the career choices selected by the participants. The purpose of the code book was to categorise each career into one of the six Holland's career types. The career types are often ambiguous; they tend to be categorised into various career types. For example the career choice of lawyer is considered to be both Social and Enterprising, and a Surgeon career choice is considered to be both Social, Investigative, and Realistic. A Surgeon is committed to helping patients get cured which is Social, while at the same time the nature of this job is practical which is Realistic, and they need to first investigate the condition of the patient prior to performing a surgery which is Investigative. There was a need to develop a solution to categorise each career choice into only one career type. The solution for this problem was to analyse the content and context nature of the career before categorising it. Given the free description of the learners' career types, such as why they are interested in the career that they had chosen, there were themes that came out from these descriptions. The learners indicated why they chose these careers such as those who chose a Surgeon career type, they indicated their interest in helping others in the society. An additional consideration to this process of coding was the primary purpose of the career. A Surgeon for example, may investigate patients' conditions and perform surgery with the purpose of helping the patients improve their conditions. However, the primary purpose of

this career is to serve or help people. The solution was therefore to categorise a Surgeon career choice into a Social type.

The career choices were then transformed as categorical variables which were then used alongside the personality measure in the statistical analysis. The Holland's career types were coded categorically from one to six. This categorisation implies that the career choices that were categorised on the Realistic type were coded as 1, the Investigative type as 2, the Artistic as 3, the Social as 4, the Enterprising as 4, and the Conventional as 6. All career types that the learners chose were listed categorically in the code book according to this sequence (refer to table 3.2).

Table 3.2 *Code book for career choices*

Realistic
Pilot, Engineering, Mechanic, Boilermaker, Electrician, Carpenter
Investigative
Forensic pathologist, Forensic Auditor, Researcher, Forensic Investigator, Marine Biologist, Environmental inspector, Actuarial science, Water technologist, Water technologist, Detective, Astronomer
Artistic
Actor, Presenter, Singer, Chef, Artist, Soccer player, Architect, Fashion designer, Hexagon fighter, Song writer, Graphic designer
Social
Psychologist, Counsellor, Teacher, Social worker, Nurse, Doctor, Police officer, Oncologist, Pharmacist, Philanthropist, Airhost, Veterinarian
Enterprising
Lawyer, Entrepreneur, Businessman/Businesswoman, Tourism
Conventional
Accountant, Auditor, Office work, Chattered Accountant, Financial Accountant

3.9. Quantitative Statistical Analysis

The first quantitative statistical analysis in this study was the analysis of the psychometric properties of the measure. This analysis was followed by the analysis of the data which was conducted using descriptive statistics. The techniques that were performed using descriptive statistics were Pearson Chi-Square and Multivariate Analysis of Covariance (MANCOVA).

3.9.1. Psychometric Properties of the Measure

This study is a cross-cultural study, it was therefore important to measure the psychometric properties of the SAPI instrument to ensure its functionality was psychometrically sound and applicable across the ethnocultural groups under investigation. The psychometric properties were measured using three methods: the Exploratory Factor Analysis, the Confirmatory Factor Analysis, and measure reliabilities.

3.9.1.1. Exploratory Factor Analysis

An Exploratory Factor Analysis was performed on the SAPI instrument to ensure that their factor structure represents the measure. The reason for this is that the instrument was aimed at measuring six personality dimensions. The aim was, to explore whether the instrument represented these six dimensions. This statistical analysis was performed using the SPSS program (SPSS Inc, 2010). Exploratory Factor Analysis normally groups the correlated variables with the purpose of explaining and summarising the data (Tabachnick & Fidell, 2001). An Exploratory Factor Analysis was performed at sample level on the SAPI. The requirements were that the Kaiser-Meyer-Olkin (KMO) values of atleast .6 were deemed acceptable (Kaiser, 1970, 1974; Tabachnick & Fidell, 2001), while Bartlett's test of sphericity (Chi-square [χ^2] was deemed acceptable when the χ^2 statistic is significant (p) at a level of .05 or less (Bartlett, 1954; Tabachnick & Fidell, 2001) in order to indicate to the researcher the adequacy of the data for factor analysis and to evaluate whether this instrument was theoretically sound. Eigenvalues, Scree plots and parallel analysis were employed to inform the researcher about the number of factors to be retained from each personality measure, applying the outcome from the analysis at sample level to guide the researcher's decision on the number of factors to retain (He et al., 2014).

3.9.1.2. Confirmatory Factor Analysis

Whilst the factor structure of the measure was established, the Confirmatory Factor Analysis was performed. Confirmatory Factor Analysis is described as a model testing technique whereby a theoretical model is being compared with the observed structure in the sample (Milfont & Fischer, 2010). The Confirmatory Factor Analysis models are normally presented graphically with circles representing the latent, unobserved variables; squares representing manifest, observed variables; and lines indicating relationships between the variables. The adequate indices that are used to establish whether a measure is confirmed are: Comparative Fit Index (CFI) $> .95$; Adjusted Goodness of Fit Index (AGFI) $> .95$; Tucker Lewis Index (TLI) $> .95$; and Root Mean Square Error Approximation (RMSEA) $< .05$. For the purpose of the current study, due to the fact that the results from each personality dimension provided very poor model fits, the fit indices that were used were: CFI $> .90$; AGFI $> .85$; CFI $> .85$; and RMSEA $< .05$.

3.9.1.3. Measure Reliabilities

The reliability of the measure which is an extent to which the items of the scale measure the same underlying construct (Allan & Unwin, 2002) was determined for each personality dimension in order to examine the internal consistency of measures. The Cronbach Alpha [α] indicating reliability, of the values greater than .7 was required, while the value of .8 was regarded as good, and the value of .9 was regarded as excellent (George & Mallery, 2003). The aim of performing reliability was to ensure that the items of each personality dimension determined the same underlying construct (Tabachnick & Fidell, 2001).

3.9.2. Descriptive Statistics

Descriptive Statistics was used to address the research questions of the study. The Pearson Chi Square was applied to answer the first research question of the study. Furthermore, there existed a descriptive statistical analysis which provided means and

standard deviations of personality dimensions, using Multivariate Analysis of Covariance (MANCOVA) to answer the second research question of the study.

3.9.2.1. Pearson Chi Square

Using the statistical package SPSS (SPSS Inc, 2010) the descriptive statistical analysis for the Pearson Chi Square (χ^2) test was employed to assess whether there were differences in adolescents' career choices across ethnocultural groups. This technique is used to assess whether two categorical variables are related. This method compares the frequency of cases found in the different categories of one variable across the different categories of another variable (Allan & Unwin, 2002). The assumptions of Pearson chi square (χ^2) are: each observation should be independent of all the others, that is, one observation per subject; the minimum expected frequency in any cell should be 5 or more, or at least 80% of cells have expected frequencies of 5 or more; and if one has a 1 by 2 or a 2 by 2 table, the commended expected frequency should be at least 10 (Daniel, 1990; Gravetter & Wallnau, 2000; Siegel & Castellan, 1988). The footnote on the chi square test indicated that these assumptions were not violated.

3.9.2.2. Multivariate Analysis of Covariance (MANCOVA)

A Mutivariate Analysis of CoVariance (MANCOVA) was used to establish whether there were differences in personality across ethnocultural groups, gender, and career choices of adolescents. MANCOVA examines the influence of one or more independent variables on one dependent variable, while eliminating the effect of one or more covariate factors. The independent variables for the purpose of this study were ethnocultural groups, gender, and career choices, while a dependent variable was personality. Age and socioeconomic status were controlled and therefore, they were used as covariance. The social desirability was also a covariance. Thus, the effect of age, socioeconomic status, and social desirability to

determine differences in personality across ethnocultural groups, gender, and career choices were eliminated.

This analysis was accomplished using the statistical package SPSS (SPSS Inc, 2010). A MANCOVA estimates differences in composite mean and estimate differences within a set of dependent variables when one or more independent variables are present (Tabachnick & Fidell, 2001) while controlling confounding variables. The MANCOVA examines the unexplained variance and attempts to explain some of it with the covariates (Tabachnick & Fidell, 2001). This is done through the creation of new dependent variables, which serves to increase group differences. These variables are said to be linear combinations of the measured dependent variables. The MANCOVA is similar to Analysis of Multivariate (MANOVA) which differs in that it uses covariates. It is also seen as an extension of Analysis of Covariate (ANCOVA) which also uses covariates, and differs because it uses more than one independent variable. The assumptions of MANCOVA are therefore a combination of those of MANOVA and ANCOVA. A MANOVA is based on seven assumptions regarding the sample: the first assumption is that it is assumed that the sample is adequate. In this instance one should have more cases than dependent variables; the second assumption has to do with the normal distribution of the sample. In order to check normality of a sample, a researcher needs to investigate both univariate and multivariate normality; it is assumed that the sample should contain no outliers; linearity needs investigation; the regression needs to be homogenous; Multicollinearity and singularity should be assessed; and the homogeneity of variance-covariance matrices. The assumptions of ANCOVA that are applied in MANCOVA regarding covariates are: Correlation among covariates, when choosing which covariate to employ, it is important to assess if a statistical relationship exists between the covariates, through correlation analysis (Tabachnick & Fidell, 2012) and reliability of the covariate.

The multivariate tests, proposed by the Wilk's Lambda (Λ), were used to reveal statistical differences between groups using linear combinations with the dependent variables, and a significance level less than .05 was used (Tabachnick and Fidell, 2001). The between-subject effects were tested, which enables consideration of which personality aspects differ across groups. In this case the F statistic and the partial eta squared (η_p^2) were reported, which indicated the amount of variance in the dependent variable that must be explained by the independent variable. Significant differences in means across groups were reported. Additionally, the correlation of covariates was determined.

3.10. Chapter Summary

This chapter provided a detailed discussion of the research methodology of the study. The research design and approach was presented first, which also outlined the ontological and epistemological approach of the study. The research context and procedure was clearly discussed to provide transparency of the study. The section of sample and participants was also discussed. The measuring instruments of the constructs were also detailed as well as the psychometric properties of the personality measure. In general, the chapter presented information on the process of the study. The next chapter will discuss the results of the study.

CHAPTER 4

RESULTS

4.1. Chapter Introduction

This chapter places specific focus on reporting the results obtained from the data analysis. The first section consists of the results from career choices of adolescents with regards to Holland's vocational types. The second section includes the results of the psychometric properties of the SAPI measure. These results are divided into three categories, namely Exploratory Factor Analysis, Confirmatory Factor Analysis, and measure reliabilities. The third section includes descriptive statistics of the data as well as the data pertaining to the participants. A summary of the chapter will then be provided.

4.2. Career choices

The frequency distribution results of descriptive statistics revealed that there were 31 learners who chose careers of a Realistic type. There were 28 learners who chose Investigative careers, while 36 learners chose Artistic career types. The results further indicate that there were 67 learners who chose Social career types, 23 learners who chose Enterprising career types, while 19 learners chose Conventional career types. There was one missing value, indicating that one learner did not indicate a career choice (refer to Table 4.1).

Table 4.1 *Career choices of adolescents in Holland's vocational types*

Holland's vocational types	Number of learners
Realistic	31
Investigative	28
Artistic	36
Social	67
Enterprising	23
Conventional	19

4.3. Psychometric properties of measures

The results of Exploratory Factor Analysis and Confirmatory Factor Analysis are presented in this section. These results will be followed by the measure reliabilities results.

4.3.1. Exploratory Factor Analysis (EFA)

A principal component analysis was initially conducted on the six personality dimensions of the SAPI measure with no rotations. If it was found during the analysis that the measure appeared to have two or more factors, maximum likelihood was utilised, along with direct oblimin rotation. It was revealed that the KMO values and Bartlett's test of sphericity were appropriate for all the personality dimensions, for the full sample. This was an indication that the measures were suitable for factor analysis. For the full sample, the following criteria were used to assess the factor structure: eigenvalues greater than 1, scree plot and parallel analysis.

While running an exploratory factor analysis (EFA) on the 13 items of the Extraversion measure (full sample), it was found that the measure indicated a one-factor structure based on the above mentioned criteria mentioned for determining the factor structure (refer to Table 4.2). A four-factor structure was revealed, based on the eigenvalues greater than 1. However, both the scree plot and the parallel analysis revealed a one-factor structure (refer to Table 4.2). Two items did not load high, that is, they loaded lower than .4, and were therefore removed. The remaining 11 items were therefore the representative of Extraversion.

The EFA on the 15 items of Emotional Stability indicated a four-factor structure, based on eigenvalues greater than 1. The scree plot and parallel analysis, however, revealed a single-factor structure (refer to Table 4.2). There were six items that did not load high and they were eliminated. The remaining nine items correlated high with one another for the factor of Emotional stability.

The results of the EFA on the set of 25 items of the Conscientiousness indicated a seven-factor structure based on eigenvalues greater than 1. The scree plot and parallel analysis,

however, revealed a single-factor structure (refer to Table 4.2). Nine items did not correlate high with the other items and they were removed. Sixteen items were therefore retained for the Conscientiousness factor.

Upon running the EFA of the 23 items of the Openness dimension, a six-factor structure was indicated, based on eigenvalues greater than 1. However, the scree plot and parallel analysis revealed a single-factor structure (refer to Table 4.2). One item did not correlate high with other items and it was therefore eliminated, resulting in 22 items representing the Openness dimension.

The EFA results on the set of 41 items of the Social Relational Positive, indicated a nine-factor structure, based on eigenvalues greater than 1. The scree plot and parallel analysis, however, revealed a single-factor structure (refer to Table 4.2). There were five items that did not correlate high with other items and were removed. There were 36 items remaining that represented the Social Relational Positive personality dimension.

While running the EFA of the 22 items of the Social Relational Negative personality dimension, a seven-factor structure was shown, based on eigenvalues greater than 1. However, the scree plot and parallel analysis revealed a single-factor structure (refer to Table 4.2). There were four items that did not load high with other items and were therefore eliminated, with 18 items that represented Social Relational Negative remaining.

In total there were 31 items that were removed during the EFA. This means that in total there were 126 items that remained after the EFA.

There were 18 items measuring Social Desirability that formed part of the personality measure. This set of items comprised of positive and negative Social Desirability aspects. The EFA was initially run on all 18 Social Desirability items, and seven factors were indicated, based on eigenvalues greater than 1. However, two factors were indicated based on scree plot and two factors were indicated based on parallel analysis. 11 the items (more than

50%) loaded below 0.4, which is considered to be poor. This was because the items are comprised of positive and negative Social Desirability. The EFA was therefore run separately on the eight items of Social Desirability Positive and on the ten items of Social Desirability Negative. Three factors were indicated, based on eigenvalues greater than 1 on the Social Desirability Positive. However, one factor was indicated based on scree plot and parallel analysis. Similarly, three factors were indicated based on eigenvalues greater than 1 on the Social Desirability Negative. However, one factor was indicated based on scree plot and parallel analysis. It was found that two items loaded low on the Social Desirability Positive and three items loaded low on Social Desirability Negative. The purpose of Social Desirability scale for the current study was to control additional variables, therefore those items that loaded low were not eliminated (refer to Table 4.2).

Table 4.2 *Factor Structures of Personality Dimensions*

Measures	KMO	Bartlett's Test χ^2	Eigen- values	Scree plot	Parallel analysis
Extraversion	.81	639.56***	3	1	1
Emotional Stability	.74	356.70***	3	2	1
Openness	.83	1214.39***	6	1	1
Conscientiousness	.85	919.62***	4	1	1
Social Relational Positive	.87	2862.11***	9	1	1
Social Relational Negative	.88	1135.19***	4	1	1
Social Desirability Positive	.73	225.16***	3	1	1
Social Desirability Negative	.62	105.23***	3	1	1

Note. KMO = Kaiser-Meyer-Oklin Index

*** $p < .001$.

4.3.2. Confirmatory factor analysis (CFA)

The next step that followed after EFA was confirmatory factor analysis (CFA). CFA was performed for each of the six personality factors to test the a priori hypothesis about relations between the observed and latent variables (Jackson, Gillapsy, & Purc-Stephenson, 2009). To

test for fit model of the personality scale, the six dimensions of personality were the latent variables and the items of the dimensions were manifest variables. The fit indices were analysed for each of the personality dimensions.

Upon running the CFA, the results for each of the personality dimensions provided a poor fit. In order to improve the model fit, the regression weights for the items of each personality dimension, and the Modification Indices (MI) were observed. These are data-driven values suggesting changes that need to be made to the model with the purpose of improving the fit. From the suggested MI, there were several adjustments that were made; after each adjustment the model was evaluated before making the next change, until the model fit was improved. Thus, the analysis was conducted in a stepwise manner.

The initial output for the Extraversion dimension indicated that the model fit was poor ($\chi^2(52, N=205) = 178.36, p < .01, \chi^2/df = 3.44, CFI = .78, AGFI = .80, TLI = .73, RMSEA = .08$). The regression weights for Extraversion revealed that two items did not load higher than 0.4 and were therefore removed from the model. The improved model fit for Extraversion was ($\chi^2(21, N=205) = 39.72, p < .01, \chi^2/df = 1.89, CFI = .95, AGFI = .91, TLI = .94, RMSEA = .06$), which was acceptable.

The initial results for Emotional Stability indicated that the model fit was poor: ($\chi^2(104, N=205) = 220.21, p < .01, \chi^2/df = 2.12, CFI = .85, RMSEA = .10$). Five items from the regression weights of Emotional Stability did not load high and were eliminated, and thereafter the improved fit model was revealed without any adjustment suggested by MI. The improved fit model for Emotional Stability was ($\chi^2(2, N=205) = .60, p < .01, \chi^2/df = .030, CFI = 1.00, AGFI = .99, TLI = 1.02, RMSEA = .00$).

The initial results for Conscientiousness indicated that the model fit was poor: ($\chi^2(102, N=205) = 216.45, p < .01, \chi^2/df = 2.12, CFI = .85, AGFI = .85, TLI = .83, RMSEA = .07$). The regression weights for Conscientiousness revealed one item that did not load high and it was

eliminated from the model; not many adjustments suggested from MI were made until the improved model was indicated. The improved fit model for Conscientiousness was (χ^2 (88. N=205) = 164.48, $p < .01$, $\chi^2/df = 1.86$, CFI = .90, AGFI = .87, TLI = .88, RMSEA = .06).

The initial output for the Openness dimension was as follows: (χ^2 (78.51, N=205) = 174.26, $p < .01$, $\chi^2/df = 2.22$, CFI = .75, AGFI = .79, TLI = .72, RMSEA = .07), which indicated poor fit model. On the regression weights for Openness, there were six items that were revealed to load low and were also removed, and several adjustments suggested by MI were made to improve the model. The improved fit model for Openness was (χ^2 (100, N=205) = 163.17, $p < .01$, $\chi^2/df = 1.63$, CFI = .90, AGFI = .86, TLI = .89, RMSEA = .05).

The results for the initial output for Social Relational Positive indicated a poor fit model: (χ^2 (464, N=205) = 677.33, $p < .01$, $\chi^2/df = 2.11$, CFI = .72, AGFI = .71, TLI = .71, RMSEA = .07). Three items of the Social Relational Positive were shown from the regression weights, loaded low, and were removed from the model. Multiple adjustments suggested by MI were made for this personality dimension, compared to the other personality dimensions. It was for this reason that modifications of this dimension improved the model fit. The improved fit model for Social Relational Positive was (χ^2 (209, N=205) = 464.33, $p < .01$, $\chi^2/df = 1.61$, CFI = .92, AGFI = .88, TLI = .91, RMSEA = .05).

The initial results for Social Relational Negative revealed poor model fit: (χ^2 (594, N=205) = 1256.16, $p < .01$, $\chi^2/df = 2.14$, CFI = .84, AGFI = .82, TLI = .82, RMSEA = .07). Two items indicated by the regression weights of Social Relational Negative did not load high and they were removed from the model, and not many modifications were made until the improved model was shown. The improved fit model for Social Relational Negative was (χ^2 (102, N=205) = 164.37, $p < .01$, $\chi^2/df = 1.46$, CFI = .90, AGFI = .80, TLI = .88, RMSEA = .04).

4.3.3. Reliabilities

In order for the reliability of the personality measure to be assessed, the internal reliability of the measures was assessed. The purpose of assessing this reliability is to make sure that the items of the measure quantify the same underlying construct (Tabachnick & Fidell, 2001). The process of measuring internal reliability is through assessing Cronbach coefficient alpha. This coefficient enables for the average correlation of all items within a particular measure to be examined. All the personality measures for the six dimensions used for the purpose of the current study proved reliable, as they had Cronbach alphas (α) of .7 or greater (George & Mallery, 2003) (refer to Table 4.3).

Table 4.3 *Measurement Reliabilities for Personality Dimensions*

Item	Cronbach α
Extraversion	.79
Emotional Stability	.71
Openness	.85
Conscientiousness	.86
Social Relational Positive	.92
Social Relational Negative	.88

4.4. Career choices across ethnocultural groups

The Pearson's χ^2 analysis was run to obtain answers for the first research question of the study. This technique determined whether differences existed between career choices across ethnocultural groups. The results of the Pearson χ^2 indicated that the assumption of the χ^2 regarding the minimum expected cell frequency which should be 5 or greater, was not violated. Furthermore, the results indicated a p value of .023. This value was lower than .05, which signifies that differences exist between career choices and ethnocultural groups. The minimum expected cell frequency was 19. The cross-tabulation results further revealed that there were differences between career choices across ethnocultural groups on the

Investigative, Artistic, Social, Enterprising, and Conventional types. However, there existed no differences on the Realistic type (refer to Table 4.4).

Table 4.4 *Holland's Vocational Type across ethnocultural groups*

Category	R	I	A	S	E	C
<i>African Adolescents</i>						
% within Holland's vocational type	26.7%	25.0%	22.2%	33.3%	21.7%	5.3%
Adjusted Residual	.2	.0	-.5	1.8	-.4	-2.1*
<i>Coloured Adolescents</i>						
% within Holland's vocational type	23.3%	10.7%	19.4%	24.2%	39.1%	0.0%
Adjusted Residual	.4	-1.4	-.2	-.8	-2.3*	-2.3*
<i>Indian Adolescents</i>						
% within Holland's vocational type	50.1%	60.7%	55.6%	42.4%	39.1%	94.7%
Adjusted Residual	-.4	.9	.3	-2.1*	-1.4	3.8*

Note. R=Realistic; I=Investigative; A=Artistic; S=Social; E=Enterprise; C=Conventional; *= Statistically Significant

4.5. Personality across gender, ethnocultural groups and career choices

Prior to running the MANCOVA, assumptions regarding this analysis were tested. The results from the analysis of the Kolmogorov statistic indicated a non-significant score, indicating no violation of the normality assumption. During investigation of the histograms of each group with regards to the different personality dimensions, it appeared that there existed a normal distribution. However, no normal distribution occurred for the White group, owing to a very small size. Owing to the fact that only two of the participants were White learners, these were removed. While assessing the Mahalanobis distance, there existed no presence of multivariate outliers. The personality inter-measure correlations were assessed; a range of .2 to .4 was deemed acceptable (Briggs & Cheek, 1986). The Levene's test of equality of variance indicated the non-statistically significant value, which indicated equal variance between the groups. The Box's M test equality of covariance matrices revealed the statistically significant value of .02. This was an indication of the statistically significant

value of larger than .001, and therefore the assumption of the equality of covariance between the groups was not violated. The Reliability of the covariate was calculated in order to test the assumption of the reliability of covariate. This was done through calculating the reliability of the social desirability scale. From the abovementioned results, the assumptions of MANCOVA were met, thus the analysis was conducted.

A one-way between groups Multivariate Analysis of Covariance was employed to investigate, when controlling for age and socioeconomic status, whether there existed differences in personality across gender, ethnocultural group and career choice. The social desirability scale was also used for controlling additional variables. The multivariate analysis of Wilk's Lambda (Λ) indicated that there were statistically significant differences in personality across males and females on combined dependent variables: [$F(6, 174) = 12.25$, $p = .000$, Wilks' $\Lambda = .70$, $\eta_p^2 = .29$] (refer to Table 4.5).

Table 4.5 Means for gender

Category	E	ES	C	O	SRP	SRN
M(male)	4.00	3.06	3.83	3.97	3.73	2.68
SE(male)	0.07	0.10	0.04	0.05	0.05	0.07
M(female)	3.95	4.02	4.02	4.01	3.99	2.34
SE(female)	0.06	0.08	0.04	0.04	0.04	0.05
F	.25*	62.07*	6.44*	.44*	14.49*	17.01*
η_p^2	.00	.25	.03	.00	.07	.08

Note. M= Means; SE= Standard Error; F= F test; η_p^2 = Partial eta squared; E= Extraversion; ES= Emotional Stability; C= Conscientiousness; O= Openness; SRP= Social Relational Positive; SRN= Social Relational Negative

The results revealed no statistically significant differences in personality across ethnocultural groups. The means for each of the personality dimensions were inspected and also indicated no statistically significant differences (refer to Table 4.6).

Table 4.6 Means for ethnocultural group

Category	E	ES	C	O	SRP	SRN
M(Black)	3.77	3.42	3.90	3.98	3.75	2.58
SE(Black)	.08	.11	.07	.06	.06	.08
M(Coloured)	4.13	3.68	3.99	4.05	3.91	2.50
SE(Coloured)	.10	.15	.08	.07	.07	.09
M(Indian)	4.03	3.52	3.88	3.95	3.91	2.46
SE(Indian)	.05	.07	.04	.04	.04	.05
F	4.90	1.13	.69	.60	.68	2.71
η_p^2	.05	.01	.00	.00	.00	.02

Note. M= Mean; SE= Standard Error; F= F test; η_p^2 = Partial eta squared E= Extraversion; ES= Emotional Stability; C= Conscientiousness; O= Openness; SRP= Social Relational Positive; SRN= Social Relational Negative

The results revealed that there were no statistically significant differences in personality across career choices of adolescent learners. The means for each, personality aspects were also inspected, and indicated no differences (refer to Table 4.7).

Table 4.7 Means for career choices

Career type	E	ES	C	O	SRP	SRN
M(Realistic)	4.15	3.51	3.91	4.08	3.91	2.61
SE(Realistic)	.10	.14	.08	.08	.07	.10
M(Investigative)	3.88	3.43	3.97	3.99	3.91	2.38
SE(Investigative)	.11	.15	.09	.08	.08	.11
M(Artistic)	4.07	3.71	3.90	4.09	3.86	2.43
SE(Artistic)	.10	.14	.08	.08	.07	.10
M(Social)	3.94	3.53	3.76	3.92	3.82	2.58
SE(Social)	.07	.10	.06	.06	.05	.07
M(Enterprising)	3.94	3.78	3.91	3.98	3.92	2.48
SE(Enterprising)	.11	.15	.09	.09	.08	.11
M(Conventional)	3.88	3.28	4.11	3.88	3.72	2.61
SE(Conventional)	.14	.19	.11	.11	.10	.13
F	1.01	1.24	2.02	1.05	.97	.82
η_p^2	.02	.03	.05	.02	.02	.02

Note. M= Means; SE= Standard Error; F= F test; η_p^2 = Partial eta squared. E= Extraversion; ES= Emotional Stability; C= Conscientiousness; O= Openness; SRP= Social Relational Positive; SRN= Social Relational Negative

4.6. Chapter Summary

This chapter presented the results from the conducted analysis. The descriptive statistics results for career choices of adolescent learners were also presented. The results of the psychometric properties were explained. The exploratory factor analysis indicated the number of items that were retained from each personality dimension. These items were used for the confirmatory factor analysis, which was the next analytical technique that was applied. There were some items detected by this analysis that loaded low and were also eliminated. The measure reliabilities results for the six personality dimensions as well as for social desirability scales were presented. The results proved that the scales were all reliable. The results from the Pearson chi-square and MANCOVA were presented as a means of obtaining answers from the research questions of the study.



CHAPTER 5

DISCUSSION

5.1. Chapter Introduction

The discussion of this chapter is based on the results obtained from the analysis. This section answers the questions that arose from Chapter 2 about the adolescents' personality types and their respective career choices. The first analysis was to determine whether there were any differences in career choices across ethnocultural groups of South African adolescents. The second question aimed to discover when age and socioeconomic status were controlled, whether there existed any differences in personality traits across gender, ethnocultural groups, and career choices of South African adolescents. These research questions will be addressed in this chapter, which comprises the sections of career choices, career choices across ethnocultural groups, personality, personality across gender, personality across ethnocultural groups, and personality across career choices. The context and relational variables will also form part the discussion of this chapter. Lastly, the chapter summary will serve to draw this discussion to a close.

5.2. Career choices

The results reveal that the majority of adolescents in this study chose those careers which are categorised on the Social type of Holland's vocational types. One of the explanations could be that the adolescent learners chose Social careers because they wanted to appear as socially desirable. They may have chosen these career types because they wanted to be seen as more helping and caring for others than they actually are. An explanation for this finding may be attributed to Roe and Holland's theory on adolescents' environmental influences. Adolescents are likely to make similar career choices to those who surround them, such as their parents and others in society. (Roe, 1964, 1984; Sharf, 2002). When adolescents are surrounded by individuals (including both their parents and others in the society) who have

the Social career types, they are likely to choose similar careers. Furthermore, Holland (1979) states that parents produce an environment that matches with their personality type, friends and work. Subsequently, the child becomes involved in the environment that the parent has created, and then models similar behaviour. The environment has an impact on producing particular interests in activities of adolescents. These adolescents may have developed interests in the Social career types that they have chosen because their parents or others surrounding them have similar careers. Additionally, one of factors from Roe's theory that has influence on career choices of adolescents is cultural and socioeconomic background. The adolescents who participated in the study come from a collective culture and careers that involve caring for others, of which Social type are most popular. Additionally, the adolescents who participated in the study, coming from schools of low socioeconomic background, chose careers mostly of individuals from low and middle socioeconomic classes. On the contrary, those adolescents from middle socioeconomic schools mostly chose careers of a high class.

There were also a large number of adolescents who chose the Artistic career types. In this instance, the Self- Efficacy Theory is applicable. This theory states that adolescents' career choices are mainly influenced by their environmental factors. Their social contexts are likely to influence them to choose a particular career, and they believe that they can be successful in the chosen career. Adolescents may observe Artists who they regard as role models, either on television or from within their community. They may develop self-efficacy and believe that they can be successful in that particular Artistic career, and consequently make such career choices. Furthermore, Super's (1992) theory may also explain adolescents' career choices in the Artistic type. Super (1992) states that a career choice of an individual is based on his or her self-concept. An individual's self-concept is his or her own views of his or her personal characteristics. These personal characteristics are one's personal meaning of one's abilities,

choices, and values. The adolescents who chose the Artistic career types may have a self-concept that is Artistic.

There were few adolescents who chose the Conventional career types. With regards to the Self-Efficacy Theory, it could be that there is a lack of people regarded as role models with Conventional career types; thus, they are unlikely to develop self-efficacy for these career types. With regards to Parsons' Trait and Factor Theory, there are three factors indicated in the theory that are likely to influence adolescents' career choices. The first is individual knowledge, such as personality, skills, abilities, interests, values, attitudes, aptitudes, achievements, and areas of development; the second is knowledge of the occupation, such as conditions and requirements for success, pros and cons, opportunities, advancements, and compensation; and the third is the matching of the individual's traits to a job that fits them (Parson, 1909). The majority of adolescents who did not choose the Conventional career types may not have had knowledge about their personalities, abilities, interests, values, attitudes, and aptitudes that matched the Conventional career types. Conversely, the adolescents may not have had sufficient knowledge about the occupation, and consequently did not see a match with their traits. Those few adolescents who chose the Conventional careers may have had sufficient knowledge about themselves and those careers.

Most adolescent learners chose careers that are professional in nature, and that require formal qualifications to gain entry into the profession. This is an indication that the adolescent learners preferred to pursue their careers by studying in institutions and obtaining their qualifications. These findings indicate that the learners did not consider the current employment context. The adolescent learners seem to have lacked knowledge about the current employment context of South Africa. The learnership pathway, which is also a platform to enter into the workforce, was not considered by the adolescent learners.

5.2.1. Career choices across ethnocultural groups

With regards to the differences in career choices of adolescents across ethnocultural groups, the results of the current study differ from the literature outlined in chapter 2, in that there exists limited literature that explains whether there are differences in career choices across cultures. Fouad and Mohler (2004) state that a minimal difference exists in career choices across cultures. The results of the current study indicated that there were differences in career choices across the ethnocultural groups on some career types. Holland's Realistic type indicated no differences across the groups. The number of adolescents who chose Realistic careers was equal across these groups. This could be because the sample of the study consisted of a similar cultural background. On the Investigative type, it appeared that the Indian adolescents were the majority that chose the Investigative career types. This was followed by the Black adolescents, who also chose the Investigative types.

There was a limited number of Coloured adolescents who chose Investigative careers. The cultural backgrounds of these adolescents may have influence on the career choices of adolescents. One of the abovementioned factors of cultural background from Roe's theory applies to this finding: the Black and Indian adolescents may have chosen Investigative career types because they are influenced by role models in their cultures. It maybe that the majority of individuals in their cultures possess Investigative careers. The Coloured adolescents may not have chosen Investigative careers because this type is not familiar in their culture or there may not be many role models in their cultures who hold Investigative careers. Although the results may not be comparable with the White adolescents as their sample was very small, it is of interest to note nonetheless that there was one learner who chose the Investigative type of a career.

The Artistic career types chosen by adolescents across groups possessed minimal differences. This finding supports Fouad and Mohler's (2004) findings on the limited

difference in career choices across groups. The number of adolescents who chose the Artistic career types is almost equal across ethnocultural groups. This finding is an indication that culture does not have impact on adolescents' career choices of the Artistic. Therefore, it cannot be said that cultural differences have an impact.

Although Black, Coloured, and Indian groups all share a collective culture, the Black group has a strong collective background. The nature of the collective culture is linked with helping everyone in society (Triandis, 2001). This was supported by the findings on the Social type. It appeared that most of the Black adolescents chose the Social career types. To this end, the Black adolescents may have been influenced by their ethnocultural background in their career choices. These learners may have chosen the Social careers because they are interested in helping others in their respective communities. In other words, it appears as though that these learners are interested in caring for other people in need. The Coloured and Indian adolescents also chose the Social career types because they also hail from a collective cultural background.

There is not a significant difference in the number of adolescents who chose Enterprising careers. This finding also supports the findings of Fouad and Mohler (2004). Interestingly, more Coloured adolescents chose the Enterprising career types than Indian adolescents. The Indian ethnocultural group comprises of the majority individuals who have business career types in South Africa. It was therefore expected that the majority of adolescents who chose Enterprising careers would come from the Indian group.

The large majority of adolescents who chose careers of the Conventional types came from the Indian group. The percentage of adolescents from the Black group who chose the Conventional career type is very low, while there were no adolescents from the Coloured group who chose this type. For the Black and Coloured group, findings may be explained by the cultural backgrounds. As indicated above, the majority of adolescents chose the Social

type because this type involves working with and caring for people. The Conventional career types differ from the Social career types in that the Conventional careers often involve working independently. It is difficult to explain the findings of Conventional career type based on cultural background. It cannot be said that these adolescents were influenced by their culture. The Parsons' Trait and Factor Theory (1909) is a possible explanation; Indian adolescents may have had sufficient knowledge about the personalities, abilities, values, attitudes and aptitudes, as well as the knowledge of the requirements and conditions of the occupation of the Conventional types. The Indian adolescents who participated in the study come from a private school where they had sufficient resources for effective career guidance, in contrast to other schools whose learners participated in the study. They may have chosen the Conventional career types due to sufficient knowledge of the careers.

5.3. Personality

The findings on the mean scores indicated that personality during adolescence in the context of South Africa is higher on Extraversion, Openness, and Conscientiousness, respectively. These findings are aligned with the previous findings that indicated high mean scores on these dimensions (Costa & McCrae, 1994; McCrae et al., 2000) among adolescents in a different context (i.e. not South Africa). At adolescence stage, most individuals are likely to possess characteristics of Extraversion, such as assertiveness; Openness, such as new possibilities and experiences; and Conscientiousness, such as keeping things neat and tidy. The Social Relational Positive was the next dimension that yielded a high mean score. This finding could be explained owing to the fact that the participants scored higher on the Social Desirability Positive scale. The participants reported themselves in a more positive manner and this may have increased the mean score of this dimension. Another explanation for this finding may stem from the adolescents' cultural backgrounds. The Black, Coloured, and

Indian groups share a collective culture, which is based on being relationally positive towards others.

Emotional Stability ranked the second lowest in the mean scores. This is an indication that participants scored high on Neuroticism. This may be explained in terms of Erikson's Developmental theory. This theory states that when individuals have developed their sense of identity they tend to have developed emotional stability (Bee, 1992). The adolescent learners may have experienced role confusion (Erikson, 1963), which may be associated to low emotional stability. It is possible that these adolescent learners who scored lower on Emotional Stability had not yet reached a point where they have discovered their identity. Lastly, the Negative Social Relational became the lowest in mean scores. This finding could be explained by the social desirability, as the Social desirability scale revealed that the adolescents presented themselves in a positive manner.

5.3.1. Personality across gender

Question 2 of the current study attempted to determine whether there are differences in personality between gender, ethnocultural groups and career choices. The results show that differences in personality and gender do indeed exist. This finding supports the results from Soto, John, Gosling, and Potter (2011) on Emotional Stability, Openness, and Conscientiousness. Emotional Stability was found to be higher in males and lower in females. In their study, Soto et al. (2011) found that female adolescents scored higher on Neuroticism than male adolescents. A score that is lower on Emotional Stability indicates Neuroticism, and thus a score that is lower on Neuroticism indicates Emotional Stability. The difference between the current study and the previous study (Soto et al., 2011) is that age was controlled for the current study, whereas this variable was not controlled for the previous study. As such, there is no indication in the current study as to whether females scored lower on Emotional Stability during early or late adolescence.

The results of the current study indicate that female adolescents scored higher on Conscientiousness than male adolescents. The previous literature (Soto et al., 2011) also supports this finding. Female adolescents also scored higher on Openness than male adolescents. Interestingly, the findings from the current study on Extraversion reveal that male adolescents scored higher on this dimension than female adolescents. There exist, however, minimal differences in the mean scores of Extraversion for male adolescents and female adolescents. The previous studies found that female adolescents scored higher on this dimension (Costa et al., 2000).

It is not possible to discuss the Social Relational Positive and the Social Relational Negative in comparison with the literature because these dimensions are currently not available. The literature is comprised of the Big Five dimensions and these relational factors are not available. Female adolescents scored higher on the Social Relational Positive than male adolescents. However, there exist partial differences in the mean scores of this dimension. Male adolescents, on the other hand, scored higher on the Social Relational Negative than female adolescents, and the differences in the mean scores are also minimal of this personality dimension.

5.3.2. Personality across ethnocultural groups

The results of the study did not show any statistically significant differences of personality across ethnocultural groups. This finding is not surprising because the ethnocultural groups that were part of the study are all comprised a collective background. Due to the small sample of the White group, they were not included in the MANCOVA. The culture of White individuals is individualistic, which differs from those of Black, Coloured, and Indian individuals. If an adequate sample of the White group could be included in the analysis, the results would have shown differences in personality across cultures. McCrae et al., (2004) state that differences in cultures, such as individualism and collectivism, influence

many psychological processes. Thus, the findings of this study differ from those found in the literature because the previous studies investigated personality across cultures abroad. They included samples from various countries made up of various cultures.

5.3.3. Personality and career choices

The results of investigating whether there were differences in personality across career choices yielded no statistical difference. Some previous studies, however, found differences in personality across career choices. This finding is an indication that it is not clear whether adolescents who score higher on a particular personality dimension are associated with a particular career type. It cannot be said that adolescents who, for example, score higher on Extraversion are more likely to choose a Social career type. These findings are therefore not supported by previous studies, which observed such differences. These adolescents may score high on a particular personality dimension and not choose a career based on their personality traits.

The literature reveals that there is a relationship between some of Holland's vocational types with some of the Big Five personality dimensions. The vocational types Social and Enterprising have been shown to be linked to Extraversion. The Extraversion dimension is associated with assertiveness and interpersonal skills (Rothmann & Coertzer, 2003; Tett & Burnett, 2003), and Social and Enterprising vocational types are associated with maintaining relationships with others. The nature of these careers has to do with talking with other individuals. The Social career type has also been proven to be related to Agreeableness. This is also an indication that individuals of a Social career type prefer to maintain good relationships with others by being agreeable. The nature of the Social career type involves helping others and serving in communities, thus it is important that a good relationship is maintained (De Fruit & Mervielde, 1997; Holland, Johnson, & Asama, 1995).

The Artistic type is found to be related to Openness to Experience. Individuals of an Openness dimension are likely to be flexible and open with their emotions, thus the Artistic career types require flexible individuals. It is important that Artistic individuals become open to new experiences in order to be successful in their careers. The Investigative type is also found to be linked to Openness to Experience (Costa, McCrae, & Holland, 1984; De Fruit & Mervielde, 1997; Holland, Johnson, & Asama, 1995; Tokar & Swanson, 1995). The Investigative careers consist of research and science, mainly with the aim of seeking evidence. It is important that individuals of this career type are flexible and curious in order to find different ways of seeking evidence. Thus, the finding of association between the Investigative career type and Openness dimension is important.

The literature indicates that there is no link between the Realistic type and any of the Big Five personality types. There seems no personality dimension that can be possibly linked to a Realistic career type.

The Conventional type has shown to be slightly related to Conscientiousness (Larson, Rottinghaus, & Borgen, 2002). The Conventional type and Conscientiousness have common characteristics such as orderliness, persistence, and obedience (Goldberg, 1981). Conscientiousness individuals are likely to be successful in the Conventional careers. They will be able to follow strict rules and procedures of their work.

5.4. Context and the background variables

The context of the current study in terms of personality and career choices can be explained differently in terms of relational factors that were not included. For the purpose of the current study, relational variables are background variables that are likely to have impact on personality and career choices of adolescents. With regards to personality, these include, but are not limited to socioeconomic status, age and personal experiences. As these are important to understand personality, these aspects are described briefly in this section.

Age was controlled during the analysis of the data for the current study. Age is one of the variables that influence personality. Personality changes over time as an individual develops. Soto et al., (2011) noted the differences in personality across different age groups in adolescents, with two of the Big Five dimensions (Neuroticism and Openness to Experience). Their study was conducted on a sample of 1, 267, 218 children, adolescents, as well as adults assessed using the World Wide Web. This study aimed at examining age differences in personality traits and attention was placed on late childhood and adolescence. The study found that females at age 14 reported higher scores on Neuroticism than males. Females aged between 12 and 17 years old reported higher scores on Openness to Experience and Conscientiousness. Agreeableness and Extraversion were also observed in females. The results indicate that females reported lower scores on Neuroticism during late adolescence compared to early adolescence; this is related to the Developmental Theory. The theory states that during early and middle adolescence, individuals are in the process of trying to discover themselves and are struggling to discover their identity (Erikson, 1963; Bee, 1992). During late adolescence, individuals have a sense of their identity and are likely to be in a position where they are comfortable with who they are.

Socioeconomic status includes the social class and educational level of an individual. Individuals from a certain class are more likely to possess certain characteristics, which may have influence on the personality traits they exhibit. Buccoil, Cavasso, and Zarri (2014) conducted a study based on examining the link between socioeconomic status and personality traits. This study indicates that individuals who score higher on Openness to Experience, Conscientiousness, Extraversion, and Agreeableness report a higher position on their socioeconomic status. Those individuals who scored higher on Neuroticism, are said to have a lower socioeconomic status. This literature provides a basis for the current study on the

differences in personality types while demonstrating that socioeconomic status may have an impact on these.

Gender is considered to be a variable that can play a role in adolescents' career choices. Gender serves as a primary means through which individuals define themselves, as well as how the society defines them. Females are said to choose careers of a Social type, which involves caring for individuals (Buddeberg-Fischer, Klaghofer, Abel, & Buddeberg 2006; Morgan, Isaac, & Sanson, 2001). Sex role expectations in societies are observed as possessing an influence on career choices (Ekore, 2014). Different societies are able to emphasise certain roles each sex should play. For this reason, males are found to make career choices based on the Realistic type more than females (Ekore, 2014). In addition, males report to be more interested in careers that involve Mathematics and Science than females (Morgan, Isaac, & Sanson, 2001). Additionally, although both males and females are likely to choose business careers, males are more likely than females to select these types of careers, and this is explained by gender expectations – males have been regarded as breadwinners in societies.

There are, however, female adolescents who choose non-traditional careers, such as those careers that are of the Realistic type. These female adolescents choose these careers because they are influenced by their role models and their high levels of self-efficacy (Quimby & De santis, 2006). When they identify other females who are in the male-dominated industries as their role models, they become motivated to choose careers that are similar to their role models. Moreover, the above discussed Social Cognitive Theory supports these findings.

Adolescents' social context has an influence on self-efficacy, which, as a consequence, influences career choices. Additionally, individuals develop self-concepts based on their social context, along with their differing career choices. These individuals are also found to choose careers of an Artistic type (Turner, Conkel, Starkey, & Landgraf, 2010).

Socioeconomic status may also influence the career choices of adolescents. Adolescents who

come from a low socioeconomic background may want to make career choices that are not viewed as being applicable to those of higher socioeconomic status. There is limited literature regarding the link between socioeconomic status and career choices of adolescents. A study conducted by Hannah and Kahn (1989) indicates the link between socioeconomic status and career choices of adolescents. The aim of the study was to assess the association between socioeconomic status and career choices of high school learners. The researchers reported that female adolescents from high socioeconomic background are most likely to choose male-dominated careers, and those from low socioeconomic background are less likely to choose male-dominated careers. This literature is important for the current study as it provides an indication that there exists an association between socioeconomic status and career choices of adolescent learners.

5.5. Chapter Summary

The purpose of this chapter was to discuss the results of the current study relating to the literature. The findings of the career choices of adolescents were presented and possible explanations for these choices were given, in relation to the theories presented in the literature review section. In addition to this, the career choices across ethnocultural groups were examined. The differences between career choices were presented alongside possible explanations for their existence within the South African context. The next section provided insight on the findings of personality, which included an account of differences in personality across gender, ethnocultural groups, and career choices. The discussion of these sections was related to findings from previously completed studies. The context and relational variables were also considered in this chapter.

CHAPTER 6

GENERAL CONCLUSIONS

6.1. Chapter Introduction

This final chapter examines the limitations and recommendations resulting from the research findings. This section will discuss the shortcomings of the current study, as well as to provide recommendations for future research purposes in order to overcome these restrictions. This discussion will be followed by the practical implications of the findings from the current study. These practical implications will outline the contributions made by this research to the field. The overall conclusions of the study will constitute the penultimate section, and will summarise what has been discovered and discussed throughout the study. Lastly, the chapter summary will be presented.

6.2. Limitations and recommendations

The current study does not go without its limitations. One of these is the limited sample of learners from the White ethnocultural group. There were only two learners from the White group and thus the results from this group were not comparable with others. Therefore, the sample does not represent the South African population. If in fact generalisable findings are to be found for future studies, the White group needs to be included in the study. Moreover, contexts outside the Gauteng province needs to be considered in order to gain a much comprehensive understanding of the South African context as a whole. Future studies consisting more representative and broader sample may assist in the generalisability of findings. Additionally, it would be of the utmost importance to include disabled learners in future studies in order to understand their personalities and career choices.

Secondly, the learners completed a vocabulary test consisting of ten items. This assessment was conducted in order to determine whether learners would understand the content of the personality items. There were 205 learners who received the results of at least

five out of ten. There were 163 learners that scored below five on this test and were therefore eliminated. This means that some learners may not have understood the meaning of most of the personality items in the questionnaire. Furthermore, although English may be the language of instruction in the schools, most of the learners who completed the questionnaires came from households in which English was not their first language. These learners may have experienced difficulty in understanding the questionnaire. This limitation poses negative implications in obtaining accurate information from the learners. As such, it is important that test developers construct measures that will accommodate individuals who speak languages other than English as their first language. In cases where test developers are not proficient in local languages, it would be useful to employ language specialists of those particular vernaculars. In addition to the learners who took the vocabulary test, there may have been learners who may have scored five or more on the vocabulary test by chance. This could indicate that these learners were still unable to understand the meaning of the personality items. As a consequence, this may not have revealed their true personality types.

Thirdly, for the aim of the current study, groups were divided in terms of ethnocultural lines. This was done owing to a small sample size obtained. Both the Black and White group however, have sub-groups that exist within each group based on linguistic or cultural lines. With regards to this, the ethnocultural groups used in the current study were not necessarily homogenous in nature. This point may be vital as different sub-groups may show differences from the larger ethnocultural group where they belong. Thus, differences amongst sub-groups of these different ethnocultural groups were not examined within the current study.

6.3. Practical implications of findings

The findings of the study have practical implications for schools, learners, and test developers. The findings did not identify differences in personalities across cultures. It is highly possible that this finding was influenced by learners making use of random selections

of the given items. An effective career guidance that guides learners into concentrating on the content of the measure being administered to them needs to be implemented by the schools. In addition to career guidance, schools need to educate learners about the current career and employment context in the country. Learners should be informed about the learnership pathways in order for them to understand that this is another means of achieving skills development. Learners need to understand the different forms of skills development available to them in the South African context so that they will be able to make informed career choices. Furthermore, it is possible that learners chose certain careers randomly. Learners will need to obtain career guidance that will help them choose careers that will suit their personality traits. This process would require the inclusion of personality scales in order for learners to understand their personality types prior to making career choices. Thus, such career guidance would assist learners in choosing careers that align with their traits and environments (Parson, 1909). A majority of individuals in South Africa often attend tertiary institutions without having knowledge of what careers they aim to pursue. Subsequently, these students enrol for study towards a career that they are not necessarily interested in. The result of such a selection of study programmes by students includes high drop-out rates, as well as students changing their fields of study prior to completion. In certain instances, students graduate with qualifications that they end up under-utilising as they later discover that they have completed programmes that do not match their personality traits (Makoni, 2010). In this instance, the learners would benefit from career guidance because when these learners become ready to attend tertiary institutions, they will have knowledge of the studies for which they wish to enrol in order to pursue their chosen careers.

Another practical implication is for test developers to be aware of issues regarding fairness. Only 205 participants were included during the analysis of the results and 175 participants were removed because they did not score at least five out of ten in the vocabulary

test. This vocabulary test was aimed at measuring whether the participants would be able to understand the content of the personality measure. The less than five score of these participants was an indication that they were unable to understand the content of the SAPI, as it was an English version. Moreover, the Employment Equity Act 55 of 1998 stipulates that measures must be fair to all those who are being assessed. When individuals are assessed in a language in which they are not proficient, the measure may prove to be unfair. As a result, individuals may obtain the results from such an unfair measure, which may in turn lead to inaccurate career guidance. For example, an individual who completes an unfair assessment may receive feedback suggesting that he or she scored high on the dimension of Extraversion. Meanwhile, owing to the unfair assessment, the individual may not necessarily possess the Extraversion type. Such an individual may be advised into career types that match the Extraversion type and consequently make unsuitable career choices. Therefore, test developers have a responsibility to translate the personality measures into a number of appropriate languages in order to ensure fairness. This translation will assist test-takers in understanding the content of the measure. In this way, accurate information from the participants will be obtained and sound feedback provided.

6.4. Conclusions

The findings indicate some differences in career choices across the ethnocultural groups. However, the Holland's Realistic type shows no differences across three ethnocultural groups. This finding suggests that ethnocultural groups do not have an influence on adolescents when choosing careers that are of the Realistic type. The adolescents who chose the Realistic career types did so based on their interests and not on whether those careers are most familiar in their cultures.

The differences of the Artistic and Enterprising career types of adolescents were minimal. It appears that culture does not have much influence on adolescents when it comes

to selecting the Artistic career type. Other factors such as role models of adolescents may influence career choices, rather than culture. Individuals in the field of the Arts are most likely to appear in the media, where adolescents can access knowledge of the career. Additionally, adolescents who participated in the study indicated that Artistic careers are most likely to be accessible in the media. Thus, adolescents may choose to identify these figures as their role models and for this reason pursue similar careers. With regards to the Enterprising type, it is possible that adolescents identify with others in their community who have Enterprising careers, casting them as their role models. This finding could possibly be an influential factor other than culture.

There were many adolescents who chose the Social career types and the cultural groups that participated in the study consist of a collective culture. This indicates that culture plays a significant role in influencing adolescents' career choices. The adolescents chose common careers because they come from common cultural backgrounds. They also chose careers that would identify with their culture of caring for others. Among the Black and Coloured groups there were not many adolescents who chose careers that are Conventional, whilst in the Indian group there were many learners who chose such careers. This does not prove, however, that culture has implication on career choice. It does not mean that the Black and Coloured adolescents did not choose these careers because there are not many individuals from their culture who have such careers. This finding could simply be due to the lack of knowledge of these careers. It is noteworthy that the Indian school that participated in the study is more privileged than the Black and Coloured schools that participated in the study. It is therefore, possible that the Indian adolescents who participated in the study had more knowledge about the Conventional career types, which, as a result, influenced them in choosing such careers.

The findings of the current study differ somewhat from previous research regarding the differences between personalities across gender groups. Male adolescents scored higher on Extraversion than females. Thus, it is possible that this finding was influenced by the lack of engagement when the learners were completing the personality questionnaires. It is possible that they may not have provided accurate description of themselves, owing to a lower degree of language proficiency. This result could, however, suggest that the arising personality differences in gender should be noted. The findings on Conscientiousness, Emotional Stability, and Openness are not new when compared to those derived from the previous studies. The differences on the Relational factors were examined between males and females. Although there exist minimal differences in the relational factors between males and females, it appears that female adolescents are more Social Relational Positive than male adolescents, and male adolescents are more Social Relational Negative than female adolescents.

With regards to the differences between personality across ethnocultural groups, the findings did not show such differences, so therefore it cannot be concluded that there are differences. The ethnocultural groups of Black, Coloured, and Indian share similarities as indicated above. It can therefore be partially concluded that there exist no differences across ethnocultural groups in career choices of adolescents.

Concerning the differences in personality across career choices, the findings of the current study did not indicate any differences. It can therefore be concluded that there exist no differences in personality across career choices

6.5. Chapter Summary

This chapter identified the limitations of the study. With each limitation, recommendations were indicated for future research purposes. The practical implications of the findings from the current study were discussed in this chapter. It is apparent that the

findings will add value in schools, to learners, as well as measure developers. The general conclusions from the findings were also discussed in this chapter.



REFERENCE LIST

- Al-Debei, M. M., Al Asswad, M. M., de Cesar, S. & Lycett, M. (2012). Conceptual modelling and the quality of ontologies: Endurantism vs. perdurantism. *International journal of database management systems*, 4(3), 1-19. doi: 10.5121/ijdms.2012.4301 1
- Allport, G.W. (1937). *Personality: A psychological interpretation*. New York: Holt, Rinehar, & Winston.
- American Psychological Association. (2010). *Ethical principles of psychologist and code of conduct*: Author.
- Arbuckle, J. L., & Wothke, W. (1999). *AMOS 4.0 users guide* [computer software manual]. Chicago, IL: Smallwaters.
- Arnett, J.J. (1997). Young people's conception of the transition to adulthood. *Youth and society*, 29 1-23
- Arnett, J.J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American psychologist*, 55(5) 469-480. doi:
- Arnold, J., & Randall, R. (2010). *Work psychology: Understanding human behaviour in the workplace*. London, UK: Pearson Education.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological review*, 84, 191-215.
- Bartram, D. (2004). Assessment in organisations: Applied psychology. *An international review*, 53(2), 237-259. doi: 101111/j.1464-0597.2004.00170.x
- Beck, R. B. (2000). *The history of South Africa*. Westport, SA: Greenwood Publishing Group.
- Bee, H. L. (1992). *The developing child*. London: Harper Collins.
- Blessinger, P., & Anchan, J.P. (2015). *Democratising higher education: International comparative perspective*. New York: Taylor & Francis.

- Bornman, E. (2010). Emerging patterns of social identification in postapartheid South Africa. *Journal of social issues*, 66, 237–254.
- Brown, B.L. (1999). *Self-efficacy beliefs and career development*. Eric Digest Nr. 205.
Retrieved from <http://www.ericacve.org>.
- Buccoil, A., Cavasso, B., & Zarri, L. (2014). Social status and personality traits. *Netspar discussion paper*, doi/10.:2139/ssrn.2567362
- Buddeberg-Fischer, B., Klaghofer, R., Abel, T., & Buddeberg, C. (2006). Swiss residents' specialty choices-impact of gender, personality traits, career, motivation and life goals. *BMC health services research*, 6(137). doi: 10.1186/1472-6963-6-137
- Cattell, R. B. 1946. *The Description and Measurement of Personality*. Yonkers, NY: World Book.
- Carr, L.T. (1994). The strengths and weaknesses of quantitative and qualitative research: what method for nursing? *Journal of advanced nursing*, 20(4) 716-721. doi:10.1046/j.1365-2648.1994.20040716.x
- Cheung, F. M., Leung, K, Song, W. Z., Zhang, J. X., Sun, H.A, Gan, Y.Q, Song, W.Z., & Xie, J. P. (2001). Indigenous Chinese personality constructs: Is the five factor model complete. *Journal of cross-cultural psychology*, 32(4) 407-433. doi: 10.1177/0022022101032004003
- Church, A. T. (2001). Personality measurement in cross-cultural perspective. *Journal of personality*, 69(6) 979-1006. doi:10.1111/1467-6494.696172
- Claassen, N. C. W. (1997). Culture differences, politics and test bias in South Africa. *European review of applied psychology*, 47, 297-307.
- Coertse, S., & Schepers, J.M. (2004). Some personality and cognitive correlates of career maturity. *South African journal of industrial psychology*, 30(2) 56-73. doi: 10.4102.sajip.v30i2.150

- Coetzee, M., & Roythorne-Jacobs, H. (2012). *Career counselling and guidance in the workplace: A manual for career practitioners*. Cape Town: Juta.
- Costa, P. T., McCrae, R. R., & Holland, J. L. (1984). Personality and vocational interests in an adult sample. *Journal of applied psychology*, 69(3)390–400.
- Costa Jr, P.T., Terracciano, A., & McCrae, R.R. (2001). Gender differences in personality traits across cultures: Robust and surprising findings. *Journal of personality and social psychology*, 81(2) 322-331 doi 10.1037/10022-3514.XI.2.322
- Crowne, D.P., & Marlorwe, D. (1960). Anew scale of social desirability independent of psychopathology, *Journal of consulting psychology*, 24(4) 349-354.doi: 10.1037/h0047358
- Daniel, W. (1990). *Applied nonparametric statistics* (2nd ed). Boston: PWS-Kent.
- De Bolle, M., De Fruyt, F., McCrae, R.R., Lockenhoff, C.E., Costa Jr P.T, Aguilar-Vafaie, M.E. Ahn, C... &Terracciano, A. (2015). The emergence of sex differences in personality traits in early adolescence: A cross-sectional, cross-cultural study. *Journal of personality and social psychology*, 108(1) 171-185.doi: 10.1037/a0038497
- De Bruin, G.P. In Foxcroft, C., &Roodt, G. (2005). *An introduction to psychological assessment in the South African context (2nd ed.)*. Cape Town: Oxford University Press.
- De Fruit, F., &Mervielde, I. (1997). The five factor model of personality and Holland's RIASEC interest types. *Person individual differences*, 23(1).
- Ekore, J.O. (2014). Sex role expectations as predictors of career interests among senior secondary school students in Ibadan metropolis. *Gender and behavior*, 12(1).
- Erduran, S., &Msimanga, A. (2014). Science curriculum in South Africa: Lessons from professional development from research on argumentation in science. *South African journal of education*, 18(1)533-546.doi: 10.1080/16823206.2014.882266
- Erikson, E. H. (1950). *Childhood and society*. New York: Norton.

- Fan, W., Cheung, F. M., Zhang, J.X., Cheung, S. F. (2011). *Combined emic-etic approach to personality: CPAI and cross-cultural applications*, 43(12). Retrieved from http://118.145.16.229:81/Jweb_xlxb/EN/.
- Fetvadjev, V. H., Meiring, D., van de Vijver, F. J. R., Nel, J. A., & Hill, C. (2015). The South African personality inventory (SAPI): A culture-informed instrument for the country's main ethnocultural groups. *Psychological assessment*. doi.org/10.1037/pas0000078
- Fiske, D.W. (1949). Consistency of the factorial structures of personality ratings from different sources. *Journal of abnormal and social psychology*, 44 329-344.
- Fouad, N.A., & Mohler, C.J. (2004). Cultural validity of Holland's theory and the strong interest inventory for five racial/ethnic groups. *Journal of career assessment*. 12(4) 423-439. doi: 10.1177/1069072704267736
- Geerling, J. (2015). *God and empiricism*. Retrieved from <http://www.lifeisaprayer.com/articles/philosophy/god-and-empiricism>
- Gravetter, F. J., & Wallnau, L. B. (2000). *Statistics for the behavioral sciences* (5th ed). Belmont, CA: Wadsworth.
- Greenberg, J., & Baron, R.A. (2000). *Behavior in organisations: Understanding and managing the human side of work*. (7th ed.). Upper Saddle River, NJ: Prentice Hall.
- Goldberg, L.R. (1981). Language and individual differences: The search for universal in personality lexicons. In L. Wheeler (Ed). *Review of personality and social psychology*, 2 141-165.
- Hamilton, E.E. (1988). The facilitation of organisational change. An empirical study of factors predicting change agents' effectiveness. *Journal of applied behavioural science*, 24, 37-59.

- Hannah, J.S., & Kahn, S.E. (1989). The relationship of socioeconomic status and gender to the occupational choices of grade 12 students. *Journal of vocational behaviour*, 34(2), 161-178
- He, J., Van de Vijver, F. J. R., A., Dominguez Espinosa, A., Abubakar, A., Dimitrova, R., Adams B. G., ...&Villieux, A. (2014). Social desirable responding: Enhancing and denial in 20 countries. *Journal of cross-cultural research* (online publication).doi.10.1177/1069397114552781
- Hill, C, Nel, J.A., van de Vijver, F.J.R., Meiring, D., Valchev, V.H., Adams, B.G., & de Bruin, G.P. (2013). Developing and testing items for the South African personality inventory. *South African journal of industrial psychology*, 39(1).doi 10.4102/sajip.v39i1.1122
- Hjørland, B. (2005). Empiricism, rationalism and positivism in library and information science. *Journal of documentation*, 61(1), 130-155.doi: 10.1108/00220410510578050
- Holland, J.L. (1973). *Making vocational choices: A theory of careers*. Englewood Cliffs, New Jersey: Prentice Hall.
- Holland, J. L., Johnston, J. A., & Asama, N. F. (1994). More evidence for the relationship between Holland's personality types and personality variables. *Journal of career assessment*, 2,331–340.
- Holland, J.L. (1997). *Making vocational choices: A theory of vocational personalities and work environments*. Odessa, FL: Psychological Assessment Resource.
- Honderich, T. (Ed.) (1995). *The oxford companion to philosophy*. Oxford, NY: Oxford University Press Inc.
- Hossain, F. M. A. (2014). A critical analysis of empiricism. *Open journal of philosophy*, 4(3), 225-230. doi: 10.4236/ojpp.2014.43030

- Hough, L.M., Eaton, N.K., Dunnette, M.D., Kamp, J.D., & McCloy, R.A. (1990). Criterion-related validities of personality constructs and the effect of response distortion on those validities. *Journal of applied psychology*, 75, 581-595.
- Jansen, J.D., & Christie, P. (1999). *Changing curriculum: Studies on outcomes based education in South Africa*. Cape Town, South Africa: Juta & Co.
- Jansen, J.D. (2006). Curriculum reform in South Africa: A critical analysis of outcome-based education. *Cambridge journal of education*, 28(3) 321-331. doi: 10.1080/0305764980280305
- Kaplan, R.M., & Saccuzzo, D.P. (2005). *Psychological testing: Principles, applications and issues*. (6thed.) Belmont, CA: Wadsworth.
- Komarraju, M., & Karau, S.J. (2005). The relationship between the big five and personality traits and academic motivation. *Personality and individual difference*, 39(3) 557-567. doi: 10.1016/j.jpaid.2005.02.013
- Kruss, G., Wildshut, A., van Rensburg, D.J., Visser, M., Haupt, G., & Roodt, J. (2012). *Impact assessment of national skills development strategy [I]: Developing skills and capabilities through the learnership and apprenticeship pathway systems*. Human Resource Council: South Africa
- Kunnen, E.S. (2013). The effects of career choice and guidance on identity development. *Education research international*, 1-9. doi: 10.1155/2013/901718
- Landsdowne, A. (2011). *ANC has lost the plot on priorities for SA youth*. South Africa: Cape Argus.
- Larson, L.M., Rottinghaus, P.J., & Borgen, F.H. (2002). Meta analysis of Big Six interests and Big Five personality factors. *Journal of vocational behaviour*, 61, 217-237. doi:10.1006/jvbe.2001.1854

- Leung, S.A. (2008). The big five career theories. J.A. Athanasou, R. Van Esbroeck, (eds.) *International handbook of career guidance*. Hong Kong, China: Springer science.
- Magee, B. (1998). *The story of philosophy*. London, UK: Dorling Kindersley Ltd.
- Makoni, M. (2010). South Africa: Career guidance for higher education. *University world news*, 1(58). Retrieved from <http://www.universityworldnews.com/article.php?story=20100718102753634>
- McCrae, R. R., & Costa, P. T., Jr. (1985). Openness to experience. In R. Hogan & W. H. Jones (Eds.), *Perspectives in personality* (Vol. 1, pp. 145-172). Greenwich, CT: JAI Press.
- McCrae, R. R., & Costa, P. T. (1994). The stability of personality: Observation and evaluations. *Current directions in psychological science*, 3, 173–175.
- McCrae, R. R., & Costa, P. T., Jr. (1997). Personality trait structure as a human universal. *American psychologist*, 52(5) 509-516.
- McCrae, R.R., Costa, P.T., Martin, T.A., Oryol, V.E., Rukavishnikov, A.A., Senin, I.G... Urbánek, T. (2004). Cross-cultural studies of personality traits. *Journal of research in personality*, 38(2).
- McCrae, R.R., & Terracciano, A. (2005). Personality profiles of cultures: Aggregate personality traits. *Journal of personality and social psychology*, 89(3) 407-425. doi: 10.1037/0022-3514.89.3.407
- McGhee, R.L., Ehrler, D.J., & Buckhalt, J.A (2007). Five-Factor Personality Inventory-Children (FFPI-C). *Sage journals*, doi: 10.1177/1534508408326248
- Merriam, S. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Meyer, W.F., Moore, C., & Viljoen, H.G.(2008). *Personology: From individual to ecosystem (4th ed.)*. Johannesburg, South Africa: Heinemann.

- Moerdyk, A. (2009). *The principles and practice of psychological assessment*. Pretoria, South Africa: Van Schaik.
- Morgan, C., Isaac, J.D., & Sansone, C. (2001). The role of interest in understanding career choices of female and male college students. *Sex roles*, 44(6).
doi:10.1023/A:1010929600004
- Morrow, S.L. (2005). Quality and trustworthiness in qualitative research in counselling psychology. *Journal of counselling psychology*, 52 (2). doi:10.1037/0022-0167.52.2.250
- Mouton, N., Louw, G.P., & Strydom, G.L. (2012). A historical analysis of the post-apartheid dispensation education in South Africa (1994-2011). *International business & economics research journal*, 11(11). Retrieved from <http://.handle.net/10394/10703>
- Nel, A.J., Valchev, V.H., Rothmann, S., van de Vijver, F.J.R., Meiring, D., & de Bruin, G.P. (2012). Exploring the personality structure in the 11 languages of South Africa. *Journal of personality*, doi: 10.1111/j.1467-6494.2011.00751.x
- Olsen, C., & George, D.M. (2004). *Cross-sectional study design and data analysis*. Retrieved from: http://collegeboard.com/prod_downloads/yes/4297_module_05.pdf
- Patton, W., & McMahon, M. (2006). *Career development and systems theory: Connecting theory and practice (2nd ed.)*. Rotterdam: Sense Publishers.
- Patton, W & McMahon, M. (2014). *Career development and systems theory: Connecting theory and practice (3rd)*. AW Rotterdam: Sense. Parsons, F. (1909). *Choosing a vocation*. Boston: Houghton Mifflin.
- Quimby, J.M., & De Santis, A.M. (2006). The influence of role models on women's career choices. *The career development quarterly*, 54 297-306. doi: 10.1002/j.2161-0045.2006.tb00195.x
- Reber, A. S. (1995). *The penguin dictionary of psychology*. New York, NY: Penguin Books.
- Rothmann, S., & Coetze, E.P. (2003). The Big Five personality dimensions and job

- performance. *South African journal of industrial psychology*, 29 68-74.
- Russel, P.A. (2005). The relationships between career interests and personality characteristics among African American women in the welfare. *Electronic thesis, treatises and dissertation*. Florida State University.
- Salkind, N.J. (2012). *Exploring research*. 8th ed. New Jersey: Prentice Hall.
- Savalei, V., & Bentler, P.M. (2010). *The corsiniencyclopedia of psychology (4thed.)*. Los Angeles: John Wiley & Sons. doi: 10.1002/9780470479216.copsy0953
- Schreuder, A.M.G., & Coetzee, M. (2011). *Careers: An organisational perspective (4th ed.)*. Cape Town, South Africa: Juta.
- Shenton, A.K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, 22(1) 63-75. Retrieved from <http://www.crec.co.uk/docs/Trustworthypaper.pdf>
- Siegel, S., & Castellan, N. (1988). *Nonparametric statistics for the behavioral sciences* (2nd ed). New York: McGraw-Hill.
- Soto, C.J., John, O.P, Gosling, S.D., & Potter, J. (2011). Age differences in personality traits from 10 to 65 Big Five domains and facets in a large cross-sectional sample. *Journal of personality and social psychology*, 100(2) 330-348. doi: 10.1037/a0021717
- South African Qualification Authority (2014). *What is a learnership?* Retrieved from <http://www.saqqa.org.za/docs/webcontent/2014/web0310.html>
- SPSS Inc. (2010). *SPSS 18.0 for windows*, Chicago, IL: Author
- Styles, W.P. (1993). Quality control in qualitative research. *Clinical psychology review*, 13(1). doi: 10.1016/0272-7358(93)90048-Q
- Super, D.E. (1992). Toward a comprehensive theory of career development. In D.H. Montross and C.J. Shinkman (eds.) *Career development: Theory and practice*. Illinois: Charles C Thomas, pp. 35-64.

- Super, D.E. (1980). A life span, life space approach to career development. *Journal of vocational behaviour*, 16(30) 282-298.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn and Bacon.
- Tett, R.P., & Gutterman, H.A. (2000). Situation trait relevance, trait expression, and cross-situational consistency: Testing a principle of trait activation. *Journal in research in personality*, 34 397-423.doi: 10.1006/jrpe/.2000.2292
- Tett, R.P., & Burnett, D.D. (2003). A personality based-trait interactionist model of job performance. *Journal of applied psychology*, 88(3) 500-517
- Tokar, D.M., & Swanson, J. L. (1995). Evaluation of the correspondence between Holland's vocational personality typology and the five-factor model of personality. *Journal of Vocational Behavior*, 46(1) 89–108.doi: 10.1006/jvbe.1995.1006
- Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview.
- Tupes, E.C., & Christal, R.C. (1961). *Recurrent personality factors based on trait ratings*. Lackland airforce base, TX: USAF.
- Turner, S.L., Conkel, J., Starkey, M.T., & Landgraf, R. (2010). Relationships among middle adolescents' vocational skills, motivational approaches, and interests. *The career development quarterly*, 59 154-168.
- Valchev, V.H., van de Vijver, F.J.R., Nel, J.A., Rothmann, S., Meiring, D., & de Bruin, G.P. (2012). Implicit personality conceptions of the nguni cultural-linguistic groups of South Africa. *Cross-cultural research*, 1-32.doi: 10.1177/1069397111402462
- Van de vijver, F.J.R., & Leung, K. (1997). *Methods and data analysis for cross-cultural research*. Thousand Oals, CA: Sage.
- Weber. R.P. (1985). *Basic content analysis*. 2nd ed. USA: Sage Publications.

Visser, M., & Kruss, G. (2009). Learnerships and skills development in South Africa: a shift to prioritise the young unemployed. *Journal of vocational education and training*, 61(3). doi: 10.1080/13636820903180384



APPENDICES



UNIVERSITY
OF
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Appendix A – Parental consent form



**National
Research
Foundation**



**Information Letter and Parental Consent for Child's Participation in Research Study
University of Johannesburg**

Study Title: Personality and career choices of South African adolescents – high school Learners

Description of the research and your child's participation

Your child is invited to participate in a research study conducted by Mrs Bathobile P. Nkambule. The general purpose of this research is to examine the personality of adolescents and the relationship with their career choices. More specifically, we are looking at personality and therefore we consider the importance of gender, socioeconomic status, and culture relations and interactions as core to our study.

We would like to invite your child to participate in a cross-sectional study in which we ask them to complete a questionnaire of approximately 55 minutes in Grade 8 to Grade 12. These questionnaires will be completed after school hours or during the LO period and will not interfere with your child's regular academic routine.

Risks and discomforts

The risks are minimal and not thought to differ from what one may experience on a day-to-day encounter. Some questions may be somewhat sensitive, and so, respondents may skip questions without penalty.

Potential benefits

There are several benefits that would result from your child's participation in this research. For one, participation in this study will help to advance knowledge on the topic of personality and its association with career choices. It will also help the learners to gain understanding their career choices and what are their plans after completing secondary school. An additional benefit includes the experience of participating in a research study.

Benefits for your child may also include the impact of the results, and the interventions that may originate from this research. We would also argue that in cross-sectional work, participants often

become aware of their own internal processes and how these inform their thoughts, feelings, and behaviors.

Protection of confidentiality

All survey responses will be anonymous. Participants will be provided with a participant identification number to which responses will be associated. This would require that no identifying information would be associated with the participants name in any way. This will allow the researcher alone to keep track of responses without requiring that participants submit identifying information in association with their responses. Only the researchers involved in this study will have access to the information participants provide.

We will do everything we can to protect your child's privacy. The survey responses are anonymous, thereby protecting the identity of all participants since they are unknown. There will be no way to connect respondents to their responses. Your child's identity will not be revealed in any publication resulting from this study.

Voluntary participation

Participation in this research study is voluntary. You may refuse to allow your child to participate or withdraw your child from the study at any time. Your child will not be penalized in any way should you decide not to allow your child to participate or to withdraw your child from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact Mrs BathobileNkambule and Dr Byron Adams at bathobiled88@gmail.com or bgadams22@gmail.com or at 0833061244 or 082 409 7505. If you have any questions or concerns about your child's rights as a research participant, please contact the University of Johannesburg department of industrial psychology and people management.

Mode of Administration

The questionnaire will be administered in paper and pencil format.

Consent

1. I have read this parental permission form and have been given the opportunity to ask questions.
2. I give my permission for my child to participate in this study.

Printed Name of Child

Signature of Parent(s) or Legal Guardian

Date

Appendix B –Introductory Text and Agreement

IIS(SAPI)

Dear Student,

Thank you for taking the time to participate in this study. We are interested in your interaction with people who are culturally different from you. People who are culturally different are people who may be from different ethnic backgrounds, people who may be born in different countries, people who may have different traditions and practices, and people who may have a different religion or speak a different language from yours.

Please read these instructions carefully before starting the study

1. Take your time and answer the questions. Read the questions and the instructions that follow carefully.
2. The answers you will provide are very important and valuable for our research. We therefore ask you to give your full attention to the survey.
3. These questions don't have right or wrong answers. We are only interested in your honest opinions.
4. Where options are provided, please cross the block that most applies to you.
5. If you are completing this questionnaire in your own time, make sure that you are in a quiet space where you can spend uninterrupted time on this questionnaire.

My Agreement

1. I willingly agree to participate in the Inclusive Identity and Personality Study.
2. I understand that taking this questionnaire is up to me and it is okay if I change my mind and want to withdraw at any point in time.
3. I understand that any personal information I provide in this survey will be kept private.
4. I understand that I can ask any questions that I have about the study at any time by contacting MrsBathobileNkambule at bathobiled88@gmail.com or Mr. Byron G. Adams at bgadams@uj.ac.za

Do you agree to the conditions presented above?

1. Yes
2. No

Instead of your name and surname we will now generate a unique participant ID for you. This ID will be asked later on in follow up studies. For example **John Smith was born on 1 June**. He will provide the following information in the boxes

First letter of your first name	Last letter of your first name	First letter of your surname	Day of the month you were born (always provide two numbers (e.g., 1 = 01))	Month in which you were born (always provide 2 numbers (e.g., June = 06))
J	N	S	01	06

John's code:

JNS0106

Now it's your turn, please follow the instructions clearly

First letter of your first name	Last letter of your first name	First letter of your surname	Day of the month you were born (always provide two numbers.	Month in which you were born (always provide two numbers.

Thank you, we are now ready to begin.

Appendix C-Demographic information

Please answer the following questions. Where options are provided, please cross the block that most applies to you.

1. How old are you (in years)? _____

2. What is your gender? 1. Male 2. Female

3. Which grade are you in?

1. 7th Grade

3. 10th Grade

2. 8th Grade

4. 11th Grade

2. 9th Grade

5. 12th Grade

4a. In what country were you born? 1. South Africa

2. Other: please

specify _____

4b. If you were born outside South Africa, at what age did you start living in South Africa?

_____ specify _____

5a. In what country was your mother born?

1. South Africa

2. Other: please

specify _____

5b. In what country was your father born?

1. South Africa

2. Other: please

specify _____

6a. How would you define yourself in terms of the ethnic group you belong to? (e.g., Zulu, Black, Coloured)

6b. Which category below best describes your racial group?

1. Black

4. White

2. Coloured

5. Other: please specify _____

3. Indian

6c. What is your language group?

1. Afrikaans

7. Xitsonga

2. English

8. Setswana

3. isiNdebele

9. Tshivenda

4. Sesotho

10. isiXhosa

5. siSwati

11. isiZulu

6. Sepedi

12. Other: please specify _____

7a. To which religion do you belong?

1. Catholic

7. African Traditional Religion

2. Eastern Orthodox Christian

8. Buddhist

3. Islam/Muslim

9. Jewish

4. Hindu

10. None

5. Jehovah's Witness

11. Other: please specify _____

6. Protestant Christian

7b. Importance of Religion. Please indicate to what extent religion is important in the following contexts

Please note the following scoring

1.= Not important at all	2. = Not very important	3. = Important	4. = Very Important	5. = Extremely important
--------------------------	-------------------------	----------------	---------------------	--------------------------

	How important is religion in your family?				
	How important is religion to you?				
	How important is religion in your community?				
	How important is religion for people in your country in general?				

8. Are there different cultural groups in your classes?

1. Yes, there are many
2. Yes, but not many
3. No

9a. What is your parents' marital status (to each other)?

1. Not married
2. Married
3. Divorced
4. Widowed
5. Cohabiting
6. I don't know



9b. Who do you live with?

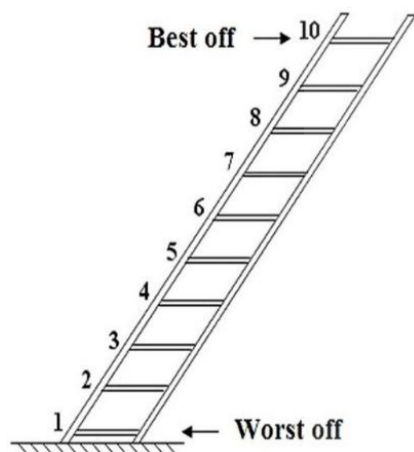
1. One of your parents
2. Both your parents
3. Neither of your parents (please specify): _____

10a. How many siblings do you have (including any deceased ones)?

- | | | | |
|----------------------------------|-------------------------------|-------------------------------|---|
| 1. <input type="checkbox"/> None | 4. <input type="checkbox"/> 3 | 7. <input type="checkbox"/> 6 | 10. <input type="checkbox"/> 9 |
| 2. <input type="checkbox"/> 1 | 5. <input type="checkbox"/> 4 | 8. <input type="checkbox"/> 7 | 11. <input type="checkbox"/> 10 |
| 3. <input type="checkbox"/> 2 | 6. <input type="checkbox"/> 5 | 9. <input type="checkbox"/> 8 | 12. <input type="checkbox"/> More than 10 |

10b. How many of your siblings are younger than you?

- | | | | |
|----------------------------------|-------------------------------|-------------------------------|---|
| 1. <input type="checkbox"/> None | 4. <input type="checkbox"/> 3 | 7. <input type="checkbox"/> 6 | 10. <input type="checkbox"/> 9 |
| 2. <input type="checkbox"/> 1 | 5. <input type="checkbox"/> 4 | 8. <input type="checkbox"/> 7 | 11. <input type="checkbox"/> 10 |
| 3. <input type="checkbox"/> 2 | 6. <input type="checkbox"/> 5 | 9. <input type="checkbox"/> 5 | 12. <input type="checkbox"/> More than 10 |

11a

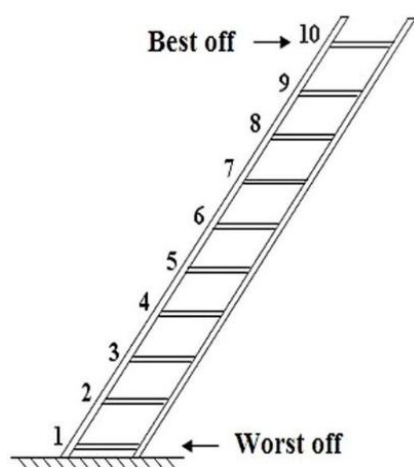
Here is a ladder. There are ten steps in total from the bottom to the top.

Think of this ladder as representing where people stand **in South Africa**. At the top of the ladder are the people who are the best off – those who have the most education and the most respected jobs. At the bottom are the people who are the worst off – who have the least education, and the least respected jobs or no jobs.

The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are the closer you are to the people at the very bottom.

If you consider your current situation and compare it with all other people in South Africa, where would you place yourself on this ladder in terms of the number of the steps? For example write down the number 1 if you see yourself at the bottom (Please note that that this example does not necessarily apply to you).

Please write the number here. _____

11b.

Here is another ladder with ten steps in total from the bottom to the top.

Think of this ladder as representing where other students stand **in your school**. At the top of the ladder are the students who are the best off – those who have the most money. At the bottom are the students who are the worst off – who have the least money.

The higher up you are on this ladder, the closer you are to the students at the very top; the lower you are the closer you are to the students at the very bottom.

If you consider your current situation and compare it with all other students in your school, where would you place yourself on this ladder in terms of the number of the steps? For example write down the number 1 if you see yourself at the bottom (Please note that that this example does not necessarily apply to you).

Please write the number here. _____

In the following question we would like for you to have a look at words you will see in this questionnaire. Underneath each word you will see three definitions, please select the definition that best defines the word that is underlined.

1. When I am loyal to other people, it means that I am...

1. good to them
2. pleasing to them

3. faithful and supportive to them

4. all of the above

2. When I am determined, it means that I...

1. will do things without letting anything stop me

3. am undecided about what I want to achieve

2. may want to achieve my goals

4. want to do something nice

3. When I am curious, it means that I...

1. am not interested in knowing something

3. have a good knowledge about something

2. have a desire to figure something out

4. none of the above

4. When I start a rumour, it means that I talk about ...

1. something that is truthful

3. something that may be untrue

2. something unknown

4. none of the above

5. When I threaten others, it means that I...

1. make them uncomfortable

3. protect them

2. tell them that I will hurt them

4. help them

6. When I am humiliated, it means that I...

1. ashamed of my self

3. worry about my self

2. proud of myself

4. see myself as a bad person

7. When I make an impression, it means that I...

1. please others

3. disappoint others

2. have an effect on others

4. none of the above

8. When I argue with other people, it means that I...

1. create meaning with them

3. angrily disagree with them

2. channel their ideas

4. none of the above

9. When I am accurate, it means that I am saying...

1. something very seriously

3. something that is incorrect

2. something exactly as it is.

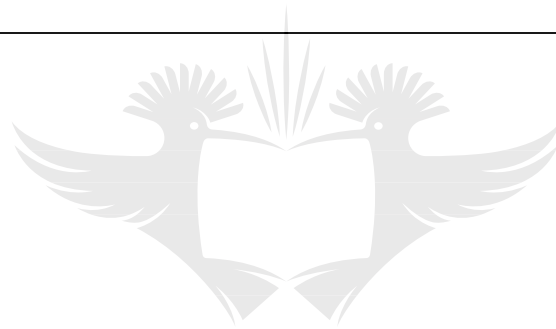
4. all of the above

10. When I criticize, it means that I...

1. support something
2. am taking someone's side
3. disapprove of something
4. none of the above

If you could choose any job, career or profession, what would you become when you finish school?

Think about the job, career or profession you indicated above. In the box below write a paragraph about why this is the job you would like to do



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Appendix D

South African Personality Inventory (SAPI)

Note. the SAPI is under development and therefore the items cannot be revealed.

Appendix E

EFA Factor Loadings

Extraversion

Component Matrix^a

	Component
	1
SAPI3_Ext I talk a lot	,501
SAPI14_Ext I laugh a lot	,553
SAPI55_Ext I have many friends	,614
SAPI67_Ext I enjoy telling funny stories	,506
SAPI72_Ext I make friends easily	,644
SAPI101_Ext I am easy to talk to	,440
SAPI130_Ext I connect with people easily	,586
SAPI136_Ext I make jokes with everyone	,691
SAPI146_Ext I make others laugh	,735
SAPI154_Ext I have fun with others	,643
SAPI187_Ext I am a good storyteller	,428

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Openness

Component Matrix^a

	Component
	1
I am eager to learn	.475
I seek adventure	.452
I have knowledge about many things	.562
I think of new ideas	.584
I am able to plan things	.458
I have a lot of imagination	.415
I make good decisions	.431
I seek adventure	.554
I am curious about the world	.465
I explain ideas to others clearly	.634
I am willing to try out new things	.645
I solve problems in new ways	.555
I search for answers when I do not have them	.507
I have many interests	.555
I want to learn new things	.521
I am open to new information	.549
I am full of new ideas	.588
I learn from previous problems	.463
I find education important	.441
I adapt to any situation	.558
I understand things easily	.473
I enjoy going to different places	.453

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

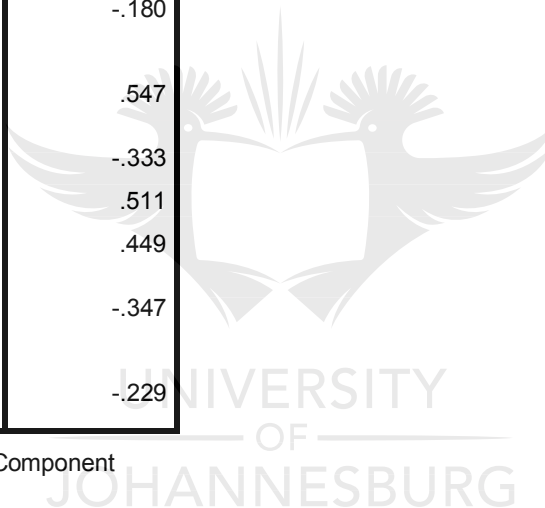
Emotional Stability

Component Matrix^a

	Component
	1
I respect myself	-.076
I cry easily	.545
I feel emotions deeply	.505
I do things that I later regret	.585
I am afraid that bad things may happen	.526
I complain about everything	.534
I do things that I later regret	.627
I get angry easily	.395
I can handle difficult situations	-.180
I get angry over minor issues	.547
I control my emotions	-.333
I feel emotions deeply	.511
I easily get nervous	.449
I can deal with difficulties in my life	-.347
I remain cheerful even when there are problems	-.229

Extraction Method: Principal Component
Analysis.

a. 1 components extracted.



Conscientiousness

Component Matrix^a

	Component
	1
I set goals for myself	.523
I have direction in life	.485
I want things to be neat	.444
I am able to understand others' feelings	.383
I do things that I later regret	-.063
I believe in the importance of tradition	.343
I finish things I have started	.610
I tidy up where there is a mess	.486
I am a motivated person	.428
I am focused on winning	.395
I pray for others	.400
I work in an organised manner	.581
I am determined in the things I do	.605
I am hard-working	.689
I do things accurately	.674
I take care of detail	.566
I do something until I get it right	.636
I keep to deadlines	.455
I stay focused on my tasks	.646
I respect my culture	.386
I am involved in my work	.612
I do things on time	.495
I think ahead	.401
I am a religious person	.340
I obey rules	.326

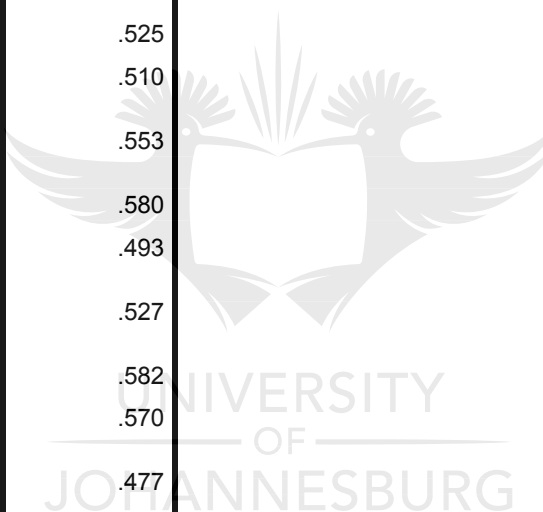
Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Social Relational Positive

Component Matrix^a

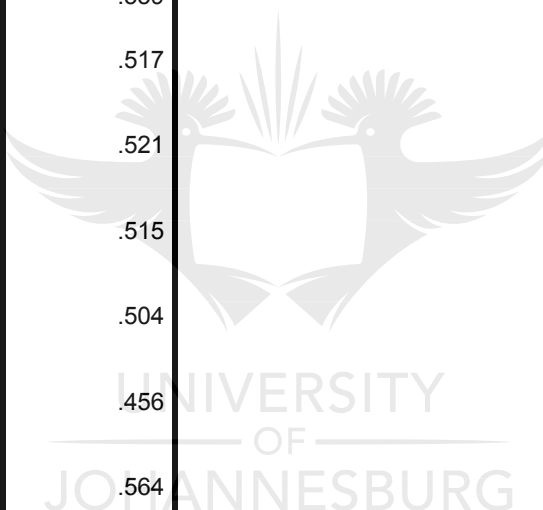
	Component
	1
I make others feel comfortable	.354
I help others when they are in need	.447
I listen to other people's problems	.539
I forgive others when they have hurt me by mistake	.290
I allow others to ask me questions	.394
I guide people in life	.525
I am friendly towards others	.510
I give advice to others about their future	.553
I understand other people	.580
I am an example for others	.493
I allow others to ask me questions	.527
I protect others	.582
I make others better persons	.570
I teach people ways of doing things	.477
I accept others	.427
I talk to others to resolve differences	.427
I accept people with their problems	.487
I help people to solve their arguments	.626
I share what I have with others	.381
I help others to make peace with each other	.629
I help others with their work	.546
I make people believe in their own abilities	.618



I help people realise their potential	.556
I am a source of inspiration to people	.450
I help others solve their problems	.676
I share helpful ideas	.570
I support others when they experience problems	.661
I motivate others to improve	.570
I make time for others	.458
I am able to understand others' feelings	.511
I am able to relate to people	.557
I relate well to others	.482
I give my attention to others	.559
I encourage people to develop	.517
I take others' feelings into account	.521
I value others for what they are	.515
I get sad when someone I care about is sad	.504
I am sensitive to other people's feelings	.456
I feel sympathy for people who have problems	.564
I tell other people when I am grateful	.459
I can share in someone's emotions	.568

Extraction Method: Principal Component Analysis.

a. 1 components extracted.



Social Relational Negative

Component Matrix^a

	Component
	1
I criticise others' mistakes	.487
I threaten people	.339
I do things accurately	-.178
I have a low opinion of others	.363
I abuse my power over others	.661
I have hurt others with my words	.431
I make jokes about other people	.560
I spread rumours about others	.523
I interfere in the lives of others	.584
I challenge people in front of others	.367
I have taken things that do not belong to me	.550
I hurt others	.646
I only care about my own things	.539
I provoke others	.491
I make others feel stupid	.656
I only think of myself	.618
I try to fool others	.693
I cheat	.605
I make people do things for me	.551
I disappoint others	.538
I talk about others in their absence	.620
I have humiliated others	.594

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Social Desirability Positive and Negative

Component Matrix^a

	Component
	1
I have some bad habits	.414
I sometimes regret my decisions	.553
I sometimes tell lies if I have to	.571
I am jealous of others with good fortune	.572
It is hard for me to break my bad habits	.676
I have done things that I do not tell other people about	.569
It is hard for me to get rid of a disturbing thought	.309
I gossip	.466
I have sometimes dropped litter on the street	.319
There has been at least one occasion when I failed to return something I borrowed	.375
I am very confident of my judgments	-.004
I always do as I say	-.261
I always obey laws, even if I'm unlikely to get caught	-.267
I think about my options before I make a choice	-.225
I admit when I do not know something	.040
My first impressions of people usually turn out to be right	-.083
I am careful about my way of dressing	-.099
I continue with my work if I am motivated	-.147

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

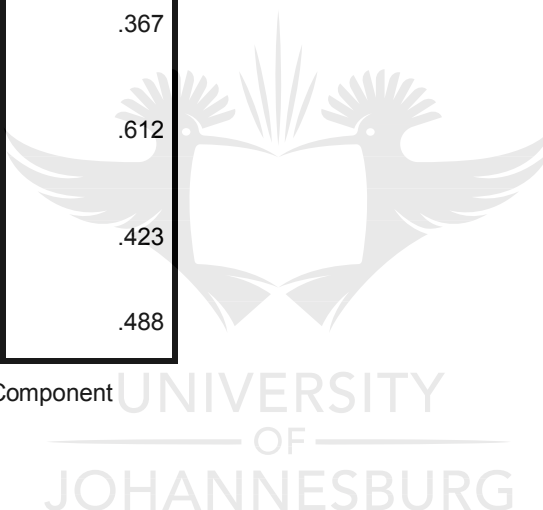
Social Desirability Positive

Component Matrix^a

	Component
	1
I am very confident of my judgments	.381
I always do as I say	.595
I always obey laws, even if I'm unlikely to get caught	.444
I think about my options before I make a choice	.565
I admit when I do not know something	.367
My first impressions of people usually turn out to be right	.612
I am careful about my way of dressing	.423
I continue with my work if I am motivated	.488

Extraction Method: Principal Component Analysis.

a. 1 components extracted.



Social Desirability Negative

Component Matrix^a

	Component
	1
I have some bad habits	.436
I sometimes regret my decisions	.575
I sometimes tell lies if I have to	.590
I am jealous of others with good fortune	.552
It is hard for me to break my bad habits	.671
I have done things that I do not tell other people about	.608
It is hard for me to get rid of a disturbing thought	.321
I gossip	.451
I have sometimes dropped litter on the street	.383
There has been at least one occasion when I failed to return something I borrowed	.391

Extraction Method: Principal Component Analysis.

a. 1 components extracted.