

**TESTING THE PREDICTIVE VALIDITY OF THE FIFTEEN FACTOR  
QUESTIONNAIRE PLUS (15FQ+) FOR FINANCIAL ADVISERS AT AN INSURANCE  
COMPANY**

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## ABSTRACT

Personality assessments are useful measures for identifying an individual's characteristics and how he/she interacts with the world. The 15 Factor Questionnaire Plus (15FQ+) is an adapted personality assessment measure used in industry to determine the likely behavioural responses an individual will display in a particular setting. It can be used during the selection process to assess the suitability of candidates for a particular position at a company.

As a result of unfair practices when using psychometric instruments, it is now imperative that these instruments meet the scientific principles of validity and reliability before it can be used. This is in line with the legislation pertaining to discrimination and supported by the Health Professions Council of South Africa. They encourage a plethora of research to confirm the utility of these measures.

The present study was conducted at a South African financial services company where the 15FQ+ is used to identify suitable candidates for financial adviser positions. Through data mining techniques, predictive and criterion data were extracted for 125 financial advisers. The study explored the validity of the 15FQ+ when correlated with the Performance Indices of the financial advisers. The study also determined whether there were race differences in the responses of the financial advisers to the 15FQ+ as well as in their work performances.

Analyses of the statistics indicated that 13 of the 16 primary factor scales of the 15FQ+ had acceptable levels of reliability. Multiple regression analyses were conducted to determine relationships between the primary factors of the 15FQ+ and the performance indices. The results indicate that 3 primary factors (Low-Intellectance – High Intellectance, Composed – Tense-driven and Trusting – Suspicious) explain 18% of the variance for the Number of Policies sold per year. Furthermore, two primary factors (Distant Aloof – Empathic and Sober-Serious – Enthusiastic) contributed to the Retention Index (i.e. the percentage of new business that is retained) of the

financial advisers. Three factors (Conventional – Radical, Trusting – Suspicious and Low-Intellectance – High Intellectance) also contributed to the Average index (i.e. a profit indication) of the financial advisers. The results were statistically significant.

Finally, Kruskal-Wallis statistics were computed and it was found that race differences did not affect the performance indices of the financial advisers. With regard to the primary factors of the 15FQ+, the majority of the primary factors showed there were no race differences. Race differences were only found on three of the primary factors, namely the Trusting – Suspicious, Conventional – Radical and Composed – Tense-driven factors.



**Keywords:**

Financial advisers

Personality Assessment

Trait Psychology

Fifteen Factor Questionnaire Plus (15FQ+)

Job performance

Big Five Factors / Five-factor model

Employment Equity Act

Cross-cultural studies

Predictive validity

Sales performance



**DECLARATION**

“I declare that *Testing the predictive validity of the Fifteen Factor Questionnaire Plus (15FQ+)* for *financial advisers at an insurance company* is my own work, that it has not been submitted for any degree or examination in any other university and that all the sources I have used or quoted have, to the best of my knowledge, been indicated and acknowledged as complete references.

Verona Rosemarie Solomon

May 2007

Signed: .....



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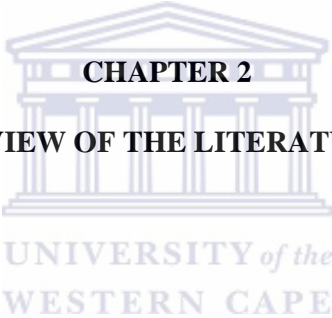
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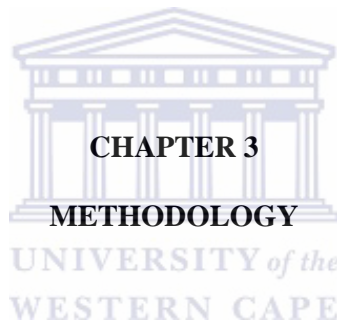
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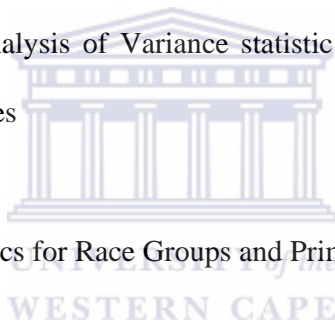
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# CHAPTER 1

## INTRODUCTION

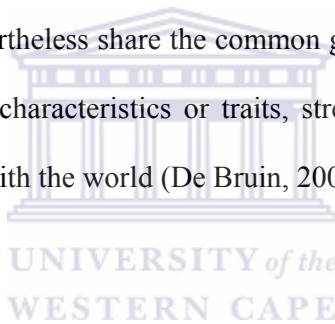
### 1.1 Introduction

In the Human Resource function within organisations, psychological testing is commonly used in employment selection to assess specific domains of functioning of job applicants and to predict job performance. Traditionally, psychological testing has included assessment of a wide range of cognitive abilities, aptitude, linguistic ability, attention, motor co-ordination skills and personality (Foxcroft & Roodt, 2001). A survey of personnel selection methods across 18 countries, including South Africa, indicated that personality assessments have become more widely used as a personnel assessment tool by organisations and consulting firms (Ryan, McFarland, Baron & Page, 1999). Packman, Brown, Englert, Sisarich and Bauer (2005) contend that the increased application of personality assessments internationally, may reflect the growing empirical evidence and acceptance of personality as a universal construct to improve validity. There is supportive collateral from several studies that the popularity and acceptance of personality assessments as a measurement tool may also be partly due to it adding improved validity to that of cognitive ability assessments (McHenry & Hough, 1990; Rosse, Miller, & Barnes, 1991).

The utility of personality assessment extends beyond the work domain and is also applicable in educational and psychotherapeutic contexts. Notwithstanding the domain in which it is employed, personality assessment allows psychologists to gain insight into the implicit behaviour of an individual from which predictions about future behaviour can be proposed or appropriate decisions and interventions can be made (Foxcroft & Roodt, 2001). It is therefore imperative for psychologists and researchers to develop a thorough understanding of personality in order to be able to make predictions about individuals.

Mantsha (2002) asserts that while various definitions of personality can be found in literature, what is apparent is that personality refers to the differences that exist between individuals. The definition most likely to be favoured will depend on the underlying personality theory, which researchers and psychologists support.

Mantsha (2002) proposes that personality can be construed from four dominant theoretical positions, namely psychoanalytic theory, behaviourism, humanistic theory and trait theory. These theories also form the foundation from which different kinds of personality assessment methods have been developed, including self-report measures, personality inventories, projective techniques and interviews. While these personality assessment measures differ in structure, content and procedure of application, they nevertheless share the common goal of identifying the uniqueness of the individual, her/his personality characteristics or traits, strengths and weaknesses, and typical (idiosyncratic) way of interacting with the world (De Bruin, 2001).

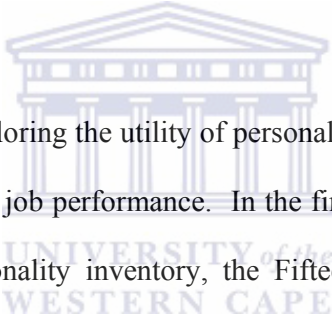


Research in the field of personality has recently advanced compelling evidence that (a) personality constructs can be measured with reasonable consistency; (b) there is stability to personality measures over time and occasions; (c) personality measures are significantly related to some external measure of performance; and (d) personality measures can predict performance of prospective employees in certain settings (Barrick & Mount, 1991; Hogan & Nicholson, 1988). In the past 10 years, the views of many personality psychologists have converged regarding the structure and concepts of personality.

There is growing consensus that there are five robust factors of personality (referred to as the five-factor model or the Big Five factors), first postulated by Norman and developed by Goldberg and Costa and McCrae (Taylor, 2004), which can serve as a meaningful taxonomy for classifying

personality attributes (Digman, 1990). The five factors include Extraversion, Neuroticism, Agreeableness, Conscientiousness and Openness to Experience. At a glance, the factors typically can be seen as necessary personality dimensions for a number of occupations. Goldberg (cited in Digman, 1990) asserts that any model that focuses on finding a structure to explain individual differences should include traits reflected in the big five dimensions.

Within a work context, personality assessment can be applied to gather more information about an individual with a view to predicting job performance (Taylor, 2004) specifically for making recommendations about appointing new employees, transferring employees to another role, assessing promotion as well as for termination of employment (Anastasi, 1982).

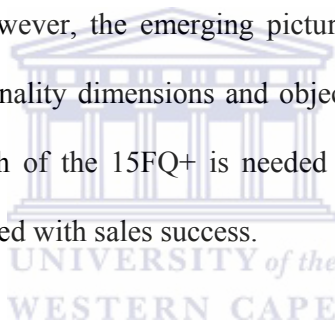


The present study will focus on exploring the utility of personality assessment conducted during the selection process in predicting later job performance. In the financial company in which the study was conducted, a self-report personality inventory, the Fifteen Factor Questionnaire Plus (The 15FQ+ Technical Manual, 2002), is typically administered to all applicants for financial adviser positions. A core component of the position of financial advisers in the company is the selling of various financial products of the company. Effective selling is crucial to the economic success of the organisation. Moreover, being able to effectively predict which personality traits are associated with increased sales turnover can be to the advantage of the company.

It is apparent that a large increase in productivity can result from improved selection. It is not surprising that companies want to select good financial advisers to improve sales performance. Hence the purpose of the present study is to explore which personality traits, as measured by the Fifteen Factor Questionnaire Plus (hereafter referred to as the 15FQ+), effectively predict later job performance such as number of policies sold and the number of policies retained as new business.



Historically, a wide range of predictors have been used to select salespersons. The more conventional predictors include cognitive ability, personality, and bio-data. Early narrative reviews assessing the validity of predictors of sales success were generally inconclusive in that there were mixed and sometimes contradictory findings for various predictors. One finding for which there was agreement was that cognitive ability tests were poor predictors of sales performance (Vinchur, Schippmann, Switzer, & Roth, 1998). In contrast, La Grange and Roodt (2001) identify several studies suggesting that sales performance can be predicted by making use of personality questionnaires. From their own meta-analytic review of job performance of sales people, Vinchur et al. (1998) also report findings confirming the validity of the Big Five personality dimensions for predicting sales performance. However, the emerging picture was unclear because of differing personality measures, sets of personality dimensions and objective and subjective criteria of sales performance used. Hence research of the 15FQ+ is needed at an exploratory level to examine which personality traits are associated with sales success.



As the 15FQ+ was only recently introduced into the South African market, only two local studies have been identified in accredited journals. As a relatively new inventory, there is a dearth of research on the utility and the psychometric properties of the 15FQ+. While Psytech SA (Pty) Ltd (hereafter referred to as Psytech) has conducted validity and reliability studies for South Africa (15FQ+, n.d.), concerns have been expressed about its generalisability across cultures and the utility of using the instrument as a selection tool in South Africa (Meiring, Van De Vijver, Rothmann, & Barrick, 2005; Meiring, Van de Vijver, & Rothmann, 2006) and in other international contexts (Packman et al., 2005). However, other researchers suggest that, although more research is needed to refine the 15FQ+, findings have revealed that several scales are valid predictors of job performance (Tyler & Newcombe, 2006). It is clear that further research is needed to examine the utility and properties of this new measure.

## 1.2 Personality Assessment within the South African Context

The human rights ethos of the constitution of South Africa and the multi-cultural composition of South African society has wide ranging implications for psychological testing (Abrahams, 1996; Mantsha, 2002). The Professional Board for Psychology (Tests classified as being psychological tests, 2006) of the Health Professions Council of South Africa (HPCSA) has noted that, “Past apartheid policies impacted negatively on test development and use in South Africa in that separate tests were designed for different racial categories, with the result that few tests are available that have been designed and standardised for all South Africans” (p. 1). As a result, requirements of psychological testing have been set out in the Health Professions Act (No. 56 of 1974) to ensure that past inequalities have been appropriately addressed and that all psychological tests that are conducted are valid and reliable.

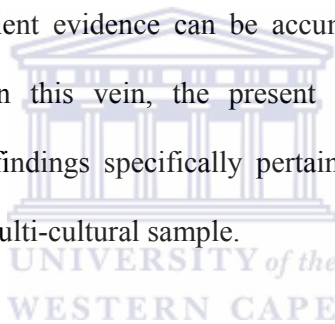


Further legislation has been enacted protecting individuals in the work place against discrimination. As indicated by Abrahams (1996), The Employment Equity Act (55 of 1998) prohibits the use of psychological testing or any other form of testing unless the test that is being used:

- is scientifically shown to be valid and reliable;
- can be applied fairly to all employees; and
- is not biased against any employee or group.

Already psychologists are realising the impact of psychological testing as shown in a recent survey of assessment practitioners by Foxcroft, Paterson, Le Roux and Herbst (2004). There is a need for new tests that are culturally and linguistically appropriate to ensure that testing practices are fair. Comments noted from the practitioners include the revision of outdated tests, the provision of South African norms that are cross-culturally relevant and more psychometric information (validity, norms and reliability) is needed for assessment measures.

These legislative requirements and concerns of assessment practitioners have prompted researchers to adapt old measures such as the 16 Personality Factor questionnaire (hereafter referred to as 16PF) for the South African population and develop new psychological assessment measures to address cross-cultural use and validity. Psytech, an international company with a branch in South Africa, has developed a new personality inventory called the 15 Factor Questionnaire based on the 16PF. It has since been adapted and is now called the 15 Factor Questionnaire Plus (15FQ+). The 15FQ+ has been subjected to preliminary assessment to assess its reliability and validity and has been approved by the Professional Board for Psychology of the HPCSA, as a psychological test. However, the Professional Board for Psychology (2006) encourages research to be conducted on such new measures so that sufficient evidence can be accumulated to empirically evaluate the measure in various contexts. In this vein, the present study seeks to provide important psychometric data and empirical findings specifically pertaining to the utility of the 15FQ+ in predicting sales performance in a multi-cultural sample.



### **1.3 Statement of the Research Problem**

The researcher approached a large South African financial services company (hereafter referred to as The Company) requesting to conduct a study at the organisation. As part of the recruitment and selection policy at The Company, all assessments must comply with legislation. Hence, according to The Company, only psychometric tests that are culturally fair and respect diversity should be used in The Company's Assessment Centre.

The Company currently employs 1969 financial advisers to sell a range of financial products and services to its market (individuals and businesses). The job description of financial advisers extends beyond selling to providing sound financial advice specific to the need and circumstances

of clients (Little, 2005). Vinchur et al. (1998) aver that there are aspects of the sales job that make unique demands on an employee and may contribute to a personality pattern different to other jobs. These include handling both the degree of autonomy and the degree of rejection as well as dimensions that capture personal impact, personal influence, and competency striving.

In an interview with a journalist, an assistant general manager at The Company articulated the challenge of the organisation to employ and retain good financial advisers (Harvey, 2005). He indicated that effective selling and efficient advising are critical to The Company's bottom line and growth. Certain competencies have been identified as key indicators required by financial advisers to successfully procure business for The Company. Hence, when new financial advisers are recruited, they are short-listed based on academic qualifications and are then screened at an interview to assess the degree to which they perform on these competencies. Based on the results of the interview, further short-listing is conducted and the remaining candidates are assessed using the assessment centre approach to augment the information obtained during the interview. This includes a personality assessment (using the 15FQ+) and simulation exercises (i.e. a role-play and an in-basket exercise) where specific behavioural competencies are observed.

The recent inclusion of the 15FQ+ in The Company's assessment battery warrants investigation to ascertain whether it is serving its intended purpose. Against the dearth of relevant studies in South Africa, The Company was willing to give permission for the present study to gain baseline data to assist in this evaluation. The incumbent psychologist at The Company has noted the need for validity studies to be conducted in order to validate the use of this instrument, in line with the requirements of the Employment Equity Act (No. 55 of 1998) and the requirements of the Professional Board for Psychology (2006).

#### **1.4 The Objective of this Study**

Against the backdrop of the context of the research problem described in the previous section (1.3), The Company is keen to evaluate whether the assessment instrument that they are using is a reliable and valid selection tool so as to warrant the correct placement of candidates as financial advisers. The researcher has conducted a study to assess the predictive validity of the 15FQ+ when correlated with the performance scores of financial advisers. The outcome of the study will assist The Company towards assessing whether the 15FQ+ plays a meaningful selection purpose in the assessment centre approach.

#### **1.5 Organisation of the Study**

In this chapter an overview was provided for the context of this study as well as the organisational context influencing the parameters of the present study. In Chapter 2, the major constructs of the study will be delineated, a description of the major personality theories presented with more emphasis on trait psychology, personality assessment as part of the selection process and the use of personality inventories (with emphasis placed on the 16PF and 15FQ+) will be discussed with reference to both the international and South African contexts. In addition relevant literature will be reviewed pertinent to personality assessment predicting sales job performance as well as empirical studies using the 15FQ+. The methodological aspects of the study will be presented in Chapter 3 including a description of the sample, the measuring instrument used, the research procedure used and information regarding the statistics applied. The results will be presented in Chapter 4. In Chapter 5 the findings of the study will be discussed, followed by the limitations and implications of the research.

## CHAPTER 2

### REVIEW OF THE LITERATURE

#### 2.1 Introduction

Traditionally, Industrial Psychologists have questioned the usefulness of personality measures in predicting job-related criteria (such as job performance), because of pessimistic conclusions of early reviews of the topic (for example, Guion & Gottier, 1965) and concerns that most personality measures can be faked (Bergh & Theron, 2003). However, recent reviews have suggested that personality measures are valid predictors of diverse job-related criteria (Barrick & Mount, 1991; Goldberg, 1993 cited in Rothmann & Coetzer, 2003; Tett, Jackson, & Rothstein, 1991). Indications from an international study are that personality assessments have become more widely used as a personnel assessment tool by organisations and consulting firms in 18 countries surveyed (Ryan et al., 1999). This resurgence in the application of personality assessments internationally may reflect the growing empirical evidence and acceptance of personality as a universal construct (Packman et al., 2005) and its ability to predict job performance (Rosse, Stecher, Miller, & Levin, 1998; Wright, Kacmar, McMahan, & Deleeuw, 1995). According to Hogan, Hogan & Roberts (1996), personality measures do not have an adverse impact on disadvantaged employees and can thus enhance fairness in personnel decisions. Abrahams (1996) avers that personality measures should be developed and standardised or at least adapted and validated for the South African context.

The use of measures that are developed and imported from other countries into South Africa without due evaluation of their content and reliability and validity, has met with scrutiny and critique as researchers and psychologists question their cross-cultural suitability, comparability and culture fairness (Abrahams, 1996; Taylor, 2004). Moreover, recent labour legislation and, in particular, the Employment Equity Act (No. 55 of 1998) mandate psychologists to comply with ethical prescriptions pertaining to the application of psychological tests in terms of ensuring fairness

and eliminating bias (Abrahams, 1996; Meiring et al., 2005; Taylor, 2004). This has implications for how companies use assessment batteries as part of their selection process. The recent introduction of the 15FQ+ into South Africa raises questions regarding its psychometric properties, its utility to assess primary and global factors of personality functioning and its predictive ability. This study, therefore, seeks to engage with these questions about the reliability and validity of a new personality assessment measure, the 15FQ+, in a sample of financial advisers and its ability to identify primary personality attributes that are predictive of the job performance (as measured by several objective indices of sales success).

In this study the following constructs constitute the major variables under study and will be defined and described in the relevant sections below: personality assessment; psychometric reliability and validity; job performance; and sales performance. As personality is the core concept of this study, the definition hereof follows in the ensuing section. In this research, the relationship between personality dispositions (as measured by the 15FQ+) and job performance will be studied from a trait perspective, and more specifically the five-factor model of personality dimensions as first conceptualised by Norman (1963 cited in Barrick & Mount, 1991). Hence research pertaining to personality assessment and job performance will be reviewed as well as studies that have utilised the 15FQ+.

## **2.2 Definition of Personality**

Personality is one of those core ubiquitous concepts in psychology that has attracted much attention and theorising. The diverse approaches and theories on personality are reflected in many different definitions, as no universally accepted definition exists. Definitions of personality may reflect the theoretical and assessment preferences of theorists. According to Bergh and Theron (2003), there is consensus on some aspects which should be included in a personality definition and aspects which

influence personality. According to Bergh & Theron, (2003, p. 291), to define personality in all its dimensions, the following criteria or aspects must be considered:

- “the external, visible or observable physical appearance, behaviour and traits, often referred to as a “mask”, the original meaning of personality;
- possible invisible, covert or unconscious behaviours, emotions, attitudes, values, thoughts and feelings within people;
- enduring patterns and consistencies (e.g. shyness in many situations), but also the dynamic nature of behaviour, indicating motivation and change;
- the uniqueness of each person;
- organisation or wholeness and differentiation in personality, a person being body and mind with all its separate and integrated functions; and
- the necessity to accept that personality refers to a living human able to adapt to situations.”

A myriad of definitions has been propounded to describe a variety of integral internal and external features of what is inferred by the concept of personality. Colman’s (2001, p. 547) definition – “The sum total of the behavioural and mental characteristics that are distinctive of an individual” – focuses on what uniquely constitutes or comprises individual personality. In a similar vein, Allport (cited in Bergh & Theron, 2003, p. 238) describes personality as “the dynamic organisation within the individual of those psychophysical systems that determines his [her] characteristic behaviour and thought.” In proposing that personality comprises composite psychological qualities causing people to react to different situations in a fairly consistent manner, Andrews (2001) emphasises the construct’s relatively stable nature and its predictive quality. Child (cited in Bergh & Theron, 2003, p. 291) refers to personality as “more or less stable, internal factors that make one person’s behaviour consistent across, and different from the behaviour other people would manifest in comparable situations” underlining the individual and idiosyncratic or unique expression of personality as external behaviour. Ivancevich and Matteson (1993 cited in La Grange & Roodt,



2001, p. 35) construes personality as the product of internal and external factors “formed by inheritance and by social, cultural, and environmental forces” and which “determine the commonalities and differences in the behaviour of the individual.”

A definition more relevant to the present study that locates personality as a composition of unique predictable traits comes from Raymond Cattell, who was one of the protagonists of trait psychology. Cattell (cited in Byrne, 1989, p. 136) defines personality as “that which permits a prediction of what a person will do in a given situation. The goal of psychological research in personality is thus to establish laws about what different people will do in all kinds of social and general environmental situations.”

Within the work context, personality refers to “the physical-biological, cognitive, emotional or psychological and social aspects of behaviour, and more specific sub-facets of these factors, on which individual employees can be measured and compared” (Bergh & Theron, 2003, p. 449). Within the parameters of this study, personality will be “measured and compared” using the recently introduced 15FQ+ personality inventory. Bergh and Theron’s definition above constitutes how personality will be used in this study.

### **2.3 Personality Theory**

The work of Raymond Cattell who developed the 16PF and W.T. Norman who conceptualised the five-factor model of personality psychology, forms the theoretical framework underlying the current study and will be discussed below.

As mentioned in Chapter 1, there are four theoretical positions for personality, namely psychoanalysis, behaviourism, humanistic psychology and trait psychology (Mantsha, 2002). Theorists such as Sigmund Freud and Carl Jung supported the psychoanalytic position where

emphasis is placed on the role that the unconscious has to play in an individual's behaviour. Behaviourists such as Skinner and Julian Rotter believe that personality develops from external factors and that behaviour is learned responses attained through interaction with the environment (Mantsha, 2002; Rotter, 1966). Humanistic supporters such as Maslow and Carl Rogers, believe that humans have freedom of choice and each person is responsible for their own existence. The main focus is on free will and self actualisation (Colman 2001; Samuel cited in Mantsha, 2002). These three personality theories were postulated on the assumptions and idiosyncrasies of researchers. The fourth personality theory, trait psychology forms the foundation for personality inventories such as the 15FQ+ and is defined and discussed in the ensuing section.

### **2.3.1 Trait psychology**

To develop an understanding of the trait concept, Vernon (1963) defines traits as the abilities, habits and general dispositions of individuals. As an example, an individual with an extraverted personality will typically seek out social situations where he/she can interact with others (Foxcroft & Roodt, 2001). Vernon (1963, p. 182) illustrates that each trait “underlies a wide variety of behaviour.” For instance, the primary factor ‘Enthusiastic’ of the 15FQ+ describes a person who is typically lively, cheerful, happy-go-lucky and care free (The 15FQ+ Technical Manual, 2002).

Foxcroft and Roodt (2001) state that trait psychologists believe that people possess personality characteristics causing them to behave in a certain manner. This is confirmed by Mantsha (2002, p. 17) who adds – “The major concept of trait theories is that human behaviours can be organised by labelling and classifying observable personality characteristics. Trait theories propose continuous dimensions, such as intelligence or warmth that vary in quality and degree.”

Some of the founding members of trait theory include Gordon Allport, Hans Eysenk and Raymond Cattell (Abrahams, 1996). These theorists differ in their understanding of what the elements of a

trait are and where it originates (e.g. genetic, environment or neurophysiological factors). The theoretical arguments of Cattell and Norman relevant to the current study are explored below.

### **2.3.1.1 Raymond Cattell**

Raymond Cattell, an empiricist, derived factors/traits from data through the statistical process of factor analysis. Based on the results he developed his hypothesis on trait theory. Cattell stated that personality is influenced by both external and internal factors but an evaluation of his life's work suggested that he leaned toward the latter (Allen, 2003).

According to Bergh and Theron (2003), Cattell delineated between common traits and source traits. He explained that most people have common traits, gained from hereditary potential and learning, although they differ in quality and magnitude.

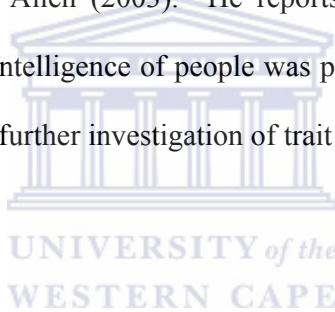
Cattell referred to source traits as primary factors which underlie clusters associated with personality factors (Scheurjer, 1992; Vernon, 1963). He factor analysed 4500 trait names to determine a more workable number of source traits (Bergh & Theron, 2003). Cattell extracted source traits in the following 3 ways:

1. Life-record data (L-R Data) – where trained observers scrutinise people in actual situations and rate typical behaviour by giving descriptions. Cattell eliminated synonyms, unknown words and words with figurative meanings. Thereafter, he factor analysed the remaining words and combined all opposite factors. Using this approach, Cattell identified 15 factors.
2. Performance Tests (T Data) – where personality traits were sampled by observing people's behaviour in standardised settings.
3. Questionnaires or self report data (Q Data) – where individuals were requested to do an introspection of their personality and give a self presentation. Through this technique, Cattell found 16 primary, bipolar factors, which formed the basis of the 16PF (Abrahams, 1996;

Byrne, 1989; Scheurger, 1992; Vernon, 1963). These traits can be observed in an individual's attitudes, social and emotional responses, lifestyle and preferences (Cattell, 1989). The primary factors (including descriptions) of the 16PF can be viewed in Appendix A.

Vernon (1963) reports that Cattell factorised the intercorrelations of these primary factors to produce 5 second order factors (presented in Appendix B). These are also referred to as global factors/traits and can be described as a smaller set of variables that represents a much larger set of variables (Scheurger, 1992).

While Cattell's contribution to personality psychology has been significant, the 16PF has been met with strong criticism as noted by Allen (2003). He reports that Cattell's strong emphasis on genetics influencing traits and the intelligence of people was proven unfounded. Notwithstanding, his pioneering work has resulted in further investigation of trait theory and new models proposed by other researchers.



### **2.3.1.2 Warren T. Norman**

According to Barrick and Mount (1991), Goldberg (1990) and Taylor (2004), Norman continued the factor analysis of lexicon as explored by Cattell and narrowed the list of personality traits down to 200 terms. Through research he further reduced the list to 75 traits which he grouped into five broad traits of personality which includes Extraversion, Emotional Stability, Agreeableness, Conscientiousness and Openness to Experience (Digman, 1990; Goldman, 1990).

Vinchur et al. (1998) describe Extraversion as the intensity with which an individual socially interacts with others and include traits such as gregariousness and assertiveness. Barrick, Mount and Strauss (1993) elucidate that Extraversion is evident in people who are sociable, assertive, ambitious, talkative and active. Emotional stability, also referred to as Neuroticism, establishes the

security an individual displays. Individuals who lean toward the negative end of the scale, tend to be anxious, fearful, depressive and insecure (Taylor, 2004; Vinchur et al., 1998). With the Agreeableness factor, the altruistic nature of an individual is assessed together with their capacity to cooperate, trust and be sympathetic and forgiving to others (Barrick & Mount, 1991; Taylor, 2004). The Conscientiousness factor relates to an individual's achievement orientation and is evident when dependability, organisation and persevering traits are displayed. Typical personality dimensions include dependable, planful, organised, responsible and persistent traits (Barrick et al., 1993). The Openness to Experience factor is described by Vinchur et al. (1998) as characteristics that include creativity, curiosity and imagination. Taylor (2004) notes that low scorers on this dimension tend to be conservative and conventional. The five-factor model of Personality is included as Appendix C.

The five-factor model is increasingly being used as an assessment tool as it provides a framework for assessing personality and is used both in South Africa (La Grange & Roodt, 2001; Rothmann & Coetzer, 2003; Taylor, 2004) and internationally (Barrick & Mount, 1991; Tsaousis & Nikolaou, 2001; Vinchur et al., 1998). While there is little consensus about the descriptions of the five factors, there is general acceptance by researchers that similarities exist (Digman, 1990). He attributes the popularity of the five-factor model to the fact that it is generalisable across many English speaking nations. To test the model proposed by Norman, Goldberg (1990) conducted 3 studies focusing on English trait adjectives to describe personality and found that all terms could be placed within the structure of the five-factor model. Noller, Law & Comrey (1987) have established that the five factors have emerged when intercorrelating and factor analysing three personality instruments (i.e. the 16PF, the Comrey Personality Scales and the Eysenck Personality Inventory). Various personality instruments have since been developed based on this model. Tsaousis and Nikolaou (2001) reported that the factor structure of a Greek personality measure (the TPQue) based on the five-factor model was stable across three different groups that they tested.

Parallels have been drawn between the five-factor model and the global/second-order factors of other personality inventories such as the 15FQ+ (Moutafi, Furnham, & Paltiel, 2005; Noller et al., 1987; Packman et al., 2005). The global traits of the 15FQ+ are Introversion – Extraversion, Low Anxiety – High Anxiety, Pragmatism – Openness to Experience, Independence – Agreeableness and Low Control – High Control. The Conscientiousness trait of the five-factor model is comparable to the Control scale of the 15FQ+. Similarly the Neuroticism scale is comparable to the High Anxiety – Low Anxiety scale of the 15FQ+ (Packman et al., 2005).

## **2.4 Personality Assessment**

### **2.4.1 Definition of Personality Assessment**

Personality assessment can be described as “the assumption that much of the observable variability in behaviour from one person to another, results from differences in the extent to which individuals possess particular underlying personal characteristics (traits). The assessment specialist seeks to define these traits, to measure them objectively, and to relate them to socially significant aspects of behaviour” (Encyclopaedia Britannica, 2006).

Finnigan (1973) explains that through personality assessments, information can be sought as to how an individual reacts to a situation.

### **2.4.2 The Utility of Personality Assessment**

Personality assessment provides information about an individual in an impartial manner and is used in various settings, including educational, clinical and organisational contexts (Foxcroft & Roodt, 2001). Personality assessment is valuable as it can be used as a diagnostic tool from which necessary interventions can be suggested. Within organisations, personality assessments can determine competencies required for the job and in doing so, identify and recommend candidates who are most likely to succeed in these positions (Bergh & Theron, 2003). At an organisational

level, there is growing empirical confirmation of the utility of personality assessments to determine the relationship between personality and job performance (Barrick & Mount, 1991; Jenkins & Griffith, 2004; La Grange & Roodt, 2001; Robertson & Kinder, 1993; Rothmann & Coetzer, 2003; Ryan et al., 1999; Seligman & Schulman, 1986; Vinchur et al., 1998).

### **2.4.3 Factors affecting Personality Assessment**

De Bruin (cited in Foxcroft & Roodt, 2001) delineates that there are different methods and procedures used for personality assessment. The typology selected by psychologists is based on the following three decisive factors:

a) *The reason for the assessment*

Personality assessment is used across educational, occupational and clinical settings (Mantsha, 2002; Taylor, 2004). In clinical settings personality assessment can provide a comprehensive picture of an individual's functioning in order to establish the presence of any psychological disorder (Foxcroft & Roodt, 2001). Within a work context, Anastasi (1982) recommends that personality assessment be used for recruiting new employees, job assignment, transfer, promotion and at termination of employment.

b) *The theoretical orientation of the psychologist*

Various theoretical orientations exist for personality, namely psychoanalysis, behaviourism, humanistic psychology and trait psychology (Mantsha, 2002). These were explored in subsection 2.3 above with specific emphasis placed on trait perspectives. Bergh and Theron (2003) note that the method of personality assessment most likely to be adopted by the psychologist is usually based on the theoretical position that the psychologist supports.

c) *The preferred method of the psychologist*

Within each theoretical framework researchers have developed different methods to assess personality. These methods are used to measure samples of behaviour (Encyclopaedia

Britannica, 2006). According to Mantsha (2002), there are three methods available to psychologists as personality assessment tools. These include projective assessment techniques (used to diagnose the nature and extent of an individual's emotional disturbance) and interviews (i.e. semi-structured conversations with an individual to gather information of him/her). The third, a structured method, includes self-report inventories and is based on trait psychology. As self-report personality inventories are instrumental to the current study, it will be discussed in greater detail below.

Self-report personality inventories are designed to determine the personality traits/characteristics of individuals. Based on trait psychology, the personality inventory provides individuals with the opportunity to detail their behaviour. In justifying the use of personality inventories, Bergh and Theron (2003) contend that the individual is conceivably the best person to report on him/herself.

Personality inventories have been used repeatedly for selection purposes (Foxcroft et al., 2004; Ryan et al., 1999). Rosse et al. (1991) advise that the personality inventory chosen by the selection specialist should contain personality dimensions that have a rational relationship to performance indices that measure the job in question. Moreover, the existence of this relationship should be established through research.

A review of the literature pertaining to research of personality inventories used within an international and South African context follows in the two subsections below.

#### **2.4.3.1. International studies**

Internationally, a plethora of research exists that examines the relationship between personality and job-related criteria. Depending on the type of job, the job requirements and the personality of the



individual, both positive and negative relationships have been reported. The evidence reported below reflects the increasing application of personality inventories as a selection tool in the international arena.

Studies by Barrick and Mount (1991), Jenkins and Griffith (2004), Robertson and Kinder (1993), Salgado and Rumbo (1997) and Vinchur et al. (1998), all suggest that a relationship exists between personality dimensions and aspects of jobs. Moreover, more studies are validating the Big 5/five-factor model when reporting on personality dimensions that relate to certain jobs.

Salgado and Rumbo (1997) reported on a study conducted on financial services managers to determine the predictive validity of the Big 5. The NEO Five Factor Inventory was used as the predictor and the criteria included 9 rating scales that assess competencies. Findings showed a negative correlation for Neuroticism and the competency criteria and a positive correlation between Conscientious and the competency criteria. They concluded that the personality inventory is a predictor of job performance and also supported the five-factor model when researching personality.

A meta-analysis to assess the validity of personality variables was completed by Robertson and Kinder (1993) across occupations. The Occupational Personality Questionnaire (OPQ) was set as the predictor and twelve job competencies were set as the performance criterion. The researchers posited that based on *a priori* grounds, specified dimensions of the OPQ could be used to predict job performance of individuals across occupations. Average validity coefficients were obtained for both single personality scales and combined personality scales. These were however, still higher than those indicated in the meta-analysis. While their methodology (i.e. use of *a priori* methods to form postulations) is questionable, their research shows that some of the personality scales could be used to predict the criterion and is therefore useful for selection purposes.

Bartram (1995) assessed the validity of the Eysenk Personality Inventory (EPI) and the primary factors of the 16PF as predictors of the training outcome for pilots. The results indicated that pilots have a typical personality profile which includes being emotionally stable and extraverted. These two traits can be correlated to the global traits of the five-factor model. Findings also showed that the primary scales of the 16PF were better able to discriminate between groups in the study, than the EPI, which only measures three global traits. Hence, more information can be obtained from using the primary factors.

Similarly, in another study, Jenkins and Griffith (2004) noted that while the broad traits have repeatedly shown validity across different studies, the underlying primary traits which combine to form the broad global (i.e. second-order) trait may have different contributions to the global trait. This could influence the validity coefficient. They contend that the primary factors provide incremental validity over and above that of the global trait. Their study involved developing a new personality scale based on the accountant position. This scale, together with the 16PF was the predictor and a performance appraisal was set as the criterion. The sample consisted of 58 accountants. Findings showed high internal consistency for the new personality scale. Significant correlations were also found between the new personality scale and the 16PF. Furthermore, the personality scale was also found to correlate ( $r = .25$ ) with the criterion which suggests that useful information can be obtained at a primary level. However, the global factors had no correlation with performance. For future research, the importance of these primary factors to determine appropriate levels of validity rather than only assessing broad global factors should be noted. In this way the importance of primary factors are not minimised when assessing personality. Fisher and Boyle (1997) also support the use of primary scales of personality inventories as they contend that second order factors are too broad and general and therefore do not make good predictors for research.

### **2.4.3.2 South African studies**

Prolific research has been done on the five-factor model of personality. The model has been used to determine correlations between personality dispositions and job performance (Coetzee, 2003; Rothmann & Coetzer, 2003) as well as academic performance (De Bruin, De Bruin, Dercksen, & Cilliers-Hartslief, 2005).

In a recent study the five-factor model (using the Five Factor Non Verbal Personality Questionnaire) and intelligence (using the Ravens Progressive Matrices (RPM)) were used to determine the predictive validity of the performance of ABET learners registered for a course in domestic services (De Bruin et al., 2005). Performance was measured using practical and academic components. Findings reflected a strong correlation between the Agreeableness personality dimension and the practical component of the ABET course. The researchers suggested that this personality dimension will vary with job performance depending on the amount of co-operation required for the job. In this case, Co-operation and Agreeableness from domestic workers are almost requisites when determining job performance. In terms of the academic component, no relationship was found with any personality dimensions. As was expected, correlations were established between the RPM and the academic component (De Bruin et al., 2005).

Rothmann and Coetzer (2003) researched the relationship between the five-factor model and job performance of 159 employees at a pharmaceutical group. The five-factor model was tested using the Neo Personality Inventory Revised (NEO-PI-R) and the measure used for job performance was the Performance Appraisal Questionnaire (PAQ). Canonical analysis indicated that low Neuroticism, Openness to Experience, Extraversion and Conscientiousness explained 15% of the variance in two scales (Task Performance and Creativity) of the PAQ. Multiple regression of the personality instrument with performance indicated that Neuroticism, Agreeableness and Openness to Experience are dispositional factors that relate to management performance. In light of the

findings, the researchers support the use of the five-factor model when determining job performance in this context.

Another personality measure, the 16PF, has been widely used in South Africa. The extensive interpretive possibilities of the 16PF have made it useful for academic and career counselling, development programmes and to identify potentially problematic behaviour in individuals. A survey conducted by Foxcroft et al. (2004) identified the 16PF as the personality test most often used by practitioners. In a study conducted by Byrne (1989), the 16PF was used at an insurance company to determine whether personality factors and self-concept dimensions could predict the success of sales agents. Other instruments included a self-concept questionnaire and a self designed questionnaire. The latter was used to determine sales agents' understanding and use of marketing, their understanding of the marketing strategy and the marketing plan and their success as sales agents. The results of the study indicated that a combination of primary factors can be used to predict sales success, namely Rule-Conscious(ness), Social Boldness, Apprehension, Perfectionism, Warmth and Self-reliance. This suggests that sales agents who adhere to instructions, are anxious, engage with the client and conscientiously apply themselves to procure business are likely to succeed in their jobs. Byrne (1989) concluded that the information obtained was useful for short-listing future candidates as sales agents. A limitation of Byrne's study is the omission of bio-data which could have provided valuable insight into the use of the 16PF in South Africa.

The literature review above supports the utilisation of personality inventories for selection purposes as well as endorsing the five-factor model. Moreover, as in the case with Byrne's study, cognisance should also be taken of the valuable contribution of primary factors when making selection decisions.

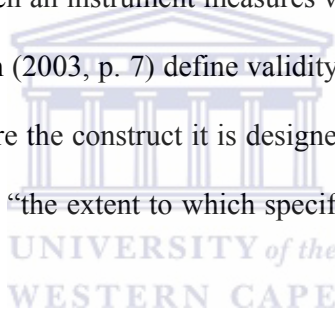
In section 2.5 below the psychometric properties that are applicable for all measuring instruments are defined and discussed in order to reflect the relevance in providing statistical information from which scientific deductions can be made.

## **2.5 Validity and Reliability**

Research provides the opportunity to draw scientific conclusions regarding the utility of assessment measures. This extends to the validation of measures and determining the consistency thereof. In the ensuing subsections the concepts of validity and reliability are defined and discussed.

### **2.5.1 Validity**

Validity refers to the degree to which an instrument measures what it intends to measure (Carmines & Zeller, 1979). Bergh and Theron (2003, p. 7) define validity as “a psychometric requirement for a measurement technique to measure the construct it is designed to measure.” In addition, Colman (2001, p. 773) notes that validity is “the extent to which specified inferences from the test’s scores are justified or meaningful.”



According to Foxcroft and Roodt (2001, p. 17), “The validity of a measure concerns what the test measures and how well it does so.” Carmines and Zeller (1979, p. 17) explain that the measuring instrument is not validated but rather, “the measuring instrument in relation to the purpose for which it is being used.” Cook (1998) elucidates that a validity coefficient can be determined by finding a correlation between two variables (i.e. a predictor and a criterion).

Three approaches can be used to assess validity (Rosnow & Rosenthal, 1996) as described below.

#### *a) Content validity*

Content validity determines whether the items in a measure do in fact represent the content areas that it is supposed to represent. Cooper and Robertson (1995, p. 54) define content

validity “as a sample of items, tasks or behaviours that reflect the construct being measured.” According to Vos, Strydom, Fouché and Delpont (2002), content validity can be established by requesting a panel of experts to review the instrument and determine whether it characterises a sample of the behaviour that is to be measured.

b) *Construct Validity*

Colman (2001, p. 162) defines construct validity as “(t)he extent to which a test measures a specified construct or hypothetical construct, determined by interpreting the psychological meaning of test scores and testing implications of the interpretation.” Vos et al. (2002) add that construct validity attempts to validate a measure as well as the underlying theoretical construct.

c) *Criterion validity*

Criterion validity determines the extent to which a measure (predictor) correlates with one or more outcome criteria (Foxcroft & Roodt, 2001). Anastasi (1982) notes the usefulness of criterion validity as it can predict an individual’s behaviour in specific situations. Cooper and Schindler (2003) explain that the criterion is valid if four qualities can be determined:

- Relevance – the criteria must be defined and scored properly;
- Freedom from bias – where the criterion gives each person the opportunity to score well;
- Reliability of the criterion – that is, the criterion is stable and reproducible; and
- Availability – information of the criterion must be available.

There are two types of criterion validity, namely Concurrent Validity and Predictive Validity. Within the work context, the former is used to accurately identify current behaviour regarding specific skills of an individual. Carmines and Zeller (1979) add that concurrent validity can be determined when the measure and the criterion are both available at the same time for measurement. They also explain that predictive validity refers to a measure which is

correlated with a future criterion. Within the work context, this type of validity can assist in predicting the future behaviour of an individual (Foxcroft & Roodt, 2001).

In this study, predictive validity will be used to assess the validity of the 15FQ+ and the performance indices of financial advisers at The Company will be set as the criteria.

### **2.5.2 Reliability**

Reliability can be defined as the accuracy and consistency with which an instrument measures what it intends to measure (Foxcroft & Roodt, 2001). Colman (2001) adds that reliability refers to the stability an instrument has to function effectively. An instrument is considered reliable if it yields the same results on repeated trials (Carmines & Zeller, 1979). Perhaps the simplest definition is offered by Terre Blanche & Durrheim (1999, p. 63), “Reliability is the degree to which the results are repeatable.” Bergh and Theron (2003, p. 7) define reliability as “the consistency of measurements, that is, a process or measurement repeated in various situations or by different persons will provide more or less the same measurement results.”

Rosnow and Rosenthal (1996) add that reliability gives an approximation of the degree of fluctuation of a measure. Foxcroft and Roodt (2001) delineate between 5 ways in which reliability can be ascertained, namely, test-retest, alternate-form, split-half, Kuder-Richardson and alpha coefficient and inter-scorer/rater reliability. For test-retest reliability, the same measure is administered twice to the same group of people. With alternate-form reliability, two forms of a measure which are equivalent in terms of content, representativeness and item difficulty are given to the same group of people at different times. For split-half reliability, the test is administered to a group of people whereafter the measure is split (odd and even numbers) into equivalent halves. The correlation coefficient between the two scores is then computed. The Kuder-Richardson is a formula used to calculate reliability where the item responses are dichotomous (e.g. right or wrong)

and the alpha coefficient refers to measures where test-takers have a selection of items from which to answer the item question. In terms of inter-scorer reliability, two assessment practitioners' score an individual test and the validity coefficient between these two sets of scores is then computed.

In this study the alpha coefficient will be used to determine the internal consistency of the primary factors of the 15FQ+. Rosnow and Rosenthal (1996) indicate that there is no consensus of what an acceptable level of reliability is. Similarly Owen and Taljaard (1996) assert that there is no unique cut-off point, the cut-off selected depends on the purpose for which the test is used and the requirements of the situation. In determining what would be an acceptable alpha coefficient, Smit (1996 cited in Foxcroft & Roodt, 2001) advise that standardised personality inventories should have a reliability of 0.80 to 0.85. However, Clark and Watson (1995 cited in Taylor, 2004), Garson (2006) and Owen and Taljaard (1996) suggest that an alpha coefficient of 0.6 is an acceptable level of reliability. This will be used as a benchmark for the reliability coefficient in the current study.

Before the validity of any test/questionnaire can be determined, it is general practice to determine the reliability thereof (Bergh & Theron, 2003; Pedhazur & Pedhazur-Schmelkin, 1991). Both reliability and validity are essential qualities in assessing the utility of a new test or inventory.

## **2.6 Cross-cultural testing**

Bedell, Van Eeden and Van Staden (1999) and Kanjee (cited in Foxcroft & Roodt, 2001) assert that when using psychological measures, individuals who come from different cultural, language and socio-economic backgrounds, should be provided with the same opportunity to respond to any items of the inventory. The information obtained must not have any moderator variables which could compromise the reliability and validity of the assessment instruments. As a guideline, Bedell et al. (1999) recommend that race, language, age, gender, socio-economic status and educational background are factors that should be noted when considering the cross-cultural application of tests.



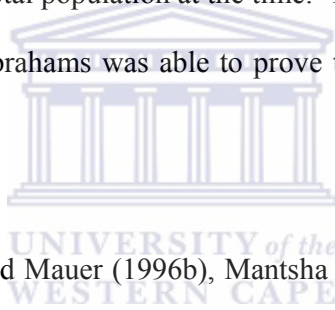
To address cross-cultural matters, research regarding the efficacy of personality instruments across heterogeneous sample populations has been conducted by comparing mean differences across different ethnic groups as well as nationalities (Packman et al., 2005). Inventories have also been translated to determine whether lexicon has the same meaning across populations and hence, to determine the cross-cultural generalisability of these instruments (Mantsha, 2002; Tyler & Newcombe, 2006). Moreover, research on the level of acculturation has also been conducted to determine differences within ethnic groups (Tsai & Pike, 2000).

Tsai and Pike (2000) have recorded different responses to the Minnesota Multiphasic Personality Inventory when administered to White American and Asian-American university students. Moreover, for the latter, those who identified most with the western culture responded similarly to the White American group. The researchers cautioned that the scores of the Asian-identified group should not be seen as pathological behaviour but cognisance should be taken of cultural differences. Hence, the MMPI-2 has emic (i.e. culture-specific) characteristics and should be tested before being used internationally.

In South Africa, Bedell et al. (1999) indicate that tests imported from abroad and administered to all South Africans without due concern for any moderating factors could affect test performance. McLeod (2004) also adds that the psychological practices of the Apartheid era ignored the relationship between individuals and the socio-political South African context in which they lived. This has changed as researchers realised the impact of cultural bias in tests (Bedell et al., 1999). Since the promulgation of the Employment Equity Act (No. 55 of 1998), there is an increasing need to ensure fairness and eliminate bias in psychological testing in South Africa (Mantsha, 2002). A review of South African literature by Abrahams (1996), Abrahams (2002), Abrahams and Mauer (1999a; 1999b), Prinsloo and Ebersöhn (2002) and Wallis and Birt (2003) present arguments

regarding the cross-cultural generalisability of the 16PF for the diverse South African population. More recently, adaptations and translations of existing measures (Mantsha, 2002) and the development of new measures (Taylor, 2004) have been done to ensure that assessment measures comply with legislation and prevent discrimination against any group.

Abrahams and Mauer (1999a) have expressed concerns over the utility of the 16PF as it was imported from the USA without proper validation studies being conducted. They reported on a study conducted by Abrahams, which aimed to determine whether the scores of the 16PF (SA92) were comparable within the South African context. Abrahams (1996) argued that when the test was standardised for use in South Africa, Blacks were underrepresented (only 5.9%) in the norm group despite representing 70.6% of the total population at the time. Through her own research conducted on students at four universities, Abrahams was able to prove that Blacks responded differently to the test items.



Studies conducted by Abrahams and Mauer (1996b), Mantsha (2002) and Prinsloo and Van Eeden (1997) to determine whether the lexicon used in the 16PF (SA92) had the same meaning across different groups, showed that there were differences in the responses of subjects. This implies that the language used in the 16PF may be interpreted differently in the South African context. Mantsha's (2002) translation of the 16PF into Venda in order to standardise the measure for Venda-speaking people showed that in order to have acceptable reliability, 29% of the items would have to be excluded. She intimated that the poor reliability of the adapted version was due to translation errors, problems in understanding lexicon and the use of idiomatic expressions. For future research, she recommended that items that display cultural and translation difficulties be excluded.

The study was completed by Abrahams and Mauer (1999b) to review the impact that language proficiency may have on the results of the 16PF of psychology students at a university. The results

reflected significant differences between Black and White responses to 35 of the items indicating that language was the cause of differences between these race groups. The researchers suggest that further studies should be conducted to fully investigate the response patterns.

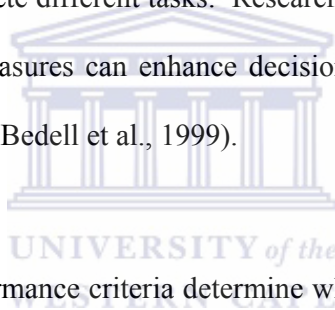
However, in studies by Prinsloo and Ebersöhn (2002) and Wallis and Birt (2003) they raised questions over the methodology used by Abrahams and Mauer. Wallis and Birt (2003) adapted the methodology and subsequently found that the language of the 16PF may not be as difficult as originally purported but may have changed over time, e.g. the students understood the term “bookkeeper” to be a “librarian”. They cautioned that all assessment instruments should be regularly revised to ensure that terminology remains current. They also suggested that differences in scores obtained in personality instruments could be attributed to deeper cultural factors.

Other cross-cultural studies of personality inventories which applies the taxonomy of the five-factor model have shown more promising results suggesting that there may be universal aspects of this model that have cross-cultural generalisability (Tsaousis & Nikolaou, 2001). Moreover, the development of new personality inventories such as the Basic Traits Inventory (BTI) (Taylor, 2004) and the 15FQ+ (based on the traits described in the 16PF) have been introduced to address cross-cultural concerns. Further research is encouraged by the Professional Board for Psychology (Tests classified as being psychological tests, 2006) to determine the validity and reliability of such inventories. Paunonen and Ashton (1998) note that when personality instruments are tested for cross-cultural applicability, cognisance should also be taken of the item relevance of the scales, trait-differences, whether comparable statistical techniques are used and to use criterion variables that have etic (i.e. universal) characteristics.

## 2.7 The Relationship between Personality and Job Performance

Viswesvaran and Ones (2000, p. 216), define job performance as “scalable actions, behaviour and outcomes that employees engage in or bring about that are linked with and contribute to organizational goals.” For Ivancevich and Matteson (1993 cited in Coetzee 2003, p. 43) job performance is “the quality and quantity of human output necessary to meet work goals.” Rothmann and Coetzer (2003, p. 68), define job performance as “the initiative they (workers) take and the resourcefulness they show in solving problems.”

Consonant with the concept of job performance is the assumption that certain personality characteristics are needed to complete different tasks. Research on the utility of various personality inventories indicates that these measures can enhance decisions about individuals in a variety of situations (Barrick & Mount, 1991; Bedell et al., 1999).



Within the work context, job performance criteria determine whether an employee has successfully met the key performance areas that he/she has been contracted to do (Cook, 1998; Grobler, 2005).

Smith and Robertson (1989) note the importance of criteria for personnel selection, as follows:

- a) It is the target that the predictor is aimed at;
- b) It sets a benchmark against which the applicants' job performance will be measured;
- c) It can shed light on developmental needs for the organisation as well as the employee; and
- d) It provides clarity on what is expected for a particular position.

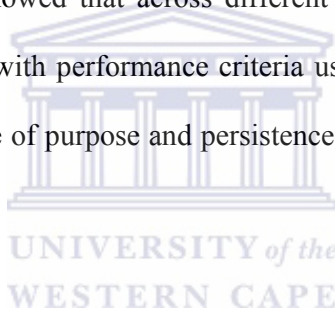
Job performance is a construct that comprises subjective and/or objective ratings/criteria of an employee's performance of tasks (La Grange & Roodt, 2001). Cook (1998) explains that subjective criteria could include supervisor ratings. La Grange and Roodt (2001) add that for the sales agent

subjective ratings refers more to that part of the work that can be controlled such as the agents behaviour. Cook (1998) and La Grange and Roodt (2001) note that objective criteria might refer to production outputs or sales volumes. Objective criteria could also include academic results (Štrbac & Roodt, 2005). Kaufman, Thiagarajan and MacGillis (1997) add that indicators used to measure job performance should determine what tasks need to be completed and provide criteria for assessing success/failure. They suggest that criteria are most effective when related to results, performances or consequences (i.e. the criteria must be objective).

Research has been successfully concluded using subjective criteria. For instance, Lunenberg and Columbia (1992) have found some significant relationships between the personality factors of the 16PF and the subjective criteria used (i.e. Supervisor ratings, Paired Comparison Ratings, Peer Nomination Ratings, and Teacher Ratings). However, Cook (1998) questions the reliability of studies where subjective criteria are used as it is subject to idiosyncrasies of the supervisor. In the meta-analytic study of Vinchur et al. (1998), they found that most research done on job performance applies objective criteria, particularly with regard to sales agents.

Cook (1998) cautions against using objective criteria as the performance results of the person could be affected by other factors. By way of example, he explains that a good sales person is unlikely to sell a product in an area where no market exists. Smith and Robertson (1989) also indicate that objective criteria could be problematic as the indicator is based on counting and not on job behaviour. They do, however, indicate that objective criteria are useful for work of a clerical or professional nature where objective performance can be scored, as in the case of an insurance agent. Kirchner (1960) supports the application of objective criteria as data of sales agents can be compared to determine what needs to be done in order to be successful. Moreover, objective criteria for test validation purposes, is also useful when doing research.

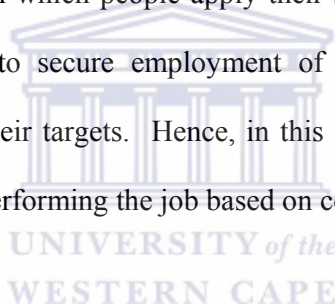
The benefit of knowing an individual's response and reaction to completing a particular task can save any organisation time and money. Knowledge of the key factors that are pertinent to the completion of a task is essential when selecting job candidates for employment as it can assist selection specialists in employing the right person for a particular job. As noted by Paterson and Uys (2005), appropriate testing can be done to decrease the likelihood of employing unsuitable persons. Thus, it is important to note the standard requirements, whether qualitative or quantitative, for the completion of an assignment. Studies by Barrick and Mount, (1991), Rosse et al. (1991) and Seligman and Schulman (1986) reveal the importance in having a clear understanding of the tasks and personality dimensions required to successfully complete a job. A meta-analytic study conducted by Barrick and Mount (1991) to determine whether work performance is predictable based on the five-factor model, showed that across different occupations, the Conscientiousness factor had significant correlations with performance criteria used in the study. This suggests that employees who have a strong sense of purpose and persistence in their work tend to perform better than those who do not.



Rosse et al. (1991) researched the utility of using ability and personality tests to predict the job performance of clerical employees within the health care industry. A high level of service orientation is required as clerks deal closely with patients as well as medical personnel. It was anticipated that the findings would assist in developing a profile for clerical positions and be used as part of a test battery when assessing future candidates. Results of the study advocate the importance of selecting employees who have a technical orientation as well as a high level of customer service orientation. In a similar study Štrbac and Roodt (2005) have used the OPQ, academic transcripts and behavioural and technical competencies to successfully predict the job performance of trainee accountants.

In a recent study, Tyler and Newcombe (2006) used the 15FQ+ to determine the performance of employees in four organisations. They found that individuals who have a high customer service orientation tend to be tough-minded, solution-focused, diplomatic, socially astute and self sufficient.

These studies highlight the need to select the most appropriate candidates who may have good organisational fit and will contribute directly or indirectly to company profits. Holland (1973 cited in Štrbac & Roodt, 2005, p. 9) indicated that the closer an individual matches a personality profile for a specific occupation, “the greater is the expected vocational aspiration and eventual achievement in the field.” Furthermore, the researchers also indicate that personality traits and motivation contribute to the way in which people apply their skills. With this in mind, it will be advantageous for The Company to secure employment of financial advisers who are highly motivated and driven to achieve their targets. Hence, in this study job, performance will refer to objective indicators of success in performing the job based on company determined indices.



### **2.7.1 Sales performance**

From the literature, there appears to be no set definition for sales performance. In the context of this study, sales performance is an important component of the job performance of financial advisers. Sales performance will be operationally defined as an index of successful sales conducted by the financial adviser and is indicative of the adviser’s competence to sell products and services for The Company. The indices of sales performance utilised by The Company will be described in Chapter 3.

The sales job is worthy of the attention of researchers as a result of its uniqueness, both from the personality characteristics of the sales agent as well as the environment in which they operate. Miner (1962) reports that studies have had divergent findings on the personality characteristics that

have impact on the performance of sales agents. He attributes this to the product being sold and the market in which the agent might work. Seligman and Schulman (1986) and Vinchur et al. (1998) report that sales agents usually work autonomously and constantly face rejection from prospective clients. As a result, the industry typically has a high labour turnover rate. As the sales position requires unique traits, extensive research has already been done to develop a personality profile for this position. Through their review of the literature, Cron, Marshall, Singh, Spiro and Sujan (2005) note that sales persons should have a personality disposition that includes integrity, optimism, social competence and cooperativeness.

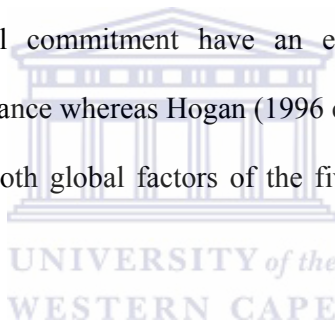
La Grange and Roodt (2001) conducted a study to ascertain whether dispositional factors and cognitive ability could predict success for insurance sales people. Their study consisted of 170 broker consultants. The two predictors included the Customer Contact Styles Questionnaire, a personality questionnaire and a verbal evaluation test (VCC3). The Customer Contact Competency Inventory was set as the criterion. For the study, the competencies were factor analysed into three factors, namely Business and sales acumen, Relating to customers and Dependability. Results of the statistical analysis showed that Competitive, Social and Participative personality dimensions explained 12.7% of the variance on the Business and sales acumen criterion. Sociable, Persuasive and Results-driven personality factors explained 8% of the variance for the Relating to Customers competency while Constant, Persuasive and Structure personality dimensions explained 7.9% of the variance of Dependability. The VCC3 did not have any significance.

Seligman and Schulman (1986) noted that an early assessment of how an individual will perform is constructive for both the individual and the organisation. They conducted two field studies on insurance agents who repeatedly encounter failure and rejection when dealing with prospective clients. The studies revealed that agents who were more optimistic when dealing with rejection, tended to remain in service than those who were pessimistic. The agents with an optimistic



disposition sold more insurance policies than pessimistic agents in their first two years of service. Furthermore, the optimistic sales agents generally had the propensity to sell more policies as they were more persistent than their pessimistic colleagues. Miner's (1962) study of 69 dealer salesman showed that sociophilia (i.e. the tendency to maintain close personal relationships with others), self-confidence and happiness contributed to successful sales performance whereas low aggression, sociophobia (i.e. maintaining a distance from others) and strong superego correlated with poor sales performance.

In a meta-analysis done by Barrick and Mount (1991), they found correlations between Conscientiousness and Extraversion for sales person. In another study by Barrick et al. (1993) they found that goal setting and goal commitment have an effect on the relationship between Conscientiousness and Job Performance whereas Hogan (1996 cited in Kierstead, 1998) found that Extraversion and Agreeableness (both global factors of the five-factor model) were predictors of performance of sales agents.



Vinchur et al. (1998) assert that sales agents who wish to have successful sales should have personality dimensions that show impact, influence and competency striving. They found that in earlier studies cognitive abilities and personality predictors did not yield consistent results. More recently, the study by Barrick and Mount (1991) yields more promising results for the use of the personality inventories (based on the five-factor model) and its relationship to job performance across several occupations (including sales people). However, Vinchur et al. (1998) recommend that further studies be done where the criteria are more refined. Drawing from previous research, they conducted a meta-analysis of the validity of subjective (managers ratings) and objective (sales volume) performance criteria of sales persons. Predictors included a range of personality inventories that explored the Big 5 dimensions and sub dimensions thereof, tests of cognitive ability and verbal ability, biographical data, age, sales ability (i.e. knowledge of selling techniques), rugged

individualism and interest inventories. Results yielded a strong validity coefficient for Extraversion and Conscientiousness for both subjective and objective criteria. This finding was similar to results obtained in the study of Barrick and Mount (1991). The study by Vinchur et al. (1998) also showed that Potency (i.e. influence, assertiveness, impact and energy), a sub-dimension of Extraversion, and Achievement (striving for competency in one's work), a sub dimension of Conscientiousness were also strong predictors of sales success. As in the case of Jenkins and Griffiths (2004), empirical evidences of the valuable contribution of factors at a primary level are provided.

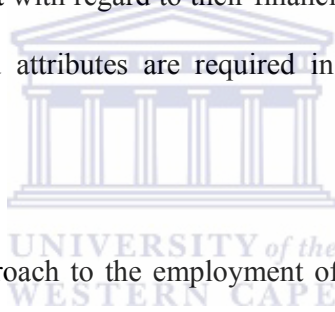
### **2.7.2 Measuring the performance of financial advisers at The Company**

According to Drury (1998) and as indicated in the Life Insurance Marketing Research Association (LIMRA) report (View from the top, 2001), insurance companies in South Africa use different distribution channels to market and sell products and services, including brokers/financial advisers, company sales force, bancassurers, direct marketing, internet and digital TV. These products and services include car and household insurance, collective investments, retirement options, employee benefit services, personal loans, asset management and estate planning, amongst others. According to the LIMRA report, brokers/financial advisers are still the most effective channel to distribute products.

Drury suggests that to successfully procure business, companies must become "more efficient service providers" (1998, p.14). The Financial Advisory and Intermediary Services Act (2002) has been promulgated by Government to regulate financial services to clients and put control mechanisms in place to protect them. Financial institutions are now required to register as authorised financial service providers and must accept responsibility for the representatives (i.e. financial advisers and brokers) who sell products and services on their behalf. Thus, it will take careful planning to select the right person for these positions so as not to place organisations at risk of infringement of the abovementioned legislation.

In a series of articles published by Little (2005), the duty of a financial adviser is noted as assisting clients by reviewing their assets and liabilities and providing sound financial advice on the best investment options. Congruent to this, the financial adviser is able to generate business for his/her employer by selling investment products to the clients.

In an interview with a journalist, Dilip Garach (Cameron, 2004), a financial adviser employed at a South African financial advice company, recommends that a good financial adviser should firstly be a Certified Financial Planner and be able to conduct a financial needs analysis from which a financial plan can be developed for the client. Moreover, the adviser must adhere to ethical codes and regularly consult with the client with regard to their financial plan. Hence, it becomes apparent that certain knowledge, skills and attributes are required in order to adequately perform as a financial adviser.



In this study, The Company's approach to the employment of financial advisers is to ensure that each applicant has the requisite formal training in order to gain accreditation. It is imperative that suitable candidates are selected to fill positions as financial advisers as they have to invest in the training and development (R 52 500) of each new employee in order to become Certified Financial Planners (Grobler, 2005). Thus, it becomes important for The Company to recruit and select the correct person in this position to ensure a return on investment. The current practice is to short-list candidates who have displayed specific behavioural competencies (See Appendix D) during an interview. These competencies are seen as requisites by The Company for a financial adviser to perform adequately. Thereafter, candidates are assessed using the assessment centre approach described in Chapter 1.

A study conducted at The Company in 2004, showed that 32.95% of the financial advisers were performing below the norm which means that The Company did not make any profit on these financial advisers (Grobler, 2005). While Grobler (2005) notes that research must still be conducted to determine the reasons for this underperformance, it might be more plausible to conduct a study to determine the type of financial adviser who is able to deliver sound knowledge and advice and procure sales for The Company, before they are employed. Furthermore, it becomes expensive (i.e. another R 52 000) to re-train financial advisers in order to improve their work performance.

The Company gauges the performance of financial advisers using the Score model which is a measurement tool that translates the commission earned by the adviser into an understandable figure (Grobler, 2005). The Score model is used as a yardstick to measure performance of financial advisers. The actual Performance Indices are discussed in Chapter 3 below. Grobler (2005) also indicates that each financial adviser needs to produce an Average Index of R 3 500 within a year, before he/she can become profitable for The Company. Hence, the challenge is to employ financial advisers who have the potential to develop the requisite knowledge and skills to meet targets, which on a broader scale will positively impact on company profits.

## **2.8 The 15FQ+**

The Fifteen Factor Questionnaire (15FQ) was developed by Psytech, as an alternative to the 16PF, measuring the same personality characteristics as the 16PF, but omitting the Intelligence Factor (The 15FQ+ Technical Manual, 2002). The 15FQ was replaced in 2002 with the 15FQ+ and includes an Intellectance scale. A discussion of both international and local studies is presented below. For the latter, few research studies have been reported.

### **2.8.1 International studies**

The utility of personality assessments using the five-factor model to predict job performance has gained popularity in recent years. Many inventories have since been developed based on this model.

Tyler and Newcombe (2006), however, questioned whether the five-factor model can be applied universally and proposed that the structure of personality must be compared across cultures in order to determine this. They conducted a study on 437 employees at four Hong Kong organisations to determine whether a translated version of the 15FQ+ could be used within Chinese organisations. The aim was to determine whether there were significant correlations between the primary scales of the 15FQ+ and performance competencies (using performance appraisal scores). The updated Cross-cultural Personality Inventory (CPAI-2), a personality assessment measure which includes indigenous scales was also used to add incremental validity to the 15FQ+ for the study. With a reliability convention of 0.7, it was noted that six of the primary scales did not meet the acceptable level. Findings showed that the 15FQ+ had significant correlations with four performance competencies, namely overall non-weighted performance, customer service, planning and organising and the most recent appraisal score. Significant correlations were found between four of the five factors and the performance competencies. Extraversion had no correlation with any of the performance competencies. There was a negative correlation between Openness to Experience and the Overall Performance dimension but the researchers indicated that the traditional Chinese approach to work is not to be innovative but to maintain the status quo.

The researchers caution that cultural aspects should always be considered when interpreting results and suggest that the relationship between primary and second order factors be meticulously scrutinised. Furthermore, contextual/situational considerations must be made as different traits are required in different environments (Tyler & Newcombe, 2006).

In another study to determine the universality of the 15FQ+, Packman et al. (2005) assessed personality differences between respondents from three New Zealand ethnic groups (namely, New Zealand Europeans, Maori and Pacific Islanders) and respondents between three countries (namely, New Zealand, Australia and South Africa). The researchers drew similarities between the Big Five factors and the secondary factors of the 15FQ+ and commented that the factors correspond well with each other. While the 15FQ+ is accepted as a personality instrument, Packman et al. (2005) noted that group differences still need to be ascertained. They observed that empirical evidence reflected high scores for Conscientiousness and low scores for Neuroticism are important predictors of job performance. In this study, the 15FQ+ was used to determine the cross-cultural generalisability of personality structures for the different groups. Comparisons of the means of traits for the New Zealand ethnic sample reflected lower scores for Neuroticism for the Europeans. However, there was no difference for Conscientiousness. Significant differences were found with Pacific Islanders and Maoris who scored higher than the Europeans on the Suspiciousness trait. For the primary factors, differences were found to varying degrees for Intellectance, Suspiciousness, Extraversion, Emotionally Stable, Enthusiastic and Self-disciplined traits.

When comparing the data of participants from different countries, it was found that the South Africans scored higher for both Conscientiousness and Neuroticism traits. The biggest difference was noted for Suspiciousness, with South African respondents scoring higher than respondents from the other two countries. Differences were found for the Enthusiastic trait with Australia scoring higher than South Africa. Differences were also observed for Self-discipline and Tense-driven traits as well as the Agreeableness and Extraversion second order factors. Packman et al. (2005) note that their study would have been more informative if the ethnic classifications for all South Africans and Australians were available.

### 2.8.2 South African studies

To date there are only two articles on the 15FQ+ published in accredited journals in South Africa. However, there are several studies being conducted under the auspices of Psytech who developed the measure.

Psytech was commissioned to conduct a validation study on 151 insurance sales agents to predict their sales success. The product was funeral policies targeted at the Black market. Seventy percent of the respondents were Black and spoke an African language as a first language. The test battery included the 15FQ+ and Elsa literacy test, which were both administered in English. In this study, the sales performance indices were the number of policies sold, gross recurring premiums, lapses and recurring premiums (Tredoux, n.d.). The reliability on the sample was reported as low (mean alpha of 0,44) but this could have been as a result of the low literacy rate of the sample (only 7 of the 151 respondents spoke English as their first language). Correlations of individual personality scales with the sales Performance Indices were non-significant except for the Low Intellectance ( $\beta$ ) scale where a negative relationship was found when correlated with the gross recurring premiums. Conscientiousness correlated with lapses indicating that sales agents could sell policies that lapse if they try too hard. Multiple correlations between combinations of the personality scales and policies sold and nett recurring premiums were modest but statistically significant. Low Intellectance again was a predictor of sales success, together with Conscientiousness, Trust, Self-Assurance, Self-sufficiency and Conventionality. As can be seen from the above, despite a few concerns over reliability, some of the primary factors of the 15FQ+ can be used to predict performance in this work context. However, independent research should be encouraged to establish data on the 15FQ+.

Reliability studies on the 15FQ+ were also conducted by Psytech to determine whether there is internal consistency (15FQ+, n.d.). The benchmark for Psytech's reliability studies has been set at 0.6 and for the current study. Some of these studies are discussed below.

The 15FQ+ was administered to a sample of 933 police officers who were assessed for promotional or placement purposes (15FQ+, n.d.). The age of the police officers ranged from 17 – 57 years, with an average of 35.8 years. While the sample is a good size to determine the psychometric properties of the instrument, missing information on the educational status, first language and race groups, makes it difficult to make inferences about the responses of different groups to items of the 15FQ+. The average alpha coefficient ( $\alpha = 0.64$ ) was acceptable for the sample. However, alpha coefficients for the Concrete – Abstract ( $\alpha = 0.46$ ), Self-Assured – Apprehensive ( $\alpha = .50$ ) and Conventional – Radical ( $\alpha = 0.51$ ) scales were notably low.

Another study conducted by Psytech included 144 sales consultants at a South African company. There were 115 (80%) males and only 22 (15%) females, with 7 (5%) not indicating their gender (15FQ+, n.d.). In terms of educational status, most respondents had received sufficient education to perform adequately as sales consultants. The race distribution was mainly White (comprising 70%). However, in 2006 South African race statistics showed that Whites comprised only 9.2% of the total South African population (Alive with possibility, 2007). In terms of the individual primary scales, all had alpha coefficients greater than 0.6.

Psytech also conducted validity studies on the 15FQ+. In one study, multiple regression analysis was done on the 15FQ+ and the OPQ to determine the construct validity for both inventories. The sample group consisted of 87 managers at a manufacturing concern. The scores between similar scales of these two inventories ranged from 0.59 to 0.85. For example, the correlation between the Socially-bold scale of the 15FQ+ and the low conventional, low variety seeking and low affiliative



scales of the OPQ was 0.89. This validity coefficient shows a high statistical significance between the two personality inventories, indicating that the constructs measure the same thing.

Further research by Psytech to determine the concurrent validity using the 15FQ+ and the Values and Motives Inventory was conducted with managerial competency ratings set as the criteria (15FQ+, n.d.). The sample consisted of 160 senior managers at a South African insurance company. The competencies used to determine their performance were conceptual thinking, networking, results orientation, client and people orientation, facilitating, influencing, business acumen, opportunism and self renewal. Statistical analysis yielded moderately strong to relatively strong relationships between the different variables. Low correlations were found between the primary factors and the networking, results orientation, business acumen and influencing competencies. However, for the opportunism competency, Affected by feelings – Emotionally stable and Composed – Tense-driven scales had some impact on this competency but were not statistically significant. It was ascertained that the Trusting, Self-disciplined and Tense-driven factors should be considered when assessing the conceptual thinking competency. For client and people orientation, the Trusting factor should be considered. The Dominant and Enthusiastic factors were classified as important when assessing people on the facilitating competency. Lastly, when assessing the self renewal competency, cognisance should be taken of the Self-Assured – Apprehensive scale. The results indicate that certain primary scales of the 15FQ+ can assist in determining whether an individual possesses necessary characteristics for a given competency. More research should be encouraged to support such findings.

Meiring et al. (2005) conducted a study to determine whether two cognitive tests and the 15FQ+ meet the requirements set out in the Employment Equity Act. The researchers considered three kinds of bias (namely, method, construct and item bias) and equivalence (that is, the measurement level at which scores obtained for different cultures can be compared). They explain that construct

bias occurs when the construct that is being considered is not the same across cultures. They also refer to method bias as an indication that the research in question might have had methodological problems, whereas item bias refers to bias with the actual item being measured.

The researchers administered the test battery to 13 681 participants who had applied for entry-level positions in the South African Police Service. The demographics of respondents in terms of the total population were representative of the South African population. This reflects the racial categorisation of South Africans into Black, White, Coloured and Indians. The participants were divided into the various language groups in South Africa. They were requested to complete the test battery, which included a reading and comprehension test, a spelling test as well as the 15FQ+. Findings showed that for the cognitive assessment, the instruments used produced good construct equivalence and low item bias. However, in the case of the 15FQ+, of the 200 items, bias was found in 72 (36%) of the items. The researchers found no method bias but noted construct bias for two factor scales, namely, Conventional – Radical and Relaxed – Tense-driven for the White, Coloured, Indian and Ndebele language groups. The researchers indicate that this is in line with previous Anglo-Saxon studies they refer to during their discussion.

In terms of reliability, low internal consistencies for the 15FQ+ were found particularly with the Black participants, which they deemed problematic. As this concerned the researchers (Meiring et al., 2005), they consulted with other psychologists who noted that the level of words, idiomatic expressions and the context of the words could be problematic, particularly for Black groups. The constructs could also be only of emic value. For instance, they indicate that within the South African context, the Convention – Radical scale will have a stronger political meaning for Blacks than other race groups.

The researchers recommended that tests should be made available in different languages and should also be investigated for bias and equivalence. However, they did not address whether the instruments used could predict further training and job performance for participants in the different language groups. They concluded that the 15FQ+ is not suitable for use in South Africa because of the low internal consistencies of some of the scales and the absence of construct equivalence.

A second study conducted by Meiring et al. (2006) follows on from this study and considers the bias of a version of the 15FQ+ which the authors had adapted. It also examines whether this version meets the requirements as set out in the Employment Equity Act (No. 55 of 1998).

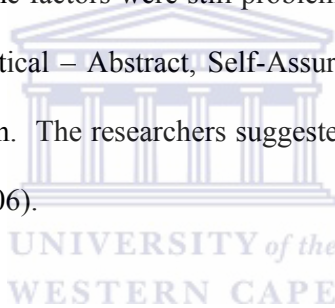
The researchers noted that English (used as a medium of instruction) at schools in Black communities in South Africa has been overlooked. They observed that for the first four years of schooling, learners are taught in their home language and English is included in the curriculum as a subject. As from their fifth year, English becomes compulsory and becomes the medium of instruction. The researchers (Meiring et al, 2006) reported on a study done by Macdonald who found that learners did not cope well with this transition, as they were forced to learn in a new language which they had not yet properly grasped. At this level the English vocabulary of the learners has not been developed sufficiently to be used as a medium of instruction. The researchers argue that this creates problems when administering English tests to Black South Africans.

The researchers took into consideration the findings of the 15FQ+ in the previous research conducted by Meiring et al. (2005) and consulted a range of experts (including linguistic, psychometric and cultural specialists) to assist with adapting the 15FQ+ and make it more culturally and linguistically suitable for South Africans while at the same time, reducing bias. Attention was given to the factor structures identified in the previous study as problematic. The results of the

original 15FQ+ was compared with the adapted version and they considered the impact that reading comprehension (as assessed in a cognitive test) had on the latter version.

The adapted version was administered to 16 383 participants who had applied for entry level positions within the South African Police Service, comprising of 14 317 Blacks, 579 Whites, 378 Asians and 1065 Coloureds. The Black participants were further divided according to the 9 indigenous African languages of the country.

Results suggested that the reading comprehension test had no impact on the adapted version of the 15FQ+. There was a slight improvement when item bias of the original version was compared with the adapted version. However, some factors were still problematic in the adapted version; namely, Accommodating – Dominant, Practical – Abstract, Self-Assured – Apprehensive, Conventional – Radical and Relaxed – Tense driven. The researchers suggested that these items be redeveloped at a construct level (Meiring et al., 2006).



There was also a slight improvement (0.02) in the internal consistencies for the different groups in the adapted version when compared to the original group. However, they found that these consistencies were still low for the African group and therefore question the appropriateness of the 15FQ+ in South Africa. From the results, it was deduced that the adapted version of the 15FQ+ does not meet the requirements of the Employment Equity Act.

The research results of the 15FQ+ may be disheartening for organisations such as The Company who regularly use this inventory during the assessment of potential employees. The researchers indicated that the level of functional literacy in English influences the test performance of an individual. They suggested that before administering any assessment, the participants' proficiency in English should first be determined (Meiring et al, 2006). They add that if personality constructs

can be identified that are important for a particular position, in their case, for police officials, then a strategy should be adopted whereby items that show low equivalence or low internal consistencies should be avoided. However, this could be problematic as it will require testing of psychometric properties each time that the test is adapted, which could be costly.

While the literature on the use of the 15FQ+ in South Africa has not been promising, further research should still be conducted to confirm findings of previous researchers, to add to the literature available and make recommendations to improve this measure.

## **2.9 Summary**

Personality assessment is increasingly being used in the human resource functions of companies internationally. Personality assessment can provide useful information about individuals in a myriad of settings. Within the work context, personality assessment can be used during the selection of suitable candidates for employment as well as part of employee development. Personality assessment has been found to be useful in predicting job performance. In South Africa, the use of personality assessment has evoked much debate, as there has been an assumption of one size fits all with personality tests not being standardised appropriately for race, language and culture. Psychologists are further challenged through the Employment Equity Act (No. 55 of 1998) to ensure that inventories comply with legislation. Hence, tests such as the new 15FQ+ need to undergo explorative research to not only evaluate its psychometric properties (reliability and validity), but also assess its cross-cultural comparability.

The present study will focus on determining the predictive validity of the 15FQ+ personality inventory for financial advisers. In exploring the predictive value of the instrument, scores on the 15FQ+ inventory will be correlated with the Performance Index data of financial advisers.

Comparative statistical data for cultural groups will also be reported as well as reliability statistics of the primary factors of the 15FQ+.



## CHAPTER 3

### METHODOLOGY

#### 3.1 Introduction

According to Phelps (2005), companies waste too much time and money, trying to improve employees' development. He contends that companies should rather focus on employing suitable candidates who have the right competencies for each specified role. This can be untapped by assessing the demands of each role. Thereafter, the necessary behavioural dimensions for each role should be outlined. When future recruiting is done, a talent profile should be compiled against which the candidate may be assessed.

The present study aims to contribute to this body of knowledge by assessing which personality traits as measured by the 15FQ+ best predict performance in a group of accredited financial advisers in The Company. The Company employs financial advisers to explore the market and procure business through the sale of its products. As the bulk of the work of the financial advisers involves communicating with clients, certain personality characteristics are needed to effectively perform in this position. For the recruitment and selection of employees, companies typically use a personality assessment tool to assess key character traits. At The Company, the 15FQ+ is used to assess personality characteristics that are deemed to have an impact on the job performance of the financial adviser. As the 15FQ+ is a newly developed personality assessment measure, validity and reliability studies need to be conducted to investigate its psychometric features and its predictive value with different employee groups.

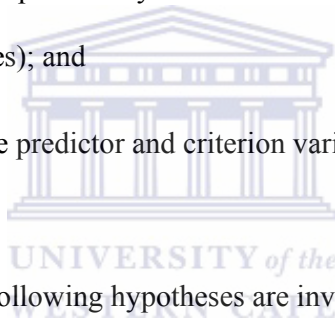
This chapter introduces the hypotheses of the study and describes the research methodology adopted to assess these hypotheses. Information will be presented about the sample, the measures

used, and the procedures followed to access the research data. Lastly, a description of the statistical methods used to analyse the data will be given.

### 3.2 Hypotheses

The discussion in Chapter 2 explored the variables and statistical measures that will be used in the study. As the 15FQ+ is a fairly new measure, there is a need for baseline data to provide empirical evidence for the utility of this instrument. Moreover, the generalisability of the 15FQ+ within the multi-cultural South African context must be determined. Thus, the objectives of this study are to:

- provide a description of the psychometric properties of the 15FQ+;
- provide predictions of primary personality factors associated with job performance criteria (objective sales success measures); and
- explore the impact of race on the predictor and criterion variables used in this study.



With these objectives in mind, the following hypotheses are investigated in this study:

#### Hypothesis 1

*H1:* The 15FQ+ has an acceptable level of at least 0.6 for internal consistency

#### Hypothesis 2

*H2:* There are primary factors within the 15FQ+ that predict whether financial advisers are successful in selling policies

#### Hypothesis 3

*H3:* There are primary factors within the 15FQ+ that predict whether financial advisers are able to retain policies sold



#### Hypothesis 4

*H4:* There are primary factors within the 15FQ+ that predict the Average Index obtained by financial advisers.

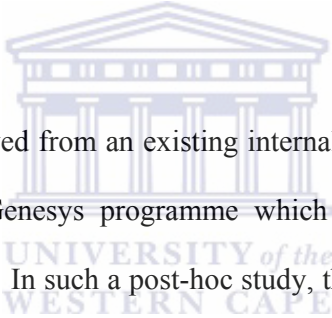
#### Hypothesis 5

*H5:* There are differences among the race groups in the performances indices in The Company

#### Hypothesis 6

*H6:* Group differences exist on the scores of the primary factors of the 15FQ+

### 3.3 Sample



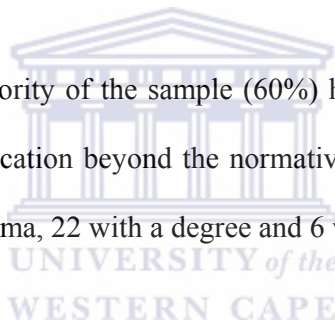
The sample for this study was derived from an existing internal data base at The Company and the employees' data in the Psytech Genesys programme which scores the completed 15FQ+ and generates a report of the individual. In such a post-hoc study, this type of sample is referred to as a convenient sample (Vos et al., 2002). The sample included 125 respondents employed at The Company as financial advisers who have already gained accreditation. These financial advisers have been appointed at The Company since 2003 and were in the employ of The Company at the time of the study. The age of the advisers ranged from 21 – 58 years, with a sample mean of 33.36 years (SD = 8.94 years). Eighty one (65%) of the financial advisers were male, and forty four (35%) were female. The majority of the financial advisers were male which reflects the existing gender bias in the industry. A description of other biographical information of the sample is presented below in several tables. The educational level of the financial advisers is reported in Table 3.1, racial composition in Table 3.2, and first language of the financial advisers in Table 3.3.

**Table 3.1**

***Educational level of Financial Advisers***

	<i>Frequency</i>	<i>Percent</i>
Matric	75	60
Post-matric diploma	21	16.8
Degree	22	17.6
Post-graduate degree	6	4.8
Unknown	1	0.8
TOTAL	125	100

As presented in Table 3.1, the majority of the sample (60%) had a matric education. Thirty nine percent of the sample had a qualification beyond the normative matriculation level. This included 21 advisers with a post-matric diploma, 22 with a degree and 6 with a post-graduate degree.



**Table 3.2**

***Racial composition of Financial Advisers***

	<i>Frequency</i>	<i>Percent</i>
White	63	50.4
Black	35	28
Coloured	17	13.6
Asian	9	7.2
Unknown	1	0.8
TOTAL	125	100

As presented in Table 3.2 the majority (50.4%) of the financial advisers were White, with Blacks comprising the next largest race cohort (28%). The rest of the sample consisted of 17 (13.6%) Coloureds and 9 (7.2%) Asians.

**Table 3.3**

***First Language of Financial Advisers***

	<i>Frequency</i>	<i>Percent</i>
Afrikaans	63	50.4
English	28	22.4
Xhosa	10	8
Other Indigenous African Languages	23	18.4
Unknown	1	0.8
TOTAL	125	100

Afrikaans was the first language of 50.4% of the advisers with 26.4% being African language speakers (see Table 3.3 above). The latter includes Xhosa speakers as well as Other Indigenous African Languages. Advisers who spoke English as a first language, constituted 22.4% of the sample in this study.

**3.4 Measuring Instruments**

Two sets of measures were used to derive the behavioural attributes pertinent to the current study. The scores of the 15FQ+ were used as measures of personality attributes (15FQ+, 2002). Several company defined indices were used as performance scores of the financial advisers at The Company. These performance scores/indices were developed by The Company to measure the performance of the financial advisers specific to the industry in which they operate. The performance indices were used as the criterion variables in this study.

### **3.4.1 The 15FQ+ (Psytech, 2002)**

The 15FQ+ is a personality questionnaire written in simple English so as to avoid bias on the basis of culture, sex and age (Tyler, 2003). The 200-item questionnaire is a revision of the 15FQ and contains the original primary factors of the 16PF (Cattell, 1989). The 15FQ+ re-introduces the intelligence scale as an intellectance scale ( $\beta$ ) changing this specific factor from an ability factor to a personality factor. To explain this, the former factor assesses reasoning ability, which usually forms part of Intelligence tests. Intelligence tests have time limits imposed, as ability factors are measured reliably with timed assessments. As self-report personality inventories have no time limits, it is impractical to test for intelligence. The Intellectance Scale, on the other hand, is a personality factor which assesses an individual's confidence in his/her intellectual ability. The scale gives an indication of how an individual will approach cognitive tasks (The 15FQ+ Technical Manual, 2002; Tyler, 2003). The primary factors of the 15FQ+ are delineated in Table 3.4. Each factor represents a continuum with low and high scores being indicative of specific personality traits associated with the respective factor.

When scoring the 15FQ+, the raw scores of each factor are converted to a standardised score called a Sten and are then compared to the appropriate norm scales. Diverse norm groups have been developed for the South African population and include the general population, senior managers in the insurance industry, managers and professionals, White police trainee applicants, senior technical officers, Asian police trainee applicants, Black police trainee applicants and Coloured police trainee applicants (15FQ+, n.d.). Some of these have been discussed in studies reported in Chapter 2.

The primary factors can also be grouped to create second order or global factors. These provide a broad description of the individual's personality orientation. Second order factors are computed by entering the Sten scores of the primary factors into a given formula. The direction of the second

order factor scores should be in the same direction as the primary scores that relate to that factor, in order to assume that the person will respond in a consistent manner. Where this is not the case, the individual might not consistently display the personality characteristic that is being assessed from the second order factor score (The 15FQ+ Technical Manual, 2002).

**Table 3.4**

***Description of the Primary Factors of the 15FQ+***

<i>fA</i>	Distant Aloof Lacking empathy, Distant, Detached, Impersonal	Empathic Friendly, Personable, Participating, Warm- hearted, Caring
$\beta$	Low Intellectance Lacking confidence in own intellectual abilities	High Intellectance Confident of own intellectual abilities
<i>fC</i>	Affected by Feelings Emotional, Changeable, Labile, Moody	Emotionally Stable Mature, Calm, Phlegmatic
<i>fE</i>	Accommodating Passive, Mild, Humble, Deferential	Dominant Assertive, Competitive, Aggressive, Forceful
<i>fF</i>	Sober Serious Restrained, Taciturn, Cautious	Enthusiastic Lively, Cheerful, Happy-go-lucky, Carefree
<i>fG</i>	Expedient Spontaneous, Disregarding of rules and obligations	Conscientious Persevering, Dutiful, Detail-conscious
<i>fH</i>	Retiring Timid, Socially anxious, Hesitant in social settings, Shy	Socially-bold Venturesome, Talkative, Socially confident

<i>fI</i>	Hard-headed Utilitarian, Unsentimental, Lacks aesthetic sensitivity	Tender-minded Sensitive, Aesthetic, Sentimental
<i>fL</i>	Trusting Accepting, Unsuspecting	Suspicious Sceptical, Cynical, Doubting
<i>fM</i>	Concrete Solution-focussed, Realistic, Practical, Down-to-earth	Abstract Imaginative, Absent-minded, Impractical, Absorbed in thought
<i>fN</i>	Direct Genuine, Artless, Open, Direct, Straightforward	Restrained Diplomatic, Socially astute, Shrewd, Socially aware
<i>fO</i>	Confident Secure, Self-assured, Unworried, Guilt-free	Self-doubting Worrying, Insecure, Apprehensive
<i>fQ<sub>1</sub></i>	Conventional Traditional, Conservative	Radical Experimenting, Open to change, Unconventional
<i>fQ<sub>2</sub></i>	Group-Orientated Sociable, Group dependent, a 'Joiner'	Self-sufficient Solitary, Self-reliant, Individualistic
<i>fQ<sub>3</sub></i>	Informal Undisciplined, Lax, Follows own urges	Self-disciplined Compulsive, Fastidious, Exacting willpower
<i>fQ<sub>4</sub></i>	Composed Relaxed, Placid, Patient	Tense-driven Impatient, Low frustration tolerance

*The 15FQ+ Technical Manual, 2002*

The second order factors are displayed and described in Table 3.5 together with the primary factors that contribute to this global factor. High scores for the primary factors are indicated as "+" and low scores as "-".

**Table 3.5**

**Description of the Second Order Factors of the 15FQ+**

<p>Extraversion</p> <p>Orientated to the outer world of people, events and external activities. Needing social contact and outside stimulation.</p> <p><math>fA+, fF+, fH+, fQ2-</math></p>	<p>Introversion</p> <p>Orientated towards their own inner world of thoughts, perceptions and experiences. Not requiring much social contact and stimulation.</p> <p><math>fA-, fF-, fH-, fQ2+</math></p>
<p>Low Anxiety</p> <p>Well adjusted, calm, resilient, and able to cope with emotionally demanding situations.</p> <p><math>fC+, fL-, fO-, fQ4-</math></p>	<p>High Anxiety</p> <p>Vulnerable, touchy, sensitive, prone to mood swings, challenged by emotionally gruelling situations.</p> <p><math>fC-, fL+, fO+, fQ4+</math></p>
<p>Pragmatism</p> <p>Influenced more by hard facts and tangible evidence than subjective experiences. May be insensitive to people and subtleties.</p> <p><math>fA+, fL-, fM-, fQ1-</math></p>	<p>Openness (to experience)</p> <p>Influenced more by new ideas, feelings, and sensations than tangible evidence and hard facts. Open to possibilities and subjective experiences.</p> <p><math>fA+, fI+, fM+, fQ1+</math></p>
<p>Independence</p> <p>Actively self-determined in own thoughts and actions. Independent minded. Can be intractable, strong-willed and confrontational.</p> <p><math>\beta+, fE+, fL+, fQ1+</math></p>	<p>Agreeableness</p> <p>Agreeable, tolerant and obliging. Neither stubborn, disagreeable nor opinionated, will be happy to compromise.</p> <p><math>\beta-, fE-, fL-, fQ1-</math></p>
<p>Low Self-control</p> <p>Exhibiting low levels of self-control and restraint. Not influenced by social norms and internalised parental expectations.</p> <p><math>fG-, fN-, fQ3-</math></p>	<p>High Self-control</p> <p>Exhibiting high levels of self-control determined by social norms and internalised parental expectations</p> <p><math>fG+, fN+, fQ3+</math></p>

*The 15FQ+ Technical Manual, 2002, p.10*

Additional features in the 15FQ+ include the following Impression Management Scales:

- Social Desirability Scale – This scale assesses the individual’s desire to present an unrealistic positive image of self and can be identified by high scores.
- Faking Good and Faking Bad scales – The Faking Good Scale assesses the individual’s tendency to present him/herself in a favourable light. The Faking Bad Scale gauges the individual’s tendency to present him/herself unfavourably.
- Central Tendency scale – “This measures the degree to which respondents have been prepared to answer the questionnaire decisively – avoiding middle, or non-committal responses” (The 15FQ+ Technical Manual, 2002, p.8).
- Infrequency Scales – This scale identifies random responding when completing the 15FQ+ questionnaire. It can be identified by high scores (8 and above) on this scale.
- Criterion referenced scales:
  - Work Attitude – This scale is used to assess the integrity of an individual. It is a useful indicator of the individual’s work ethos.
  - Emotional Intelligence – This scale is used to evaluate an individual’s emotional well being as this gives an indication of how he/she will cope in different situations.

The 15FQ+ can be administered as a pen-and-paper or as a computer test. Scoring is computed using Psytech’s Genesys software programme.

As part of the standardisation process, the test was administered to 1186 respondents in the UK comprising 561 males and 621 females. Respondents’ ages ranged from 16-64 with a mean age of 31.5 (The 15FQ+ Technical Manual, 2002). Research has shown that acceptable reliability and validity coefficients were obtained for the 15FQ+ in sample studies done in the UK and South Africa (15FQ+, n.d.). The latter have already been reported in the literature review in Chapter 2.



### **3.4.2 Performance Scores of Financial Advisers**

As discussed in Chapter 2, The Company evaluates the performance of its financial advisers using a Score model. This provides several indices to quantify the performance of the financial advisers.

The actual performance indices are as follows:

1. Number of Policies sold per year

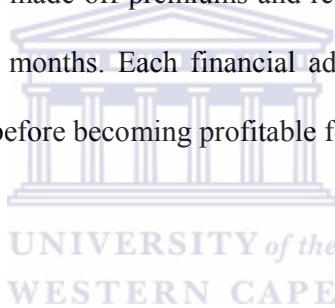
This is the number of policies (with recurring premiums) sold per year by the adviser.

2. Retention Index

This index calculates the number of lapsed premiums/number of gross premiums. The result reflects the percentage of business that the financial adviser is able to retain in a given year.

3. Average Index

This index is a profit indication made off premiums and refers to the adviser's rolling Average Index over the most recent 12 months. Each financial adviser needs to produce an Average Index of R3 500 within a year, before becoming profitable for The Company (Grobler, 2005).



### **3.5 Procedure**

The researcher obtained permission from the Human Resource Manager to conduct the study at The Company. Permission was granted that data mining would be done to retrieve the 15FQ+ data collected since 2003 as well as the performance score data of the advisers who were in the employ of The Company in 2005.

According to Cooper and Schindler (2003), data mining is becoming increasingly popular internationally as vast amounts of significant data can be obtained from a company's internal databases. While techniques for data mining can become very complex (e.g. clustering and data visualisation) the method for extracting data for the two sets of variables in the present study was relatively simple. All the data for the advisers (personal details, raw data and item responses) on the 15FQ+ responses were extracted from Psytech's Genesys programme and exported to a

Microsoft Excel spreadsheet. Only data for people who had been through the assessment centre for the financial adviser position since 2003 (when the 15FQ+ was included in the test battery of the assessment centre) were included in the initial extraction. After duplicate records were deleted, a total of 1476 records remained. Employee codes for each of these records were sourced so that the performance data could be compared. Once the employee codes were provided, there were 320 records that could be used in the research at this point.

Further data mining to extract performance records of these 320 candidates from The Company's internal database was done, producing 153 records that could be used in the study. However, further inspection revealed that 28 records had incomplete data yielding 125 full records of accredited financial advisers. Their 15FQ+ and performances indices constitute the data for this study.

### **3.6 Data Analysis**

The relevant data were captured in Microsoft Excel and transferred and analysed in the Statistica software programme (Statistica, n.d.). Descriptive statistics were computed for the nominal data of the study, namely, the biographical variables of the advisers (age, gender, race, language and educational level). These have been discussed above. To gain an assessment of the interrelationships among the variables in the study, a correlation matrix was computed. According to Cooper and Schindler (2003), correlations are useful for exposing the magnitude and direction of the relationships between variables. While the correlations were not required to test the hypotheses in this study, they were included to provide baseline data of the 15FQ+ and to determine the relationship between the predictor variable (15FQ+, n.d.) and the criterion variables (Performance Indices). Reliability analyses (Cronbach's alpha) were also conducted to assess the reliability coefficient of the respective factors of the 15FQ+ and for the whole questionnaire. Inferential statistical techniques were applied to assess the primary hypotheses of the study.

Stepwise linear multiple regression analyses were then utilised to assess the primary hypotheses. Specifically, regression analysis provides a multiple correlation coefficient that indicates the proportion/percentage of the variance on the criterion variable (Performance Index) explained by a combination of predictor variables (personality factors of the 15FQ+) (Pedhazur & Pedhazur-Schmelkin, 1991). This statistical technique yields an accurate prediction for values of the criterion variable for given values of the predictor variable (Mendenhall & Reinmuth, 1982).

Finally, Kruskal-Wallis statistics were computed to determine the impact that race had on both the predictor and criterion variables. The Kruskal-Wallis is a nonparametric one-way analysis of variance by ranks that determines “whether the samples have come from different populations” (Kruskal-Wallis non-parametric ANOVA, n.d). This statistical technique can be applied when there is variation in sample sizes among groups being compared and when the samples may not be normally distributed. It was included in order to establish whether the different race groups responded differently to the predictor and criterion variables. This statistical technique was used as the sample size (N=125) was not large and the size of the race samples differed.

### **3.7 Summary**

The need to find assessment instruments that can add value to the recruitment and selection process but at the same time applicable within the multi-cultural South African context presents a challenge to psychologists and researchers alike. The present study aims to address this by assessing the value of the 15FQ+ when selecting financial advisers at a financial services company, evaluating the hypotheses and reporting on its reliability and validity. The descriptive statistics describing the demographics of the sample have been reported in this chapter.

The results of the study are presented in Chapter 4.

## CHAPTER 4

### RESULTS

#### 4.1 Introduction

In this chapter, the results of the statistical analyses are presented. In order to provide broad baseline data on the 15FQ+, the general descriptive statistics (mean and standard deviation) and intercorrelations of the primary factors of the 15FQ+ are presented. The descriptives of the Impression Management Scales are reported as well as the intercorrelations between the primary factors and the job performance variables of the financial advisers.

The outcomes of the statistical analyses conducted to assess each of the six hypotheses of the study will then be presented sequentially. This includes the statistical evaluation of the data to determine the reliability of the primary scales of the 15FQ+, an evaluation of the primary factors (through multiple regression analyses) that predict the performance of financial advisers and analyses to determine whether race impacts on the predictor and criterion variables used in this study.

#### 4.2 Descriptive Statistics and Intercorrelations of the Predictor (15FQ+ Primary Factors) and Criterion Variables (Job Performance Indices)

The Pearson product-moment correlation coefficients for the 16 primary scales of the 15FQ+ and their respective means and standard deviations are presented in Table 4.1 (see overleaf).

**Table 4.1**

***Pearson Product-Moment Correlation Matrix and Descriptive Statistics of the Primary Factors of the 15FQ+***

	<b>fA</b>	<b>B</b>	<b>fC</b>	<b>fE</b>	<b>fF</b>	<b>fG</b>	<b>fH</b>	<b>fI</b>	<b>fL</b>	<b>fM</b>	<b>fN</b>	<b>fO</b>	<b>fQ1</b>	<b>fQ2</b>	<b>fQ3</b>	<b>fQ4</b>
<b>fA</b>	1	0.28**	0.04	0.08	0.20*	0.15	0.02	0.24**	-0.11	0.18*	0.13	0.15	-0.03	-0.26**	0.24**	-0.09
<b>B</b>	0.28**	1	0.1	0.32**	0.33**	0.21*	0.40**	0.12	-0.30**	0.03	0.14	-0.15	-0.12	-0.22*	0.08	-0.18*
<b>fC</b>	0.04	0.10	1	0.16	0.14	0.13	0.20*	0.04	-0.17	-0.11	0.19*	-0.32**	-0.02	0.01	-0.08	-0.42**
<b>fE</b>	0.08	0.32**	0.16	1	0.29**	-0.09	0.46**	-0.15	-0.05	0.09	-0.29**	-0.35**	0.18*	-0.17	-0.04	0.00
<b>fF</b>	0.20*	0.33**	0.14	0.29**	1	-0.26**	0.48**	-0.13	-0.11	0.01	-0.20*	-0.22*	0.20*	-0.37**	-0.07	-0.05
<b>fG</b>	0.15	0.21*	0.13	-0.09	-0.26**	1	-0.09	0.41**	-0.03	-0.15	0.42**	0.04	-0.37**	0.08	0.22*	-0.18*
<b>fH</b>	0.03	0.40**	0.20*	0.46**	0.48**	-0.09	1	0.02	-0.05	0.06	-0.11	-0.37**	0.26**	-0.20*	0.01	-0.15
<b>fI</b>	0.24**	0.12	0.04	-0.15	-0.13	0.41**	0.02	1	-0.02	0.04	0.31**	-0.01	-0.10	-0.00	0.05	-0.14
<b>fL</b>	-0.11	-0.30**	-0.17	-0.05	-0.11	-0.03	-0.05	-0.02	1	-0.14	0.09	0.05	0.04	0.18*	0.14	-0.03
<b>fM</b>	0.18*	0.03	-0.11	0.09	0.01	-0.15	0.06	0.04	-0.14	1	-0.12	0.11	0.30**	0.17	-0.08	0.08
<b>fN</b>	0.13	0.14	0.19*	-0.29**	-0.20*	0.42**	-0.11	0.32**	0.09	-0.12	1	0.14	-0.28**	0.06	0.26**	-0.38**
<b>fO</b>	0.15	-0.15	-0.32**	-0.35**	-0.22*	0.04	-0.37**	-0.01	0.05	0.11	0.14	1	-0.18*	0.09	0.20*	0.29**
<b>fQ<sub>1</sub></b>	-0.03	-0.12	-0.02	0.18*	0.20*	-0.37**	0.26**	-0.10	0.04	0.30**	-0.28**	-0.18*	1	0.13	-0.23*	0.10
<b>fQ<sub>2</sub></b>	-0.26**	-0.22*	0.01	-0.17	-0.37**	0.08	-0.20*	-0.00	0.18*	0.17	0.06	0.09	0.13	1	-0.04	-0.00
<b>fQ<sub>3</sub></b>	0.24**	0.08	-0.08	-0.04	-0.07	0.22*	0.01	0.05	0.14	-0.08	0.26**	0.20*	-0.30*	-0.04	1	0.05
<b>fQ<sub>4</sub></b>	-0.09	-0.18*	-0.42**	0.00	-0.05	-0.18*	-0.15	-0.14	-0.03	0.08	-0.38**	0.29**	0.10	-0.00	0.05	1
<b>Mean</b>	20.50	20.82	18.75	17.43	17.08	19.37	18.87	14.94	9.27	10.41	19.98	11.56	8.65	6.91	21.52	8.69
<b>Std Dev</b>	2.39	3.65	3.44	3.96	4.88	4.79	4.53	5.03	4.51	3.86	3.92	4.87	5.06	4.31	2.47	5.39

*Note:* \*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

The correlations amongst the primary factors were moderate with the strongest correlation (0.48) shown between the Sober Serious – Enthusiastic (*fF*) and Retiring – Socially-bold (*fH*) factors. It should be noted that both of these factors are facets of the Extraversion – Introversion global factor. The second highest correlations (0.46) were between the Retiring – Socially-bold (*fH*) and Accommodating – Dominant (*fE*) factors. Correlations were also noted between the primary factors that are facets of the Low Self-control – High Self-control global factor. These are Expedient – Conscientious (*fG*), Direct – Restrained (*fN*) and Informal – Self-disciplined (*fQ<sub>3</sub>*) factors.

**Table 4.2**

***Descriptive Statistics of the Impression Management Scales of the 15FQ+***

<i>Impression Management Scale</i>	<i>Std.</i>				
	<i>N</i>	<i>Mean</i>	<i>Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
Social Desirability Scale	125	10.97	3.59	1	16
Central Tendency Scale	125	9.56	11.67	0	68
Infrequency Scale	125	1.02	1.21	0	8
Emotional Intelligence Scale	125	24.74	3.34	15	30
Work Attitude Scale	125	27.85	3.72	10	32
Faking Good Scale	125	7.97	2.43	2	12
Faking Bad Scale	125	4.17	2.10	0	11

The descriptive statistics of the Impression Management Scale (Table 4.2) reveal that the Central Tendency Scale has an anomalous mean and standard deviation and may need to be interpreted with caution. As indicated in the 15FQ+ Technical Manual (2002) this shows that the financial advisers in this sample responded to the items of the instrument decisively. A discussion with Ms N. Tredoux of Psytech SA held that this is likely due to the sample being pre-selected (personal communication, May 1, 2007). If they had been randomly selected, the financial advisers would

most likely perform differently on this scale. The high mean (24.74) for the Emotional Intelligence Scale suggests that the advisers were emotionally mature and stable. The low mean (1.02) for the Infrequency scale suggests that the financial advisers diligently responded to items of the 15FQ+.

The descriptive statistics for the performance indices (including minimum and maximum scores, means and standard deviations) are reported in Table 4.3. Each of the distributions were found to be negatively skewed with the large proportion of the cases grouping toward the upper end of the respective distributions.

**Table 4.3**

***Descriptive Statistics of the Performances Indices***

<b><i>Performance Indices</i></b>	<b><i>N</i></b>	<b><i>Minimum</i></b>	<b><i>Maximum</i></b>	<b><i>Mean</i></b>	<b><i>Std. Deviation</i></b>
Number of Policies Sold	125	1	251	34.37	49.43
Retention Index	125	63.98%	100.00	95.33%	8.00%
Average score	125	R 317.87	R28,345.25	R6,861.43	R5,568.78

Pearson correlations were performed to ascertain whether a linear relationship existed between the primary factors of the 15FQ+ and the performance indices and to determine the strength and direction of this relationship. The table below (Table 4.4) summarises these intercorrelations.

**Table 4.4**

***Intercorrelations between the Primary Factors and the Performance Indices***

<i>15FQ+</i> <i>Primary Factors</i>	<i>No. of Policies</i> <i>Sold per year</i>	<i>Retention</i> <i>Index</i>	<i>Average</i> <i>Index</i>
<i>fA</i>	0.03	0.20*	0.01
<i>β</i>	-0.18*	0.20*	-0.09*
<i>fC</i>	0.14*	-0.11*	0.14*
<i>fE</i>	0.03	-0.05*	0.13*
<i>fF</i>	-0.14*	0.17*	-0.02
<i>fG</i>	-0.05*	0.08*	0.04
<i>fH</i>	-0.03	0.01	0.00
<i>fI</i>	-0.12*	0.12*	-0.05*
<i>fL</i>	-0.10*	0.02	-0.16*
<i>fM</i>	0.00	-0.08*	-0.01
<i>fN</i>	-0.05*	0.11*	-0.04
<i>fO</i>	-0.01	0.06*	-0.01
<i>fQ<sub>1</sub></i>	-0.07*	-0.15*	-0.13*
<i>fQ<sub>2</sub></i>	0.01	-0.13*	-0.06*
<i>fQ<sub>3</sub></i>	-0.08*	0.09*	-0.08*
<i>fQ<sub>4</sub></i>	-0.17*	0.09*	-0.09*

*Note:* \* Marked correlations were significant at  $p < 0.05$ .

All the correlations between the Performance Indices and individual primary factors of the 15FQ+ were found to be relatively low. The strongest, significant correlations (0.20) were found between the Distant Aloof – Empathic scale (*fA*) of the 15FQ+ and the Retention Index as well as the Low Intellectance – High Intellectance scale (*β*) of the 15FQ+ and the Retention Index. The next strongest significant correlation (-0.18) was found between the Low Intellectance – High

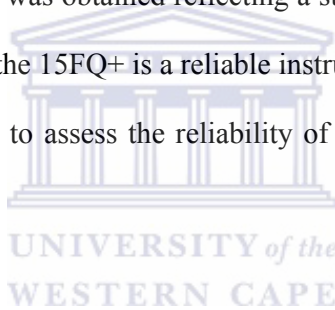


Intellectance scale of the 15FQ+ and the Number of Policies sold per year. This result is unusual as it suggests that financial advisers who are not confident in their own intellectual abilities are able to sell policies. Interestingly, the same results were found in a study conducted by Tredoux (n.d.) on insurance sales agents. A possible explanation is that the advisers' lack of confidence in their own abilities may cause them to try harder.

### **4.3 Results of the Hypotheses**

#### **4.3.1 Hypothesis 1: The 15FQ+ has an acceptable level of at least 0.6 for internal consistency**

To assess the reliability of the 15FQ+, an alpha coefficient was computed on all the questionnaire items. An alpha coefficient of 0.74 was obtained reflecting a strong level of internal consistency of the questionnaire. This shows that the 15FQ+ is a reliable instrument for this sample. Additionally, alpha coefficients were determined to assess the reliability of each of the primary factors and are reported in Table 4.5.



**Table 4.5**

**Reliability Statistics for the Primary Factors of the 15FQ+**

<i>Primary Factor</i>	<i>Number of Items</i>	<i>Alpha Coefficient</i>
<i>fA</i>	12	0.4
<i>B</i>	12	0.7
<i>fC</i>	12	0.6
<i>fE</i>	12	0.6
<i>fF</i>	12	0.7
<i>fG</i>	12	0.7
<i>fH</i>	12	0.8
<i>fI</i>	12	0.7
<i>fL</i>	12	0.6
<i>fM</i>	12	0.5
<i>fN</i>	12	0.7
<i>fO</i>	12	0.6
<i>fQ<sub>1</sub></i>	12	0.7
<i>fQ<sub>2</sub></i>	12	0.7
<i>fQ<sub>3</sub></i>	12	0.5
<i>fQ<sub>4</sub></i>	12	0.7

When analysing Table 4.5 above, only three primary factors had less than the acceptable reliability criterion of 0.6 suggested by Garson (2006) and Owen and Taljaard (1996). These were Distant Aloof – Empathic (*fA*), Concrete – Abstract (*fM*) and Informal – Self-discipline (*fQ<sub>3</sub>*) factors. Thus, thirteen of the sixteen primary scales of the 15FQ+ had alpha coefficients of at least 0.6.

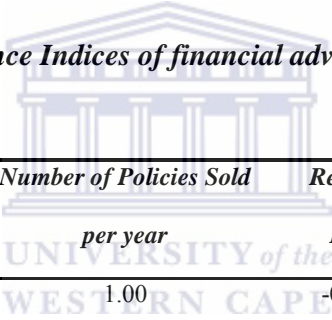
*Hence the hypothesis 1 is accepted.*

**4.3.2 Hypothesis 2: There are primary factors within the 15FQ+ that will predict whether financial advisers are successful in selling policies**

The criterion variables in this study included 3 independent performance indices that were measures of the advisers’ job performance: Number of Policies sold per year; Retention Index and Average Index. To reiterate, the Retention Index refers to the percentage of business a financial adviser is able to retain annually. The Average Index is the profit a financial adviser makes off premiums over a twelve month period (Grobler, 2005). The Number of Policies sold per year is self explanatory. The correlations of these variables are reported in Table 4.6.

**Table 4.6**

***Intercorrelations for the Performance Indices of financial advisers***



	<i>Number of Policies Sold per year</i>	<i>Retention Index</i>	<i>Average Index</i>
Number of Policies Sold	1.00	-0.64**	0.52**
Retention Index	-0.64**	1.00	-0.18*
Average Index	0.52**	-0.18*	1.00
Number of cases	125	125	125

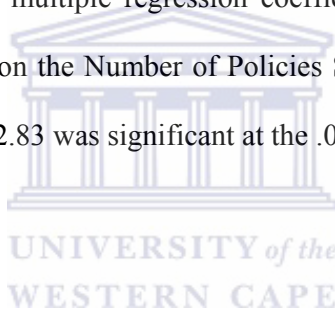
*Note:* \*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

As expected, the three indices were strongly correlated with one another. The strongest correlation (-0.64) was between the Retention Index and the Number of Policies. This indicates an inverse relationship between these variables. As the number of policies sold increases, the retention index decreases due to a number of factors such as non-payment of premiums and clients cancelling policies. The more policies sold, the likely increase in policies defaulted.

In terms of the descriptive statistics, the financial advisers on average sell 34.4 policies a year. Moreover, the majority of financial advisers were able to retain 95.3% of the policies sold in a year. The statistics also indicate that a financial adviser averages a profit of R 6 861.40 over a twelve month period.

The extent to which the job performance index could be predicted by the primary factors of the 15FQ+ was assessed by using stepwise multiple linear regression. The analysis for the Number of Policies sold per year is summarised in Table 4.7 below. When all of the primary personality factors were entered stepwise into the regression equation, a multiple correlation coefficient (R) of .43 was obtained. The associated multiple regression coefficient obtained was  $R^2 = .18$ . This indicates that 18% of the variance on the Number of Policies Sold per year can be predicted from the primary factors. The F ratio of 2.83 was significant at the .01 level ( $p=.005$ ).



**Table 4.7**

**Regression Analysis Summary: Primary factors as predictors of the Number of Policies sold per year**

<i>R</i>	<i>R square</i>	<i>Adjusted R<sup>2</sup></i>	<i>F (9,115)</i>	<i>p</i>	<i>Standard Error of Estimate</i>
0.43	0.18	0.12	2.83	0.005	46.44

The table below (Table 4.8) provides more information on the analysis.

**Table 4.8**

**Stepwise Regression summary of Primary Factors regressed on Number of Policies sold per year**

		<i>Multiple R</i>	<i>R-square</i>	<i>change</i>	<i>F</i>	<i>p-level</i>
	<i>Step</i>	<i>Multiple R</i>	<i>square</i>	<i>change</i>	<i>F</i>	<i>p-level</i>
$\beta$	1	0.18	0.03	0.03	3.97	0.05
$fQ_4$	2	0.27	0.07	0.04	5.73	0.02
$fL$	3	0.32	0.11	0.03	4.18	0.04
$fI$	4	0.35	0.12	0.02	2.31	0.13
$fF$	5	0.37	0.14	0.01	1.78	0.18
$fA$	6	0.39	0.15	0.02	2.08	0.15
$fH$	7	0.41	0.16	0.01	1.79	0.18
$fQ_1$	8	0.41	0.17	0.01	1.11	0.29
$fN$	9	0.43	0.18	0.01	1.42	0.24

Using stepwise regression analysis, it was found that a combination of the Low Intellectance – High Intellectance factor ( $\beta$ ), Composed – Tense-driven factor ( $fQ_4$ ) and Trusting – Suspicious factor ( $fL$ ) are significant predictors on the Number of Policies sold per year. While the Hard-headed – Tender-minded ( $fI$ ), Sober Serious – Enthusiastic ( $fF$ ), Distant Aloof – Empathic ( $fA$ ), Retiring – Socially-bold ( $fH$ ), Conventional – Radical ( $fQ_1$ ) and Direct - Restrained ( $fN$ ) scales also contributed to the equation, their respective contributions were, however, not significant.

*The results indicate that hypothesis 2 can be accepted for this study.*

### **4.3.3 Hypothesis 3: There are primary factors within the 15FQ+ that will predict whether financial advisers are able to retain policies sold**

The extent, to which the Retention Index could be predicted by the primary factors of the 15FQ+, was determined using multiple regression analysis. From Table 4.9 below, when all of the

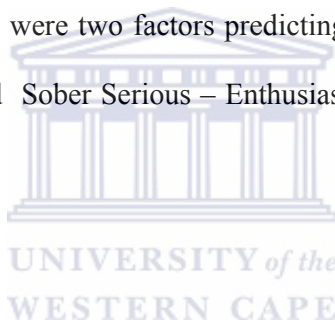
personality factors were entered into the regression equation, a multiple correlation coefficient (R) of .37 was obtained and the associated multiple regression coefficient ( $R^2$ ) was .14. This can be interpreted by saying that 14% of the variance on the Retention Index can be predicted from the primary factors. The F-ratio of 3.18 was significant at the .05 level ( $p=0.006$ ).

**Table 4.9**

**Regression Analysis Summary: Primary factors as predictors of Retention Index**

<i>R</i>	<i>R square</i>	<i>Adjusted R<sup>2</sup></i>	<i>F (6, 118)</i>	<i>p</i>	<i>Standard Error of Estimate</i>
0.37	0.14	0.10	3.18	0.006	7.6082

Stepwise regression indicated there were two factors predicting advisers' Retention Index, namely Distant Aloof – Empathic (*fA*), and Sober Serious – Enthusiastic (*fF*), significant at the .05 level. This is presented in Table 4.10.



**Table 4.10**

**Stepwise regression summary of Primary factors regressed on Retention Index**

	<i>Step</i>	<i>Multiple R</i>	<i>Multiple R-square</i>	<i>R-square change</i>	<i>F</i>	<i>p-level</i>
<i>fA</i>	1	0.20	0.04	0.04	5.05	0.03
<i>fQ<sub>1</sub></i>	2	0.25	0.06	0.02	2.80	0.10
<i>fF</i>	3	0.30	0.10	0.03	3.84	0.05
<i>fC</i>	4	0.33	0.11	0.02	2.90	0.09
<i>fN</i>	5	0.35	0.12	0.01	1.78	0.18
<i>fQ<sub>4</sub></i>	6	0.37	0.14	0.01	2.05	0.16

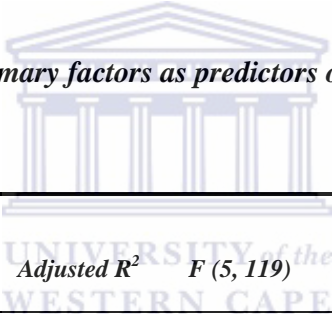
*Hypothesis 3 is therefore accepted.*

**4.3.4 Hypothesis 4: There are primary factors within the 15FQ+ that will predict the Average Index obtained by financial advisers**

The degree to which the Average Index could be predicted by the primary factors of the 15FQ+ was determined using multiple linear regression analysis. When all of the personality factors were entered into the regression equation, a multiple correlation coefficient (R) of .36 was obtained. The obtained squared multiple regression coefficient was  $R^2 = .13$ . This can be interpreted by saying that 13% of the variance on the Average Index can be predicted from the primary factors. The F-ratio of 3.49 was significant at the .01 level ( $p=0.006$ ). See Table 4.11.

**Table 4.11**

**Regression Analysis Summary: Primary factors as predictors of Average Index**



<i>R</i>	<i>R square</i>	<i>Adjusted R<sup>2</sup></i>	<i>F (5, 119)</i>	<i>p</i>	<i>Standard Error of Estimate</i>
0.36	0.13	0.09	3.49	0.006	5309.1

When stepwise regression was applied to the Average Index, it was found that a combination of the Trusting – Suspicious ( $fL$ ), Low Intellectance – High Intellectance ( $\beta$ ), Accommodating – Dominant ( $fE$ ) and Conventional – Radical ( $fQ_1$ ) scales of the 15FQ+ could predict the Average Index of financial advisers, as indicated in Table 4.12 below. However, only the latter two scales ( $fE$  and  $fQ_1$ ) were significant predictors.

**Table 4.12**

**Stepwise regression summary of Primary factors regressed on Average Index**

		<i>Multiple R-</i>		<i>R-square</i>			
	<i>Step</i>	<i>Multiple R</i>	<i>square</i>	<i>change</i>	<i>F</i>	<i>p-level</i>	
<i>fL</i>	1	0.16	0.03	0.03	3.19	0.08	
<i>B</i>	2	0.21	0.05	0.02	2.62	0.11	
<i>fE</i>	3	0.28	0.08	0.03	4.10	0.05	
<i>fQ1</i>	4	0.33	0.11	0.03	4.56	0.03	
<i>fQ4</i>	5	0.36	0.13	0.02	2.31	0.13	

*Hypothesis 4 is therefore confirmed by these findings.*

#### **4.3.5 Hypothesis 5: There are differences among the race groups in the performance indices in The Company**

Given the multi-ethnic nature of the sample, further analyses were conducted to explore whether there were race differences in the variables under study. As discussed in Chapter 2, the need to use inventories that are in line with the requirements of the Employment Equity Act (No. 55 of 1998) becomes imperative. Hence an exposition of race differences is essential.

Before computing the Kruskal-Wallis statistic it was noted that one person did not indicate his/her race group. The data for this individual was excluded. Hence, the total sample size to test the following hypotheses 5 and 6 totalled 124 financial advisers. In Table 4.13 below, the mean ranks for the four race groups on the three Performance Indices are reported. This was needed in order to compute the Kruskal-Wallis (*H*) statistic as indicated by Chan and Walmsley (1997).



**Table 4.13**

**Mean Rank Statistics for Race Groups and Performance Indices**

<i>Performance Indices</i>	<i>Race</i>	<i>N</i>	<i>Mean Rank</i>
Number of Policies Sold per year	Black	35	66.29
	Indian	9	57.00
	White	63	61.33
	Coloured	17	61.94
	Total	124	
Retention Index	Black	35	58.89
	Indian	9	66.33
	White	63	62.78
	Coloured	17	66.88
	Total	124	
Average Index	Black	35	64.89
	Indian	9	50.44
	White	63	66.94
	Coloured	17	47.53
	Total	124	

The results of the Kruskal-Wallis statistic for comparing the race group means of the three performance indices reported below in Table 4.14, showed no significant differences for the Number of Policies sold per year, the Retention Index as well as the Average Index. The difference between the mean variables of the four race groups was not found to be statistically significant on all the criterion measures. The p values in all three cases exceeded the significance level of .05.

**Table 4.14**

**Kruskal-Wallis Analysis of Variance statistic for Race Groups and Performance Indices**

<i>Primary Factor</i>	<i>Chi-Square</i>	<i>df</i>	<i>Asymp. Sig.</i>
Number of Policies Sold per year	.670	3	.880
Retention Index	.878	3	.831
Average Index	5.077	3	.166

The results confirm that race did not affect any of the performance indices. *Thus the research hypothesis 5 is rejected.*

#### 4.3.6 Hypothesis 6: Group differences exist on the scores of the primary factors of the 15FQ+

A comparison of the mean ranks for the race groups on the primary factors of the 15FQ+ is presented in Table 4.15. As with Hypothesis 5, this was needed to compute the Kruskal-Wallis statistic to determine whether the groups differed in terms of personality attributes.

**Table 4.15**

**Mean Rank Statistics for Race Groups and Primary Factors of 15FQ+**

<i>Primary</i>			
<i>Factor</i>	<i>Race</i>	<i>N</i>	<i>Mean Rank</i>
<i>fA</i>	Black	35	61.46
	Indian	9	67.44
	White	63	64.57
	Coloured	17	54.35
	Total	124	
$\beta$	Black	35	53.87
	Indian	9	87.33
	White	63	63.21
	Coloured	17	64.47
	Total	124	
<i>fC</i>	Black	35	59.53
	Indian	9	48.11
	White	63	64.30
	Coloured	17	69.56
	Total	124	
<i>fE</i>	Black	35	56.29
	Indian	9	90.56
	White	63	61.75
	Coloured	17	63.21
	Total	124	
<i>fF</i>	Black	35	56.61
	Indian	9	73.44
	White	63	64.80
	Coloured	17	60.29
	Total	124	

$fG$	Black	35	60.94
	Indian	9	73.28
	White	63	63.02
	Coloured	17	58.06
	Total	124	
$fH$	Black	35	60.60
	Indian	9	77.00
	White	63	59.17
	Coloured	17	71.09
	Total	124	
$fI$	Black	35	66.16
	Indian	9	47.06
	White	63	60.56
	Coloured	17	70.35
	Total	124	
$fL$	Black	35	82.11
	Indian	9	34.28
	White	63	52.48
	Coloured	17	74.18
	Total	124	
$fM$	Black	35	62.41
	Indian	9	85.67
	White	63	58.44
	Coloured	17	65.47
	Total	124	
$fN$	Black	35	70.96
	Indian	9	55.50
	White	63	62.79
	Coloured	17	47.71
	Total	124	
$fO$	Black	35	61.36
	Indian	9	64.56
	White	63	63.02
	Coloured	17	61.85
	Total	124	
$fQ_1$	Black	35	68.57
	Indian	9	80.50
	White	63	53.02
	Coloured	17	75.62
	Total	124	
$fQ_2$	Black	35	68.70
	Indian	9	53.78
	White	63	58.36
	Coloured	17	69.71
	Total	124	
$fQ_3$	Black	35	62.14
	Indian	9	67.06
	White	63	62.68
	Coloured	17	60.15
	Total	124	

$fQ_4$	Black	35	50.80
	Indian	9	96.39
	White	63	65.19
	Coloured	17	58.68
	Total	124	

The Kruskal-Wallis statistic for race groups and primary factors of the 15FQ+ are presented in Table 4.16 below.

**Table 4.16**

***Kruskal-Wallis statistic for Race Groups and Primary Factors of the 15FQ+***

<i>Primary</i>	<i>Chi-Square</i>	<i>df</i>	<i>Asymp. Sig.</i>
<i>Factor</i>			
$fA$	1.320	3	.724
$B$	6.694	3	.082
$fC$	2.525	3	.471
$fE$	6.768	3	.080
$fF$	2.114	3	.549
$fG$	1.175	3	.759
$fH$	3.140	3	.371
$fI$	3.047	3	.384
$fL$	22.932	3	.000
$fM$	4.695	3	.196
$fN$	5.297	3	.151
$fO$	.084	3	.994
$fQ_1$	9.986	3	.019
$fQ_2$	3.145	3	.370
$fQ_3$	.234	3	.972
$fQ_4$	12.363	3	.006

When the group ranks on the respective primary factors were compared using the Kruskal-Wallis statistic, only three primary factors yielded significant differences in group ranks. These were the Trusting – Suspicious ( $fL$ ), Conventional – Radical ( $fQ_1$ ) and Composed – Tense-driven ( $fQ_4$ ) factors. These three factors yielded H statistics within the significance level of 0.05. Two other factors were just beyond this, namely Low Intellectance – High Intellectance (0.82) and Accommodating – Dominant (0.80) primary factors.

*As only three of the 16 factors were found to be significantly different by rank among the four race groups, hypothesis 6 is partially accepted.*

#### **4.4 Summary**

Statistical analyses pertaining to the six hypotheses were discussed in this chapter. In terms of the reliability of the current study, the reliability of the 15FQ+ was confirmed (Hypothesis 1). The three hypotheses exploring the predictive validity of the 15FQ+ (Hypotheses 2, 3, and 4) were also confirmed. There were no group differences for the performance indices of the financial advisers. Hence Hypothesis 5 was rejected. Lastly, race differences were found on only 3 primary factors of the 15FQ+. Thus hypothesis 6 was partially accepted.

The results pertaining to the hypotheses in this study will be discussed and integrated in the next chapter. The limitations of the study and the implications for theory and practice will also be delineated.

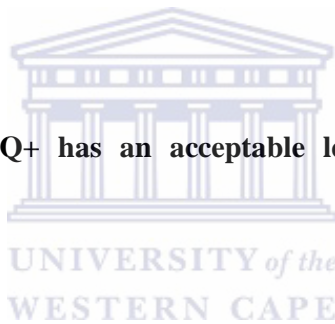
## CHAPTER 5

### DISCUSSION

#### 5.1 Introduction

This chapter discusses the findings of the study. Reference will be made to previous research pertinent to these findings. The discussion includes the reliability results, an evaluation of the predictive validity of the primary factors of the 15FQ+ (to establish baseline data) and whether there are race group differences on the variables used in this study. The limitations of this study will be outlined and in conclusion, the implications of this study for future research will be explored.

#### 5.2 Hypothesis 1: The 15FQ+ has an acceptable level of at least 0.6 for internal consistency

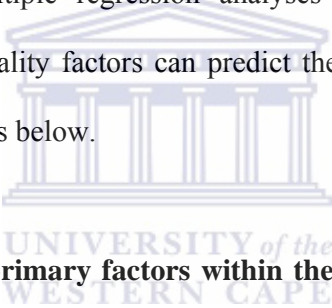


As indicated in Chapter 2, establishing the reliability of a new test is a crucial aspect of determining the bona fides and utility of the instrument. Before validation of any instrument, its reliability must first be determined (Pedhazur & Pedhazur-Schmelkin, 1991). Hence, its inclusion as the first hypothesis of this study. The Cronbach's alpha coefficient was used to determine the internal reliability of the primary scales of the 15FQ+ (as indicated in Table 4.4). The results of this study found that thirteen of the sixteen scales of the 15FQ+ had acceptable levels of reliability (exceeding 0.6) indicating that the test had good internal consistency. Hypothesis 1 was therefore accepted. Hence subsequent validity hypothesis could be assessed.

While the alpha coefficients (ranging from 0.4 to 0.8) were lower than the professional sample (The 15FQ+ Technical Manual, 2002) indicated in the 15FQ+ test manual (0.76 – 0.83), the alpha

coefficients were still above the accepted convention set for this study. In comparison to the study by Meiring et al. (2005), the reliability of the 15FQ+ was notably higher. The three scales with alpha coefficients below 0.6 [Aloof – Empathic (*fA*), Concrete – Abstract (*fM*) and Informal – Self-discipline (*fQ<sub>3</sub>*)] should be used with caution. Studies conducted by Psytech (15FQ+, n.d.) across different sample populations (including Police Officers, a Police Assessment Centre and Senior Technical Officers) also showed low internal consistency reliabilities for these primary factors. Low reliability for the Concrete – Abstract (*fM*) factor was also reported in a study conducted by Meiring et al. (2005). Further research with larger samples is therefore suggested to assess the items of these particular primary factors.

For hypotheses 2, 3 and 4, multiple regression analyses were used to determine whether combinations of the 15FQ+ personality factors can predict the performance of financial advisers. These are reported in the subsections below.



**5.3 Hypothesis 2: There are primary factors within the 15FQ+ that will predict whether financial advisers are successful in selling policies**

The results of the multiple regression analysis regressing primary factors of the 15FQ+ on the Number of Policies Sold per year, indicated that 3 factors (Low-Intellectance – High Intellectance (*β*), Composed – Tense-driven (*fQ<sub>4</sub>*) and Trusting – Suspicious (*fL*)) explained 18% of the variance for this performance index. The latter 2 factors are facets of the Low Anxiety – High Anxiety second order factor. This was also established in the study by Byrne (1989) on the 16PF, who found that Anxiety is a trait that contributes to the sales success of sales agents. Similarly, Salgado and Rumbo (1997) also found that the Neuroticism factor of the five-factor model contributed to the performance of financial services managers in their study.

With regards to the Low-Intellectance – High Intellectance scale, a study by Tredoux (n.d.) reflected that this factor is a predictor of the Number of Policies sold in a group of insurance sales agents. Moreover, a validity study conducted by Psytech on a group of insurance sales agents showed that Trusting and Intellectance were contributory factors to the sales success of these agents. Other causative factors included the Enthusiastic, Self-doubting, Socially-bold, Hard-headed, Self-sufficient and Empathic primary factors (15FQ+, n.d.).

The findings of the current study also suggest that 82% of the variance in the Number of Policies Sold per year were due to other factors not assessed in the current study. For future research, this could be explored further.

#### **5.4 Hypothesis 3: There are primary factors within the 15FQ+ that will predict whether financial advisers are able to retain policies sold**

Regression analysis revealed that a combination of two primary factors (i.e. the Distant Aloof – Empathic (*fA*) and the Sober-Serious – Enthusiastic (*fF*) factors), made significant contributions to the Retention Index of financial advisers. The variance in this instance showed that these primary factors contribute 14% toward the financial advisers retaining policies from one year to the next. These factors are both facets of the Introversion – Extraversions second order factor, which suggests that engaging with the client (personal impact) may influence whether a financial adviser is able to retain policies. As with the discussion of the second hypothesis, this has been confirmed in Byrne's study where the construct is measurable across different personality inventories. Furthermore, the studies conducted by Barrick and Mount (1991), Hogan (1996 cited in Kierstead, 1998) and Vinchur et al. (1998), also advocate that Extraversions is a definitive trait for sales persons. With regard to the Sober-Serious – Enthusiastic factor, Seligman and Schulman's study (1986) also confirmed that optimistic (enthusiastic) sales agents sold more insurance policies. Moreover,



Miner's (1962) study of dealer salesman also reflected that happiness (i.e. a characteristic of the Enthusiastic individual) also contributed to the successful performance of sales people.

**5.5 Hypothesis 4: There are primary factors within the 15FQ+ that will predict the Average Index obtained by financial advisers**

The results of the linear analysis regressing the 15FQ+ primary factors onto the Average Index show that when other variables are controlled, the Conventional – Radical ( $fQ_1$ ), Trusting – Suspicious ( $fL$ ) and Low Intellectance – High Intellectance ( $\beta$ ) factors significantly explain 13% of the variance in this performance index. The F statistic of 3.49 is significant at the 95% level ( $p < 0.05$ ). Therefore 87% of the variance in the Average Index may be explained by factors outside of this study.

These three factors are facets of the Independence – Agreeableness second order global factor of the 15FQ+ which suggests that the altruistic nature of a financial adviser may influence their performance in obtaining profits from the sale of products and services for The Company. The impact of the Agreeableness factor on sales performance has been confirmed in the study by Hogan (1996 cited in Kierstead, 1998) as outlined in Chapter 2.

Analyses of variance were used to determine whether there were race group differences in the performance indices and on the primary factors of the 15FQ+. The results for hypotheses 5 and 6 are reported in the ensuing sections.

**5.6 Hypothesis 5: There are differences among the race groups in the performance indices in The Company**

No differences were found in the performance indices of financial advisers. This suggests that financial advisers of different race groups respond/perform in the same manner and that the

criterion variables used by The Company are appropriate for the study. For further cross-cultural application of the 15FQ+, it is recommended that other moderating factors (such as language, gender and educational qualifications) which could impact on how the items are answered should be further investigated.

### **5.7 Hypothesis 6: Group differences exist on the scores of the primary factors of the 15FQ+**

An analysis of variance of rank differences (using the Kruskal –Wallis statistic) between the four race groups and the primary factors reflected differences in three of the primary factors, namely Trusting – Suspicious ( $fL$ ), Conventional – Radical ( $fQ_1$ ) and Composed – Tense-driven ( $fQ_1$ ) factors. Cognisance should be taken of the international study by Packman et al. (2005), where South Africans (compared to Australians and New Zealanders) also scored differently for the Trusting – Suspicious factor. Caution should therefore be applied when these factors are used in future as it raises concerns regarding the etic value of the 15FQ+. In such instances, Mantsha (2002) suggests that items that are answered differently be excluded from the inventory whereas Abrahams and Mauer (1999b) recommend that further studies be conducted to fully investigate response patterns. With regard to the Conventional – Radical factor, differences were also found across the different race groups in the study conducted by Meiring et al. (2005). They noted that this scale has political connotations for black respondents and should be prudently interpreted.

### **5.8 Limitations to the Study**

Any assessment measure must be applied with caution as there may be other contributory factors to the individual's responses. With this in mind, the analysis of only the 15FQ+ with Performance Indices may omit important information. This is evident when reviewing the variances of the 15FQ+ when regressed on the criterion variables. It is best to gather as much information as

possible (e.g., all assessment material and the interview) to develop a clearer understanding of the financial advisers. However, as data mining has been done, this has not been possible.

A second limitation is that the 15FQ+ must be used with caution when it is administered to individuals whose first language is not English. Due to the small sample size item analysis to determine bias in the factors could also not be done.

Thirdly, for cross-cultural applicability, only the impact of race on the variables was considered. Future studies could include other aspects such as the impact of language, socio-economic status, gender and age.

The data retrieved included financial advisers who were in the employ of The Company at the time of the study. There is a high turnover in this industry and no exit interviews were held with financial advisers who resigned. There were also no records for those rejected, as there were no criteria measured. Should there have been a promotion, e.g. to the position of Business Development Manager, these were excluded. Furthermore, as the 15FQ+ is a new instrument, it has only recently been included in the assessment centre. Thus, financial advisers who have been employed prior to this have not been included in the study. Therefore the limitation is that the range of financial advisers is restricted.

The sample size was smaller than initially expected which may have influenced the research results.

There were no statistics drawn for the second order factors of the 15FQ+. This was limiting as no links could be made with the corresponding primary factors which could have added value to the study.

Lastly, as the sample was largely White financial advisers, the uneven race distribution in the sample resulted in non-parametric methods being used. More comparative samples should be used to facilitate the use of more robust statistics.

## **5.9 Implications for Research and Practice**

Regression analyses showed that only certain factors of the 15FQ+ impact upon the performance of financial advisers. The variances indicate that the contributions of the 15FQ+ factors to their prediction were significant. Future studies should consider alternative factors which could impact on the performance of these advisers e.g. analysis of the market and competitors. Furthermore, as this study did not assess second order factors, this should also be explored in depth as it is likely that more meaningful predictive relationships may lie at this level.

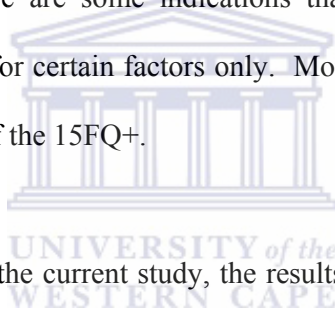
Future studies could also test the concurrent validity where all financial advisers already in the employ of The Company complete the 15FQ+ which is compared to criterion data that is already available. This would increase the sample size of financial advisers.

Should larger samples be available more cultural studies can be done. It becomes possible to conduct bias studies through the item analysis of the factors. This will add to the literature available on the 15FQ+.

While research on the performance of sales agents is interesting, future studies could extend to other occupations as well.

## 5.10 Conclusion

In conclusion, the reliability of the 15FQ+ in this study showed that internal consistency of the instrument is satisfactory. In terms of predictive validity, the research reflects that the validity potential of the 15FQ+ is promising with specific reference to the personality dimensions of sales people. Notably, the applicant's anxiety factor and confidence in his/her own intellectual ability may impact on the procurement of business for The Company. With regard to the retention of business, the factors that reflect the applicant's level of Introversion – Extroversion should be noted. Moreover, the primary factors that reflect the altruistic nature of the applicant should be considered when selecting financial advisers. This should provide an indication as to whether the applicant is able to make a profit from business that they have generated for The Company. With regard to cross-cultural generalisability, there are some indications that the 15FQ+ does elicit divergent responses in different race groups for certain factors only. More research is encouraged to explore the cross-cultural generalisability of the 15FQ+.



Notwithstanding the limitations of the current study, the results have made a valuable contribution to the future selection of financial advisers at The Company. Moreover, the study adds to the body of research available on the 15FQ+ and the implications for future research have been indicated. This includes, using larger samples in future research in order to conduct bias studies. In this regard, item analysis may identify differences in how items may be interpreted. Moreover, other factors that may impact on the performance of financial advisers could be further explored

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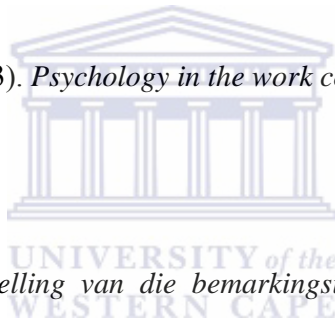
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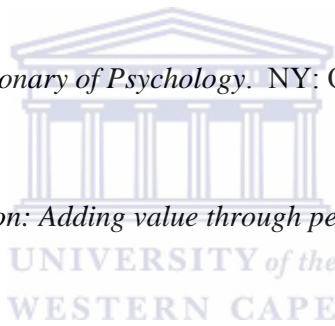
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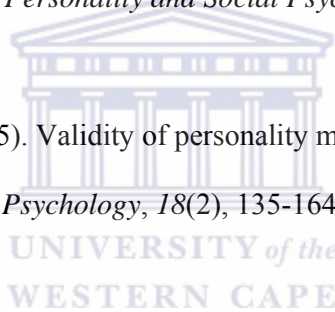
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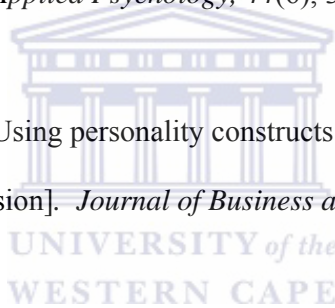
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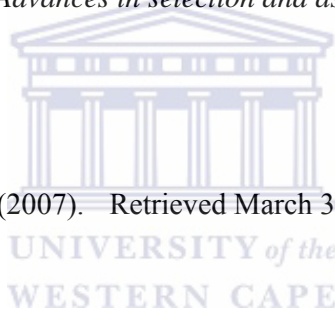
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## APPENDIX A

### PRIMARY FACTORS OF THE 16PF

Primary Factor	Low Score	High Score
A: Warmth	Reserved	Warm
B: Reasoning	Concrete	Abstract
C: Emotional Stability	Reactive	Stable
E: Dominance	Cooperative	Dominant
F: Liveliness	Restrained	Lively
G: Rule-Conscious	Expedient	Rule-conscious
H: Social Boldness	Shy	Socially Bold
I: Sensitivity	Utilitarian	Sensitive
L: Vigilance	Trusting	Suspicious
M: Abstractedness	Practical	Imaginative
N: Privatness	Forthright	Private
O: Apprehension	Self-assured	Apprehensive
Q1: Openness to Change	Traditional	Open to change
Q2: Self-Reliance	Group-orientated	Self-reliant
Q3: Perfectionism	Unexacting	Perfectionistic
Q4: Tension	Relaxed	Tense

*(Foxcroft & Roodt, 2001)*

## APPENDIX B

### SECOND ORDER FACTORS OF THE 16PF

<b>Second Order Factor</b>	<b>Low Score</b>	<b>High Score</b>
EX: Extroversion	Introverted	Extroverted
AX: Anxiety	Low anxiety	High anxiety
TM: Tough-Mindedness	Receptive	Tough-minded
IN: Independence	Accommodating	Independent
SC: Self-Control	Unrestrained	Self-controlled

(*Foxcroft & Roodt, 2001*)



## APPENDIX C

### *THE FIVE- FACTOR MODEL*

<i>Big Five Factor</i>	<i>Alternate Names</i>	<i>Sample associated trait Descriptions – Positive Pole</i>	<i>Sample associated trait descriptions – Negative Pole</i>
Extraversion	Surgency, Assertiveness	Sociable, Gregarious, Assertive, Talkative, Active, Ambitious, Expressive, Energetic, Enthusiastic, Outgoing	Quiet, reserved, Shy, Retiring, Taciturn, Inhibited
Conscientiousness	Conformity, Dependability	Careful, Thorough, Responsible, Planful, Persevering, Diligent Achievement- Orientated, Efficient, Self-disciplined,	Inconsistent, Impulsive, Undisciplined, Unreliable
Emotional Stability	Neuroticism	Calm, Relaxed, Steady, Self-Confident, Easy-going	Anxious, Depressed, Angry, Worried, Insecure, Tense, Vulnerable, High-strung
Agreeableness	Likeability, Friendliness	Courteous, Flexible, Cooperative, Tolerant, Caring, Trusting, Supportive, Altruistic, Sympathetic, Kind, Modest	Spiteful, Self-Centre, Self- Aggrandizing, Hostile, Indifferent, Cold, Coarse, Mean-spirited
Openness to Experience	Culture, Intellectance, Inquiring Intellect	Imaginative, Creative, Curious, Cultured, Sharp- witted, Broad-minded, Inventive, Insightful, Complex	Simple, Concrete, Narrow, Imitative, Unimaginative

(Kierstead, 1998, p. 2)

## APPENDIX D

### DEFINED COMPETENCIES OF FINANCIAL ADVISERS

COMPETENCY	DEFINITION
Entrepreneurship	Knowledge and awareness of commercial matters, opportunities and organisational/ channel activities and competitor activity with a view to optimise profitability and ultimately, market share.
Client Focus	The ability to build and maintain relationships with internal and external clients on all levels and positions; puts others at ease; promotes harmony and consensus through the tactful handling of differences and potential conflict.
Decision Making	The ability to thoroughly and accurately identify, define and analyse a problem with a view to committing to the most appropriate course of action after considering relevant facts, constraints and organisational views. This sometimes entails the creation of new methodologies and the application of new ideas and concepts.
Gaining Commitment	The ability to utilise appropriate interpersonal styles and techniques to positively influence the opinions, mental attitudes and behaviour of others.
Work Standards	Setting high standards and performance for self and others; taking ownership for completing assignments or tasks successfully; checking and reviewing process for accuracy and compliance to the required standards.
Adaptability	The ability to adapt to and work effectively with a variety of situations, individuals, or groups and to understand and appreciate different and

	opposing perspectives on an issue, to adapt an approach as the requirements of a situation change, and to change or easily accept changes in one's own organisation or job requirement.
Tenacity	Persevering with an individual task and seeing it through to its conclusion despite obstacles that may arise.
Initiative	Taking quick action to achieve goals beyond what is required which will improve or enhance job results and avoid problems or proactively finding or creating new opportunities.
Impact	Makes a strong positive impression with personal authority, displaying confidence and commanding respect in interpersonal interactions.
Communication	The ability to express oneself clearly and effectively by employing appropriate techniques and media when required to convey a meaningful and compelling message to individuals or groups.

