THE OPQ 32i (OCCUPATIONAL PERSONALITY
QUESTIONNAIRE 32 Version i) AS A PREDICTOR OF
EMPLOYEE THEFT IN A FINANCIAL INSTITUTION

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DECLARATION

I, the undersigned, declare that the work contained in this thesis is my own and original work and has not previously, in its entirety, or partly, been presented to another university in obtaining a degree.

Signature

01/12/2004

Date
ABSTRACT

The impact of employee theft in organisations is far reaching and includes financial as well as non-financial costs. Nowhere is the reduction of theft more important than in financial institutions. Research has shown that the second best predictor of counterproductive behaviour such as employee theft was integrity. Integrity is a concept that has a long and contentious history. Being a difficult construct to define, it has been subject to much debate. From a business standpoint, there is now considerable interest in linking integrity to organisations as well as individual persons. Research has further shown that various personality dimensions are predictive of counterproductive behaviours such as theft. As such personality measures have been used increasingly as integrity tests to detect such behaviour.

The purpose of this study is to examine the ability of the Occupational Personality Questionnaire 32 version i (OPQ 32i) to predict employee theft in a financial institution. Research has shown that individuals with lower levels of integrity are more likely to indulge in counterproductive behaviour which may be manifested in employee theft. Specific dimensions of the OPQ under study are conscientiousness, emotional control, achievement orientation, rule following and conventionality. In line with current research it was expected that these five personality dimensions would differentiate those individuals who commit theft in a financial institution from those who do not.

A review of current literature is undertaken, focusing on the concept of integrity, the history and background of integrity testing, the classification of integrity tests, as well as the use of personality dimensions in assessing integrity. The review further includes a discussion of criticisms and controversies that surround the application of Integrity tests, recommendations for the application of integrity testing, employee theft as a criterion, and the impact of employee theft on organisations. This is followed by a discussion of theft as being a result of individual personality traits versus being a result of situational factors. Recommendations are also made to
organisations on how to limit employee theft. Finally, the OPQ32i (Occupational Personality Questionnaire 32 Version i), as the choice of measurement tool is discussed, as are the psychometric properties and previous research conducted on the tool.

The current study was an empirical one with a quantitative, concurrent validity approach. A sample of 116 individuals from a financial institution was divided into two mutually exclusive groups based on detected theft. 22 Employees had been dismissed due to theft (Group 2) and 94 were still employed (Group 1). General statistics were completed followed by a two-tailed independent-samples t-test and a measurement of effect sizes with a view to conduct a Canonical Discriminant Analysis. The results of the study suggest that the conscientiousness, emotional control, achievement orientation, rule following and conventionality dimensions of the OPQ32i were not able to differentiate those individuals who committed theft in the financial institution under study from those who did not commit theft. Thus, in the financial institution under study, the research conducted does not provide conclusive evidence for the OPQ32i as a good predictor of employee theft. This conclusion needs to be interpreted with care given the limitations of the research.

The results are discussed with specific reference to response style of applicants, integrity as a construct, the impact of situational factors on employee theft and difficulty of theft as a criterion. Finally limitations and recommendations for future study are discussed.
OPSOMMING

Die impak van werknemer-diefstal in organisasies is verreikend en sluit finansiële sowel as nie-finansiële koste in. Veral in finansiële instellings is dit belangrik om diefstal te verminder. Navorsing het bevind dat integriteit die tweede beste voorspeller van teenproduktiewe gedrag, soos byvoorbeeld werknemer-diefstal, in organisasies is. Integriteit is `n konsep met `n lang en aanvegbare geskiedenis. 'n Moeilike konstruk om te definieër, is dit `n onderwerp van vele gesprekvoering en debat. Vanuit `n besigheidsperspektief, is daar nou aansienlike belangstelling om integriteit aan organisasies sowel as individue te koppel. Navorsing het verder bevind dat verskeie persoonlikheidsdimensies voorspellers van teenproduktiewe gedrag soos diefstal kan wees. As gevolg daarvan word persoonlikheidsmeting al hoe meer gebruik as integriteitsmetings om hierdie gedrag te identifiseer.

Die doel van hierdie studie is om die vermoe van die Occupational Personality Questionnaire, weergawe 32 i (OPQ 32i), om diefstal in `n finansiële instelling te voorspel, te ondersoek. Navorsing dui aan dat individu met lae vlakke van integriteit meer geneig mag wees om teenproduktiewe gedrag te openbaar wat kan manifesteer in personeel diefstel.

Spesifieke dimensies van die OPQ32i wat bestudeer word is hardwerkendheid, emosionele beheer, doelwitbereikingsoriëntasie, die nakoming van reëls en konvensionaliteit. In lyn met huidige navorsing word dit verwag dat hierdie vyf persoonlikheidsdimensies sal differensieër tussen individue wat diefstal pleeg in `n finansiële instelling en die wat nie.

'n Studie van huidige literatuur word onderneem, wat fokus op die konsep van integriteit, die geskiedenis en agtergrond van integriteitsmeting, die klassifikasie van integriteitstoetse en die gebruik van persoonlikheidsdimensies om integriteit te evalueer. Die ondersoek sluit verder in 'n bespreking van bestaande kritiek en kontroversie rondom die toepassing van integriteitstoetsing, aanbevelings vir die toepassing van
integriteitstoetsing, werknemerdiefstal as ‘n kriterium, en die impak van werknemerdiefstal in organisasies. Dit word gevolg deur ‘n bespreking van diefstal as ‘n gevolg van individuele persoonlike strekke, versus ‘n resultaat van situasionele faktore. Aanbevelings word ook gemaak aan organisasies oor hoe om diefstal te elimineer. Laastens word die OPQ32i (Occupational Personality Questionnaire weergawe 32i) as keuse van meetinstrument bespreek, sowel as die psigometriese eienskappe en vorige navorsing rakende die instrument.

Die huidige studie was van empiriese aard met ‘n kwantitatiewe benadering. ’n Steekproef van 116 individue van ‘n finansiële instelling is verdeel in twee gesamentlike uitsluitende groepe gebaseer op waargenome diefstal. 22 Werknemers is ontslaan as gevolg van diefstal (Groep 2) en 94 was steeds in diens (Groep 1). Algemene statistiese berekening is gedoen, gevolg deur ‘n tweekantige onafhanklike t-toets en ‘n meting van die grootte van effek met die oog op ‘n Kanoniese Diskriminantontleding. Die resultate van die studie stel voor dat die dimensies van hardwerkendheid, emotionele beheer, doelwitberekingsoriëntasie, die nakoming van reëls en konvensionaliteit nie kon onderskei tussen individue wat diefstal gepleeg het in die finansiële instelling en die wat nie diefstal gepleeg het nie. Die resultate verky uit die huidige studie kan nie onomwonde ‘n aanduiding gee dat die OPQ32i ‘n soeie voorspeller is van diefstal in die finansiële instelling nie. Hierdie gevolgtrekking moet omsigig geïnterpreteer word in die lig van die tekortkominge van die huidige studie.

Die resultate word bespreek met spesifieke verwysing na die responsstyl van applikante, integriteit as ‘n konstruk, die impak van situasionele faktore op werknemerdiefstal en die moeilikheid van diefstal as ‘n kriterium. Laastens word beperkings van die studie en aanbevelings vir toekomstige studie bespreek.
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CHAPTER 1
INTRODUCTION AND PURPOSE OF STUDY

South African organisations are not only being placed under increasing pressure to compete with each other on a national level, but also with international organisations on a global platform. In order to do so successfully it is crucial that resources are managed effectively to minimise unnecessary costs and losses. Low productivity, and to an even larger extent, counterproductivity can be considered as one of the largest costs to organisations. Robinson and Bennett (In Jones, 1991) define counterproductivity as organisational and interpersonal deviance, which may be manifested in the forms of absenteeism, substance use, aggression, and employee theft, respectively. In the current study, the researcher proposes that employee theft as a specific manifestation of counterproductive behaviour in a South African financial institution is used as a measurement criterion. Nowhere is the reduction of counterproductivity more important than in financial institutions.

In order to minimise and thus manage the impact of employee theft on organisations it is crucial to predict it. Slora (1989) defines theft as the unauthorised taking of cash, merchandise or property. According to Bernd (2002) an examination of variables showed that the second best predictor of counterproductive behaviour such as employee theft was integrity. In addition, research has shown that individuals with lower levels of integrity are more likely to indulge in counterproductive behaviour (Mikulay and Goffin, 1998; Ones, Viswesvaran & Schmidt, 1993). When considering the costs of employee theft and dishonesty in financial institutions as well as in other organisations, it is clear that a valid and reliable tool, which can be used as part of a broader selection process in order to predict such behaviour, will be of great benefit to organisations.

Detected theft as a criterion was chosen in the current study due to the impact of employee theft in organisations, which is far reaching and includes financial
as well as non-financial costs. In the particular financial organisation under study, management reported identifying theft as one of the largest problems being faced by them. The loss caused by employee theft was reportedly placing the organisation at financial risk and was impacting negatively on the morale and culture at the organisation. Management at the organisation thus indicated a dire need to predict propensity for theft in new job applicants in an attempt to minimise future losses. Kolz (1999) found that theft frequency reports indicate that approximately 35% of all employees steal from their employers. Sackett and Harris (1984) estimated that the annual amount of employee theft was $10 billion. When considering the financial costs of employee theft, the following need to be considered:

- Cost of replacement and retraining of dismissed employees;
- The monetary value attached to the theft itself; and
- The cost and time of investigations into employee theft and related disciplinary enquiries.

Non-financial costs of employee theft include:

- Loss of customer/client faith in organisation;
- Creation of an organisational culture of dishonesty; and
- Stress and motivation of employees exposed to employee theft by colleagues.

The purpose of this study is to establish the validity of the OPQ 32i (Occupational Personality Questionnaire 32 Version i) in assessing workplace integrity in a financial institution. Research has shown that individuals with lower levels of integrity are more likely to indulge in counterproductive behaviour (Mikulay and Goffin, 1998; Ones, Mount, Barrick & Hunter, 1994; Ones, Viswesvaran & Schmidt; 1993). As was seen in the definition by Robinson and Bennett (In Jones, 1991) above, counterproductive behaviour refers to organisational and interpersonal deviance, which may be manifested various forms, including that of absenteeism, substance use, aggression, and
employee theft, respectively. Thus, considering that one of the ways integrity manifests itself is in an individual’s propensity to commit theft, the primary aim of this study is to assess the OPQ 32i’s ability to differentiate between those individuals who are likely to commit theft in a financial institution from those who are not.

According to SHL, the distributors of the OPQ, by understanding an individual's style, information on how they will fit within certain work environments and teams, and how they will cope with different job requirements can be gained. The OPQ32i is the latest and most detailed comprehensive version of the OPQ. Building on the previous Concept Model, it provides information on 32 relevant personality dimensions. The OPQ32i has an ipsative format and is recommended specifically for selection purposes. Aiken (1997) defines an ipsative format as a test format, for example, forced choice, in which the variables being measured are compared with each other, so a person’s score on one variable as affected by his or her scores on other variables measured by the instrument.

The Concept Model of personality was developed between 1981 and 1984 in the United Kingdom and was based on extensive review of existing questionnaires and models of personality, as well as a review of the relationship between personality and job performance and an investigation of the personality traits relevant to various organisations. Approximately 1000 repertory grids to investigate the constructs used by managers in the working environment to assess personal attributes were completed and approximately 800 constructs elicited resulting in an initial model of personality incorporating some 40 bi-polar scales.

Research has shown that various personality dimensions are predictive of counterproductive behaviour and theft. According to Schmidt, Ones and Hunter (1992), personality measures have been used increasingly as integrity tests to detect poor impulse control, lack of conscientiousness, disregard of rules and regulations, and general organisational delinquency. The most common and well-known classification of personality dimensions is the Big
Five. Literature has labelled these five factors as follows: (1) Emotional Stability (calm, secure, and non-anxious), or conversely, Neuroticism; (2) Extroversion (sociable, talkative, assertive, ambitious and active); (3) Openness to experience (imaginative, artistically sensitive, and intellectual); (4) Agreeableness (good-natured, cooperative, and trusting); and, (5) Conscientiousness (responsible, dependable, organised, persistent, and achievement orientated).

According to Sackett and Wanek (1996) personality based integrity tests typically include measures of conscientiousness, dependability, social conformity, thrill seeking and trouble with authority. Stanton, Mathews, Graham and Brimelow (1991), in a study of 94 undergraduates, extracted five factors from the OPQ and compared them with the Big Five model of personality factors. The OPQ specifically contains measures of conscientiousness, emotionally control / stability, achievement orientation, rule following and conventionality, which typically relate to the Big Five. Studies by Ones and Viswesvaran (2001) show that overall conscientiousness, dependability and achievement orientation appear to be good predictors of counterproductive behaviours. Kolz (1999) further states that conscientiousness, agreeableness, and emotional stability may also be valid predictors of theft and other counterproductive behaviours.

The Hypotheses of the current study are thus as follows:

\[ H_0 = \text{OPQ 32i dimensions predict employee theft.} \]
\[ H_{a1} = \text{The OPQ 32i dimensions do not predict theft of employees} \]

\[ H_0 = \text{The Conscientious dimension of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.} \]
\[ H_{a2} = \text{The Conscientious dimension of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.} \]
**Ho\textsubscript{3}** = The *Emotionally controlled dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

**Ha\textsubscript{3}** = The *Emotionally controlled dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.

**Ho\textsubscript{4}** = The *Achieving dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

**Ha\textsubscript{4}** = The *Achieving dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.

**Ho\textsubscript{5}** = The *Rule following dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

**Ha\textsubscript{5}** = The *Rule following dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.

**Ho\textsubscript{6}** = The *Conventional dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

**Ha\textsubscript{6}** = The *Conventional dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or

The study will begin with a literature review which will cover the following aspects: Chapter two provides context for the current study by attempting to gain an understanding of the concept of integrity, examining the background and history of integrity testing, the classification of integrity tests and personality-based integrity tests and the use of personality dimensions in assessing integrity. Chapter three outlines in more depth the existing theory
available on integrity testing, criticisms and controversies that surround the application of Integrity tests and existing recommendations for the application of integrity testing. Chapter four examines the criterion of theft more closely. The chapter then examines the impact of theft in organisations as a justification for theft as a choice of criterion in the current study as well as a justification for the usefulness of integrity tests and the implementation of an integrity testing programme within organisations. The chapter further makes recommendations to organisations on additional measures to be taken to minimise the impact of employee theft. Chapter five examines the OPQ32i (Occupational Personality Questionnaire32 Version i), as the choice of measurement tool, examining the psychometric properties of the tool as well as previous research conducted on the tool.

Chapter six discusses the methodology used in the current study. Chapter seven outlines the results obtained in the study. Chapter eight provides a discussion of results, limitations of study as well as recommendations for future research.
CHAPTER 2

INTEGRITY, INTEGRITY TESTING AND THE HISTORY OF INTEGRITY TESTING

2.1 Introduction

Integrity is a topic which has been subject to a great deal of discussion for at least 2 000 years. More recently, Paine (cited in Werhane and Freeman, 1997, pp. 335 – 336) has stated that Cicero and Benjamin Franklin had written about integrity, both of them arguing that integrity is the cornerstone of worldly success (Small & Dickie, 1999).

From the above, it can be seen that integrity testing has a long history. The purpose of this chapter is to provide context for the current study by attempting to gain an understanding of the concept of integrity, taking a brief look at the background and history of integrity testing as well as discussing the current classification of integrity tests into two distinct categories viz. overt integrity tests and personality-based integrity tests. An in-depth look at personality-based integrity tests and the use of personality dimensions in assessing integrity will then conclude the chapter.

2.2 The Concept Of Integrity

Integrity appears to be a very difficult concept to define. Some of the difficulty in defining integrity appears to lie in the fact that (1) there is much debate as to whether integrity is a single trait or made up of various components (Paine, 1996); (2) the term integrity is often used interchangeably with the term honesty, without a distinction being made between the two (Murphy, 1993); (3) some researchers see integrity as a stable trait whilst others see it as a situationally-based trait (Sackett, 1994); (4) there appear to be differences of opinion of what integrity actually means in practice and in theory (Kaptein & van Reenen, 2001). These issues are discussed in the paragraphs below.
Paine (as cited in Werhane and Freeman, 1997, pp. 335 – 336) is of the belief that integrity can be broken into several component parts. First, moral consciousness, which means a desire to do what is right. Paine believes that people with integrity are trustworthy, resist corruption, are fair in their dealings and follow the rules. Second, moral accountability, which Paine believes to be associated with a high degree of self-control and self-awareness and involves a high degree of personal accountability. Third, moral commitment is believed by Paine to be another component of integrity, referring to distinctive and strongly held commitments. Fourth, moral coherence or consistency is also required i.e. people should be consistent in word and deed, and in their commitments and moral judgments.

Integrity, as it is often used interchangeably with honesty (Murphy, 1993) is traditionally a difficult concept to define. According to Small and Dickie (1999) this is due to the fact that honesty is included within the domain of integrity. This implies that by viewing honesty as having the same meaning as integrity, the full meaning of the term integrity may be lost. It should however also be noted that clarity in this regard is difficult to obtain as research on integrity as a domain (including dimensions included in this domain) is difficult to find in current available research. According to Murphy (1993), integrity is a broader concept than honesty that refers to the “the extent to which a person lives up to his or her personal ideals or values” (Murphy, 1993, p. 3).

For the purposes of this study, honesty will be taken to have the same meaning as integrity. In addition, honesty tests will be classified as integrity tests because they serve similar purposes and are regularly treated as such in the research literature.

Franklin (cited in French; 1996) wrote that integrity, like some other difficult concepts, could best be explained by identifying people who didn’t have it. According to Franklin there are four characteristics associated with individuals who do not have integrity. He firstly referred to moral chameleons, i.e. people who were quick to abandon previously held positions. According to Franklin, the chameleon could not be depended upon because there was a lack of core
values. He secondly referred to the opportunist, who would alter beliefs and behaviour if it would lead to personal gain or advancement. Another example provided by Franklin was of the hypocrite who pretends to live by certain standards but in reality does not live according to them. According to him, hypocrites have one set of values for public display, and another set which motivates their personal/private behaviour. A fourth type of person who lacks integrity is described by Franklin as the self-deceiver who is motivated by incompatible interests and desires (Small and Dickie, 1999). Based on his discussion of the four characteristics above, Franklin finally defined integrity as an integrated triad consisting of a reasonably coherent stable set of values and principles, verbal behaviour expressing these values, and principles, as well as conduct embodying an individual's values and principles consistent with what one says. However, Franklin did not provide further information on what exactly these stable set of values and principles are.

As can be seen above, the difficulties defining the concept of integrity are complex. As such, difficulties exist when conducting integrity tests. According to Ones, Viswesvaran, and Schmidt (1995) an underlying problem for any integrity test is the construct being measured. They state that although the general assumption integrity tests make is that integrity is a stable trait, integrity may also be situationally influenced (e.g. by management practices) Even if integrity tests can reliably identify individuals who “think” dishonestly, it is not clear that dishonest behaviour results. Similarly, individuals who consider themselves honest (and express honest attitudes) may be able to justify and engage in dishonest behaviour.

According to Sackett, Burris and Callahan (1989) psychologists often recall that Hartshorne and May, in their early work on integrity, found that there was no such concept as integrity. However, it should be noted that Hartshorne and May (In Sackett, 1994) failed to support their hypothesis that honest people would be honest across varying situations and dishonest people dishonest across varying situations. More recent commentators have however noted that perfect consistency of behaviour is an unrealistic standard. In
addition, reanalysis of the data shows a large common factor underlying measures of honesty across situations.

According to Kaptein and van Reenen (2001) there are differences of opinion as to what integrity actually means in practice and in theory. According to them, the term integrity is an all-encompassing construct, which takes on many appearances. According to Kaptein and van Reenen (2001), an additional complicating factor in critically discussing integrity is the emotional reactions and subjectivity that the term elicits. Kaptein and van Reenen (2001) further view integrity as a relational notion in that people cannot be honest in isolation. The fact that integrity is important where people live and work together makes it an inherently social or relational notion. In addition, they state that integrity is a relative term, as whether a person can be considered to have acted with integrity depends on the specific situation, the place or the time. Finally, according to Kaptein and van Reenen (2001), what is considered as normal in one frame of reference may be unacceptable in another.

In a further attempt to gain an understanding of the concept of integrity, the terms values and trust were encountered by the student in the work of Small and Dickie (1999). As per Small and Dickie (1999) these two terms appear to have some link to the concept of integrity.

According to Small and Dickie (1999), a value is something that is worthy of esteem for its own sake, or something that has intrinsic worth. They state that in a business context, people who exhibit high moral principles and reflect a concern for values such as fairness, trustworthiness, integrity and justice are likely to be very highly valued. Thus, integrity appears to be a value that is held by an individual or individuals. Small and Dickie (1999) further state that understanding the nature of values requires a level of moral thinking. It is known that some of society’s values have emerged from traditional social and historical sources, others have emerged from religion, some from rational argument and/or popular acceptance, and others have been created by legal enactment. In more recent times, codes of ethics or codes of practice have
provided guidelines for the professional in relations to implementing integrity, accountability and efficiency in the workplace. In the case of an individual, it is the person’s own value system that guides behaviour in respect to matters affecting personal lifestyle and, where no code of ethics exists, that personal value system influences one’s approach to business transactions (Small and Dickie, 1999). It should however be noted that at this stage, no other collaborating sources were found to support their opinions.

Trust, according to Small and Dickie (1999), can be defined in several ways. It may be defined as “the reliance by one person, group or firm upon a voluntarily accepted duty on the part of another person, group or firm to recognise and protect the rights and interests of all others engaged in a joint endeavor or economic exchange “(Small & Dickie, 1999, p. 14). More simply, it can refer to the expectation that one person can have confidence in, or reliance on, some quality or attribute when undertaking a business transaction “(Small & Dickie, 1999, p. 14). Butler and Cantrell, (as cited in Hosmer, 1995), proposed five components of trust; viz. integrity (honesty and truthfulness on the part of the trusted individual), competence (technical knowledge and interpersonal skill needed to perform the job), consistency (reliability, predictability and good judgement), loyalty (willingness to protect and support others), and openness and willingness to share ideas and inform freely with others. Thus, integrity appears to be a component of trust.

2.3 History of Integrity Testing

The most comprehensive definition of an integrity test is provided by the American Psychological Association, who defines it as “a psychological inventory designed to predict the likelihood that an applicant will exhibit counterproductive or delinquent behaviours, such as rule breaking, work-related accidents, and theft” (American Psychological Association as cited in Ones, Viswesvaran & Schmidt, 1995, p. 4).

It would appear as if society has always attempted to identify dishonest individuals. Erisistratus (200 B.C.) took pulses to detect deception. In Europe
and America, trial by combat or ordeal was common. Scientific studies to identify the criminal minded began in 1895 with Lombroso’s (as cited in Jones 1983) use of the plethysmograph for continuously monitoring blood pressure during the questioning of suspects, anticipating the development of the modern Polygraph. Hugo Munsterberg, a pioneer in industrial psychology in the United States in 1913 developed two approaches to the measurement of honesty. The first used four physiological measures and the second three ‘association latency’ tests. He also used the term lie detector to describe his instruments and tests (Ash, 1987).

From the time of Hugo Munsterberg’s work in 1913 until approximately 1945, not much further progress was made in integrity research. According to Ash (In Jones, 1991) with a few exceptions, psychological research on the diagnosis and prediction of dishonesty or counterproductive behaviour did not resume until World War II. Even from 1945 until the late 1960’s, employee theft was not perceived as a major problem. From the late 1960’s employee theft losses and crime rates began to escalate. According to Jones (1981) employee theft alone increased from approximately $1 billion a year in 1968 to as much as $40 billion in the 1980’s. Recent anonymous questionnaire surveys of employees in retail establishments, manufacturing concerns, hospitals and fast food chains in the United States (Hollinger & Clark, 1983) revealed that substantial proportions of employees admit to theft of money and merchandise. According to Hollinger & Clark (1983) 26.2 percent of employees in fast food chains admitted to theft of money, whilst 32.2 percent of employees in hospitals admitted to theft of money. Jones and Joy (1988) summarised 10 empirical studies comprised of more than 130, 000 subjects and found that the unweighted mean base rate (average number of potential successes in the population of applicants) for theft was 32 percent. These losses led to an expanding and much needed testing sub-field: honesty and integrity testing (Ash as cited in Jones, 1991, p. 4). Ones and Viswesvaran (1998) also indicate that integrity tests have existed since the late 1940’s and that there are over 40 off-the-shelf integrity tests available to organisations. Ones and Viswesvaran write: “Even by most conservative estimates, millions
of people in the US have been tested using integrity tests” (Ones & Viswesvaran, 1998, p. 246).

According to Goodstein and Lanyon (1999) integrity tests represent the most recent effort to provide organisations with a way to deal with employee theft of money and merchandise. The main purpose of pre-employment integrity testing is to screen out potentially risky applicants. Since 1988, integrity testing has replaced the polygraph as the primary method of pre-employment screening. Sackett and Harris (1984) estimated that as many as 5 000 companies used integrity tests as part of their pre-employment procedures, testing as many as five million job applicants annually. “The demonstrated value of integrity tests to personnel selection merits the rapid increased adoption of these tests, which some estimates indicate is as high as 20% annually” (Deutsch, 1990, p. 73).

A question often asked is whether integrity tests are appropriate across settings. According to Bergmann, Mundt, & Illgen (1990), they are. These authors state that “although most tests are given in retail businesses, they are appropriate for almost any kind of setting where employees have access to cash, merchandise, equipment, or supplies. Traditionally, tests have been used for entry-level positions, but they are now being administered to many upper-level positions such as supervisors and police officers” (Bergmann, Mundt, & Illgen, 1990, p. 217).

2.4 The Classification of Integrity Tests

According to Goodstein and Lanyon (1999) integrity tests can be classified in a number of overlapping ways:

(1) Single-purpose vs. broad-band; where tests either measure a single behaviour a wider range of behaviours;

(2) Subtle content vs. overt or obvious content; where the purpose of the question content is either difficult to determine or quite clear;
(3) Based on predictive validity vs. concurrent validity; where individuals are selected regardless of results and results then compared to a criterion, or where groups have already been divided into distinct categories;

(4) Based on applicant validation vs. employee validation; and,

(5) Level of job complexity.

“Tests with overt content are typically intended to assess dishonest behaviours directly, both past and present, while subtle content tests are more like personality tests and are intended to tap a broader range of counterproductive behaviour at work, including chronic absenteeism, alcoholism, drug abuse, and unsociable or antisocial behaviour” (Goodstein & Lanyon, 1999, p.299). Sackett (1984) classified integrity tests into two categories: overt integrity tests and personality-based integrity tests (also known as clear-purpose integrity tests). Overt integrity tests commonly consist of two sections. The first is a measure of theft attitudes, and includes questions about beliefs, about the frequency and extent of theft, punitiveness towards theft, ruminations about theft, perceived ease of theft, endorsement of common rationalisations for theft, and assessment of one's own honesty. The second involves requests for admissions of theft and other wrongdoing. In overt integrity tests, applicants are asked to describe the frequency and amount of theft and other illegal and/or counterproductive activity. These two sections may also be combined with other scales intended to measure factors such as drug abuse and tendencies toward violence (Sackett & Wanek, 1996). In certain overt integrity tests, admissions are not part of the instrument, but are instead used as a criterion measure in validity studies. Overt integrity tests include the “Personnel Selection Inventory (PSI), the Employee Attitude Inventory, the Stanton Survey, the Reid Report, the Phase II Profile, the Milby Profile and the Trustworthiness Attitude Survey” (Whitney, Diaz, Mineghino, & Powers, 1999, p.35)

In contrast to overt content measures, personality-based measures (also referred to as disguised purpose tests) are closely linked to normal range personality questionnaires. They have not been developed solely to predict
theft or theft related behaviours. Instead, they aim to predict a broad range of counterproductive behaviours at work (e.g., disciplinary problems, violence on the job, excessive absenteeism and tardiness, and drug abuse, in addition to theft) using composite measures of personality dimensions such as reliability, conscientiousness, adjustment, trustworthiness, and sociability. Examples of personality-based instruments that have been used in integrity testing include the Personal Outlook Inventory (Science research associates; 1983), the Personnel Reaction Blank (Gough, 1972), the Employment Inventory of Personnel Decisions (Paajanen in Whitney et al, 1999), and the Hogan Personality Inventory’s Reliability Scale (Hogan & Hogan, 1986) (Ones, Viswesvaran, & Schmidt, 1993, p. 680).

Ash (In Jones, 1991) provides a brief history of overt and personality-based integrity tests. A brief summary is provided in Table 2.1 and Table 2.2 respectively.

**Table 2.1: History of Overt Integrity Tests** as adapted from Jones (1991)

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1942</td>
<td>G. L Betts develops the Biographical Case History (Betts, 1947) originally to screen men who were in disciplinary barracks and rehabilitation centers to prevent induction of men who were deemed unsatisfactory for military service.</td>
</tr>
<tr>
<td>1947</td>
<td>A civilian version of the Biographical Case History is published (Cassel &amp; Betts, 1956; Laird, 1950; Laird &amp; Laird, 1951).</td>
</tr>
<tr>
<td>1951</td>
<td>The <em>Reid Report</em> (1951), based on the work of John, E Reid in polygraph examining, is published.</td>
</tr>
<tr>
<td>1956</td>
<td>A revision of the Biographical Case History, the Life Experience Inventory, is marketed (Cassel &amp; Betts, 1956; Betts &amp; Cassel, 1957).</td>
</tr>
<tr>
<td>1964</td>
<td>The Stanton Survey (Klump, 1980; Reed, 1982).</td>
</tr>
<tr>
<td>1971</td>
<td>The Pre-employment Opinion Survey (P.O.S Corporation, undated).</td>
</tr>
<tr>
<td>1975</td>
<td>The Personnel Selection Inventory. Scales to measure nonviolence, drug</td>
</tr>
</tbody>
</table>
abuse, safety, and other related dimensions are added, supported by a large and continuing research program. About 62 published and in-house papers are summarized in the *Personnel Selection Inventory Information Guide* (London House, 1987).

<table>
<thead>
<tr>
<th>Year</th>
<th>Test/Instrument</th>
<th>Year</th>
<th>Test/Instrument</th>
</tr>
</thead>
</table>

**Table 2.2: History of Personality Based Integrity Tests**

- **1908**: Munsterberg (1908) develops three latency of response tests to measure dishonesty and veracity.
- **1915-1965**: Samuel Porteus (1917, 1945, 1968) develops a ‘culture-free’ maze-tracking intelligence test, which he finds is also predictive of juvenile delinquency and criminality. A number of American investigators validate his findings (e.g., Karpeles, 1932; Fooks & Thomas, 1957).
- **1952-1966**: Studies of the Rorschach Inkblot Test in India and Japan suggest it may be predictive of criminality (Majumbar & Roy, 1953; Mukherjee, 1965; Ishamura, 1966).
- **1952**: Gough and Peterson begin research demonstrating that one of the scales of the California Personality Inventory is predictive of delinquent behaviour. Their research leads to the development of the Personnel Reaction Blank (1965).
- **1953**: The Minnesota Multiphasic Personality Inventory is demonstrated to have use in the analysis and prediction of delinquency (Hathaway & Monochesi, 1953).
A personality-type test measuring overall productivity, with scales for dependability, interpersonal cooperation, drug avoidance, and safety, the Employment Productivity Index (EPI), is published (London House, 1985).

Two personality-type tests, derivative to some extent from the Personnel Reaction Blank, are published: the Employment Inventory (Paajanen, 1986) and the Reliability Index (Hogan & Hogan, 1986, 1987).

As mentioned previously, the construct integrity is a difficult one to define. According to Sackett (1994) such construct problems are less severe for personality inventories than for overt integrity tests, as they assess traits associated with dishonest behaviour. The constructs measured by personality tests are broader than those measured by overt integrity tests and thus suggest an overall tendency rather than actual behaviour. In addition, Sackett (1994) states that an important advantage of personality-based integrity tests is the fact that personality tests typically are not scored using a cut-off that indicates whether a person is acceptable or not. Interpretation of such tests is usually complex and may require a psychologist experienced in test interpretation.

Sackett (1994) does however caution that such measures of general traits associated with honesty and dishonesty are not without problems. According to him, in addition to typical problems of standardisation, obtaining criterion data is difficult because of the nature of counterproductive behaviour. Deceptive behaviour is not always easy to identify and it is thus difficult to obtain an accurate measure of it. Furthermore, although the use of broader constructs is an advantage, it is also a problem. Job deviance can take a variety of forms – not all of which are problematic or should be grounds of firing or failing to hire an individual. An example of job deviance, which is not necessarily problematic, is not following chains of command when requiring high-level input needed to solve an important problem. Although this could be classified as deviant, it is certainly not grounds for firing or failing to hire an individual.
Companies seeking to purchase pre-employment integrity tests seek to control more than just employee theft. The trend is towards the use of multidimensional integrity test batteries over single-purpose integrity tests. Single-purpose tests measure only job applicants’ propensity for theft of company cash, merchandise, property, and information. Multidimensional integrity test batteries typically contain an honesty scale but also test scales that help companies control illicit drug use, reduce accidents, control damage and waste, and lower turnover rates (Jones, 1991).

### 2.5 Personality-based integrity tests, overt integrity tests and the Big Five

As the current study aims to examine the Occupational Personality Questionnaire (OPQ). The OPQ is a personality questionnaire examining behaviour at work, a discussion of personality testing, personality-based integrity tests and the use of personality dimensions in establishing integrity follow. The OPQ, its background as well as the ability of certain OPQ dimensions to measure integrity will be discussed in chapters three and five.

Specific reference will be made to the Big Five personality dimensions. As will be seen below, research has found a link between the Big Five personality dimensions and integrity tests.

Psychologists have long been interested in issues of the number and nature of personality traits. As early as 1934 Thurstone described a study in which raters were provided a list of 60 trait adjectives and were asked to evaluate a person that they knew well. Over the past half-century, psychologists have come to a variety of conclusions about the nature and number of personality traits. Cattell, as cited in Goodstein and Lanyon (1999) identified 35 clusters as the “standard reduced personality sphere” with 12 underlying primary factors. Several years later Fiske as cited in Goodstein and Lanyon (1999) using ratings on Cattell’s 35 clusters from several different sources – self, peer, and professional psychologists – found strong support for five factors,
and those factors were the same for each of the three sources. At about the same time, Eysenck and Guilford were also working to develop factor-based models of personality. Based upon both the work of Cattell and Guilford, Tupes and Christal, using Air Force Academy cadets as their subjects, found clear and highly reliable evidence for five factors, which they labelled Surgency (Extroversion), Agreeableness, Conscientiousness, Emotional Stability, and Culture. More importantly, they found highly significant correlations between their five factor scores and a variety of performance measures obtained on these cadets, ranging from .60 for Conscientiousness to .24 for Extroversion. These results served to define the five-factor model, and have provided the basis for much subsequent work (Goodstein & Lanyon, 1999, pp. 293-294).

In an even more comprehensive study by Norman in 1963 (cited in Goodstein & Lanyon, 1999) it was found that five factors accounted for most of the significant relationships among descriptions of behaviour. Goldberg (1992) also demonstrated that five factors accounted for all the significant variance between behaviours. Goldberg (1992) was able to obtain essentially the same results using 100 carefully selected adjectives, which he labelled as markers for the Big Five. More recently Costa & McCrae (1992) demonstrated that the Big Five accounted for most of the variance in both self-ratings and personality inventory responses. They also showed the stability of individual profiles on the Big Five over an extended period of time, for as long as several decades in some instances, leading them to conclude that personality is quite stable after age 30.

The majority of the literature has labelled these five factors as follows: (1) emotional stability (calm, secure, and non-anxious), or conversely, neuroticism; (2) extroversion (sociable, talkative, assertive, ambitious and active); (3) openness to experience (imaginative, artistically sensitive, and intellectual); (4) agreeableness (good-natured, cooperative, and trusting); and, (5) conscientiousness (responsible, dependable, organised, persistent, and achievement orientated) (Goodstein & Lanyon, 1999, pp. 293-294).
There have been three recent comprehensive reviews of the research literature on the Big Five, all of which have reached similar conclusions (Digman, 1990; Wiggins and Pincus, 1992; Goldberg; 1992 (cited in Goodstein & Lanyon, 1999).

According to Goodstein and Lanyon (1999) these conclusions are as follows: firstly, from a theoretical viewpoint, the Big Five are abstractions that represent consistencies in the ways that people experience their world and act, and they also represent the complex underlying causes of these patterns. Secondly, the stronger a trait in a person, the more likely that person is to show trait-related behaviours and thus the more frequently we are able to observe the trait. Thirdly, the research evidence, which is both extensive and rigorous, strongly supports the existence of these five consistent and relatively independent traits.

The relevance in the above discussion on the Big Five personality traits to the current study lies in their relation to integrity testing. Two lines of inquiry linking integrity and the Big Five have been pursued (Barrick & Mount, 1991; Ones, Schmidt & Viswesvaran, 1993). The first is the question of the relationship between integrity tests and the Big Five in general and conscientiousness in particular. The second is whether conscientiousness explains the predictive validity of integrity tests. In other words, does the relationship between integrity tests and criteria of interest diminish or disappear after partialing out conscientiousness? This issue does not appear to impact on the current study, as the criteria of interest, viz. detected employee theft, is examined independently in relation to five selected personality dimensions, one of which is conscientiousness.

Ones et al (1993) conducted a large-scale data collection and meta-analysis of the relationship between integrity and the Big Five (Ones, 1993; Ones, Schmidt & Viswesvaran, 1993). In this data collection and meta-analysis, existing personality measures were classified into the Big Five dimensions, and correlated between and among integrity and personality measures. They were corrected for unreliability and range restriction using correction factors
obtained from studies reporting the data needed for these corrections. The results of the meta-analysis can be seen in table 2.3 below:

**Table 2.3: Mean Correlations Between Integrity Tests, Big five Personality Measures and Job Performance- Corrected / (Observed)**
(Source: Sackett & Wanek, 1996, p. 804)

<table>
<thead>
<tr>
<th>Test</th>
<th>Emotional Stability</th>
<th>Extroversion</th>
<th>Openness to experience</th>
<th>Agreeableness</th>
<th>Conscientiousness</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overt</td>
<td>.45 (.32)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personality-Based</td>
<td>.39 (.25)</td>
<td>.70 (.43)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>.28 (.18)</td>
<td>.37 (.23)</td>
<td>.63 (.48)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extroversion</td>
<td>.03 (.02)</td>
<td>-.11 (1.07)</td>
<td>.19 (.14)</td>
<td>.41 (.31)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness to experience</td>
<td>.09 (.06)</td>
<td>.14 (.09)</td>
<td>.16 (.12)</td>
<td>.17 (.13)</td>
<td>.44 (.33)</td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.34 (.23)</td>
<td>.44 (.28)</td>
<td>.25 (.19)</td>
<td>.17 (.13)</td>
<td>.11 (.08)</td>
<td>.53 (.40)</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.39 (.26)</td>
<td>.45 (.28)</td>
<td>.26 (.20)</td>
<td>.00 (.00)</td>
<td>-.06 (-.05)</td>
<td>.27 (.20)</td>
</tr>
<tr>
<td>Performance</td>
<td>.41 (.25)</td>
<td>.41 (.25)</td>
<td>.07 (.04)</td>
<td>.10 (.06)</td>
<td>-.03 (-.02)</td>
<td>.06 (.04)</td>
</tr>
</tbody>
</table>

**Note:** Corrected correlations are presented first, observed correlations are in parentheses.

As can be seen from the above table, overt integrity tests have a mean correlation of .45 with each other and personality-based integrity tests have a mean correlation of .70. The mean correlation between overt and personality
Based integrity tests is .39. Regarding the correlation among the Big Five personality dimensions, the mean correlations between different instruments tapping the common Big Five dimensions range from .41 to .63, indicating that the different instruments tap overlapping, but not identical constructs. The table also reports correlations between integrity measures and Big Five personality dimensions. Parallel findings emerge for overt and personality-based integrity tests. Integrity tests correlate substantially with the Big Five dimensions of conscientiousness, agreeableness, and emotional stability. This implies that both overt and personality-based integrity tests correlate with the Big Five to a similar extent and thus measure integrity equally well. In addition, the findings suggest that overt integrity tests and personality-based integrity tests correlate well with each other.

To gain additional insight into the interrelationships between overt and personality-oriented measures, Hogan and Brinkmeyer (1997) investigated the relationship between an overt and a personality-based integrity measure at the item level, suggesting that an item analysis would yield more measurement and interpretive differences than previously published studies using scale-level data. In their conclusion, Hogan and Brinkmeyer found that the gap between the overt and personality-based tests was not significant, and that a general conscientiousness factor underlies both test types.

Building on the above, Wanek, Sackett & Ones (2003) investigated integrity from the test scale-score level to the item level in order to better understand the differences and similarities between integrity instruments. The study included seven commonly used integrity instruments (three overt integrity instruments were used: the London House Personnel Selection Inventory-7ST (PSI), the Reid Report (Reid), and the Stanton Survey (Stanton). Four personality-based integrity tests contributed items including the Employee Reliability Inventory (ERI), the Personnel Reaction Blank (PRB), Personnel Decisions, Inc.'s Employment Inventory (PDI-EI), and the Inwald Personality Inventory (IPI), as well as two Big Five personality measures (the Hogan Personality Inventory (HPI) and Goldberg's 100 Unipolar Five Factor Markers).
in order to examine relationships between integrity test construct themes and the established Big Five framework.

A judgemental sort of 798 items from these instruments produced 23 thematic composites (viz. theft thoughts/temptation, theft admissions, self/impulse control, social conformity/rule abidance, association with delinquents, risk taking/thrill seeking, drugs/alcohol/tobacco use, driving violations, honesty attitudes, achievement/ success orientation, locus of control, home life/upbringing, emotional stability, introversion/extraversion, turnover/loyalty, perception of dishonesty norms, supervision attitudes, safety/accident prone, diligence, orderliness, unlikely virtues/social desirability, manipulation check items and punitiveness).

The study shed light on integrity tests by helping to understand the basis for the positive correlations among all integrity tests by identifying five thematic composites that correlate highly with virtually all seven integrity tests (theft thoughts/temptations, perception of dishonesty norms, social conformity/rule abidance, association with delinquents, and theft admissions). It further contributed to the understanding of the differences between overt and personality-oriented tests by identifying composites correlated more highly with overt tests (honesty attitudes and supervision attitudes) and composites correlated more highly with personality-oriented tests (self/impulse control, home life/upbringing, risk taking/thrill seeking, diligence, and emotional stability). In addition to the above, the study provided insight into differences between various overt tests (e.g., the markedly higher correlations with punitiveness for the Reid, in comparison to the PSI and the Stanton) and between various personality-oriented tests (e.g., the PDI-EI's higher correlation with risk taking in comparison with the other personality-oriented tests).

The study also appeared to reaffirm earlier findings regarding the relationship between integrity tests and the Big Five, with strong relationships emerging with conscientiousness, agreeableness, and emotional stability. In summary, the findings suggest that integrity tests can differ in their emphasis on various
thematic composites as well as surface content, and, yet, assess the same underlying construct.

If this is the case, the question to be asked, is why one type of integrity tests should be chosen over another. This will be discussed in more detail in chapter two where controversies surrounding integrity testing will be discussed.

As can be seen from the above, the Big Five dimensions are extremely useful in tapping into integrity. Conscientiousness as a Big Five dimension is of particular interest to researchers. According to Hogan & Ones (1997) conscientiousness as a personality dimension consists of hard work, orderliness, conformity and self-control. Sackett and Wanek (1996) suggest that hard work, orderliness and conformity may drive the correlation with positive workplace behaviours and self-control may correlate most highly with counterproductive behaviours. Research conducted by Fallon, Avis, Kudisch, Gornet & Frost, (2000) was consistent with past research and found that conscientiousness was a good predictor of various aspects of job performance, but did not support the contention by Sackett and Wanek that self-control is related to counterproductive behaviours.

Researchers have further noted that personality traits such as sociability, likeability, and sensitivity also account for significant amounts of variance in integrity test scores. “The former of these two traits are conceptually similar to agreeableness, while the latter is similar to neuroticism. Since conscientiousness, agreeableness, and neuroticism appear to be correlated with integrity tests, and in fact maybe the true constructs such tests measure, they may also be valid predictors of theft, absenteeism, and other counterproductive behaviours” (Kolz, 1999, pp. 108-109). When the findings of Sackett and Wanek (1996) as discussed above are considered, this confirms the usefulness of the Big Five in measuring integrity, but may also imply that utilising the Big Five model, rather than integrity testing per say may prove useful to organisations.
“Personality measures have been used increasingly as integrity tests to detect poor impulse control, lack of conscientiousness, disregard of rules and regulations, and general organisational delinquency” (Schmidt, Ones & Hunter, 1992, p. 521). Schmidt et al further suggested that an important construct link might exist between personality domains and integrity.

Ones and Viswesvaran (2001) completed a study where they compared the validities of integrity tests with validities found for adult personality scales in predicting counterproductive behaviours as well as overall job performance.

**Table 2.4: Comparison of validities for integrity tests with validities found for adult personality scales**
Adapted from Ones and Viswesvaran (2001)

<table>
<thead>
<tr>
<th>SCALES FROM PERSONALITY INVENTORIES</th>
<th>OVERALL JOB PERFORMANCE</th>
<th>COUNTERPRODUCTIVE BEHAVIOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Stability</td>
<td>.12</td>
<td>.39</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.12</td>
<td>.15</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>.05</td>
<td>-.28</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.10</td>
<td>.09</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.23</td>
<td>.47</td>
</tr>
<tr>
<td>Achievement orientation</td>
<td>.26</td>
<td>.51</td>
</tr>
<tr>
<td>Dependability</td>
<td>.10</td>
<td>.47</td>
</tr>
<tr>
<td>CRITERION-FOCUSED OCCUPATIONAL PERSONALITY-BASED SCALES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrity tests</td>
<td>.41</td>
<td>.32</td>
</tr>
</tbody>
</table>

As can be seen from the table, in predicting counterproductive work behaviours, overall conscientiousness, dependability and achievement orientation appear to produce better criterion-related validities compared to the integrity tests examined. However, when the criterion being predicted is
supervisory ratings of job performance, higher validities were obtained for integrity tests.

According to Ones and Viswesvaran (2001) there may be significant practical implications for the above results. If organisations are attempting to maximise overall performance of employees, then integrity tests appear to be a better option. However if organisations are attempting to minimise counterproductive behaviour, then personality inventories appear to be the better option.

2.6 Summary

This chapter attempted to provide a better understanding of the concept of integrity and also provided some background as to the history and the use if integrity testing. Crucial in this chapter is the differentiation between overt and personality based integrity testing as well as an understanding of the relationship between the Big Five personality dimensions and integrity testing.

In chapter three, which follows, existing research as well as the controversies surrounding integrity testing will be discussed in some detail. In addition to this, recommendations by various authors for the application of integrity testing will be put forward.
CHAPTER 3

INTEGRITY TESTING – THEORY AND CONTROVERSIES

3.1 Introduction

The previous chapter provided an introduction into the concept of integrity and integrity testing. The purpose of this chapter is to discuss existing theory available on integrity testing, to examine some of the criticisms and controversies that surround the application of integrity tests and how they impact on the current study, and finally, to take a brief look at some existing recommendations for the application of integrity testing. However, before beginning this discussion, it is important to consider the utility of integrity tests.

3.2 The utility of Integrity Tests

According to Murphy and Davidshofer (1994) utility theory answers the question of extent to which a better selection decision will be made when a selection tool (such as an integrity test) is utilised. Utility theory suggest that the following two things must be known before the impact of a psychological test can be assessed: (1) how many additional correct decisions will result if tests are used, and (2) how much value is placed on good decisions.

In addressing the first issue, base rates and selection ratios are useful. As will be discussed in the current chapter, a base rate refers to the number of potential successes in the population of applicants. In terms of integrity testing, if the base rate is very high, this suggests that most applicants are unlikely to commit theft in an organisation. In this event, one would question the utility of a selection tool, as the likelihood of applicant theft is already low. “When the base rate is around .50, there is a greater possibility of minimising decision errors and it may be possible to make very accurate decisions if a test with sufficient validity can be found” (Murphy & Davidshofer, 1994, p. 144).
Selection ratios refer to the ratio of applicants to openings. If the selection ratio is high, selection results will remain the same, regardless of the validity of the decision-making. A low selection ratio ensures that a valid selection decision will lead to the selection of the best applicant. “If there is a valid system for making decisions, a low selection ratio allows selection of the ‘cream of the crop’. In fact, when a selection ratio is sufficiently low, a test with very modest validity can still contribute significantly to the accuracy of decisions” (Murphy & Davidshofer, 1994, p. 144).

In addressing the issue of selection ratios, a judgment can be made as to what will be gained by making a good selection decision. This approach is widely used in selection and provides estimates of the financial gains to be made from using the selection tool in question. "Utility Theory provides a method for estimating, in dollar terms, the gain (per year) in productivity that will result if valid tests are used in personnel selection" (Murphy & Davidshofer, 1994, p. 147).

When considering the time and cost involved when conducting integrity tests as well as the issues of applicant reactions and other controversies which will be discussed in the sections to follow, it is crucial that the utility of the integrity test be established prior to its use.

3.3 Current Research on Integrity Testing

A number of literature reviews on integrity test research have appeared over the last decade (Ones & Viswesvaran, 2001; Goodstein & Lanyon, 1999; Sackett, 1994; Ones, 1993). Those of relevance to the current study are outlined below.

Much research has been in the form of criterion related validity studies. According to Ones and Viswesvaran (2001) these studies are of particular relevance as “Criterion related validity indicates the degree to which scores in a selection test correlate with a criterion. In personnel selection, a
demonstration of criterion-related validity is essential for the operational usefulness of a test to be established" (Ones & Viswesvaran, 2001, p. 32).

Criteria for integrity tests have been classified into two categories: (1) admissions of counterproductivity and (2) external measures. Admissions of counterproductivity include self-reported occurrences, while external criteria represent measures such as supervisory ratings of theft, cash shortages, and actual theft (Neuman & Baydoun, 1998, p. 66). Goodstein and Lanyon (1999) found that for studies that used counterproductive job behaviour as the criterion, integrity tests were better at predicting self-reported than externally measured counterproductive behaviours. This stands to reason, as measures of anonymous self-reported counterproductive behaviours are likely to be more accurate than external measures which may not be able to accurately measure all real theft taking place within an organisation. Similarly, Ones et al (1993) found the mean true validities for self-report criteria to be .58 and for external criteria to be .32 (Neuman & Baydoun, 1998, p. 66). “Considering externally measured broad counterproductive behaviours as the criterion in predictive studies conducted on applicants, we found that the mean operational validity of both types of integrity tests is positive across situations and is substantial (.30's)” (Ones & Viswesvaran, 2001, p. 32). Similar results to Goodstein and Lanyon have been reported by McDaniel and Jones (1988), who pointed out that not all counterproductive behaviours are detected and that it is often difficult to identify the culprit. In addition, Mikulay and Goffin (1998) point out that although external measurement criteria may be inherently more meaningful as criteria. External measures of counterproductive behaviours tend to have markedly low base rates and variance, which makes it difficult to study the true nature of their relations to predictors. This should be borne in mind for the present study, when considering that the criterion under study is detected theft.

As can be seen above, measuring on-the-job behaviour appears to be the difficulty encountered in the validation process. It is already acknowledged that much theft and other counterproductive behaviour go undetected. According to Sackett (1994), as a result of this, a variety of other research
strategies have also been used to investigate integrity tests. These strategies include correlation with polygraph test results, use of time series to examine aggregate rates of inventory shrinkage before and after the introduction of a testing programme, and comparison of test performance by groups hypothesized to differ in integrity (e.g., convicted criminals vs. job applicants).

Recent work has made more extensive use of more accessible criterion measures, such as absenteeism. Although these measures are less fraught with interpretational difficulties than are measures of detected theft, questions arise as to whether various criterion measures (e.g., absence and theft) can be interpreted as reflections of a common underlying criterion construct labeled ‘counterproductivity’. Very little is known about the interrelationships among the array of counterproductive behaviours that have been used as criteria in studies of integrity tests (Sackett, 1994, p. 74).

In addition to a consideration of criterion issues, in a study of this nature it is also important to bear the concepts of predictive and concurrent validity in mind, as they are the two general methods used for predicting criterion-related validity. According to Murphy and Davidshofer (1994) predictive validity is recognised as the most accurate method of estimating validity. However, they also state that predictive validity “… is recognized for presenting the most serious ethical and practical problems” (Murphy & Davidshofer, 1994, p. 132). Practical problems include the fact that in order to conduct a predictive validity study, the same decision needs to be made for everyone (e.g. hire all applicants) or random decisions needs to be made. Ethically, it is questionable to hire individuals with the knowledge that they are likely to engage in counterproductive behaviour.

Concurrent validity, as opposed to being a single method of study, refers to a variety of practical procedures used by researchers to assess validity.
According to Sackett (1994), the most compelling studies are those using a predictive validity strategy and external criteria. "For overt tests, 7 such studies using theft criteria produced a mean validity of .13, and 10 studies using nontheft criteria produced a mean validity of .39. For personality-based tests, 62 such studies, all using non-theft criteria, produced a mean validity of .29" (Sackett, 1994, p. 74). As can be seen the validity of overt integrity tests using theft as a criterion is questionable. As results of personality-based integrity tests using theft as a criterion do not appear to be available, it is difficult to draw comparisons, although one would expect them to be similarly low. This can be confirmed in the current study as it uses a personality-based integrity test with theft as a criterion.

Of particular relevance to the current study is the use of theft as a criterion in the validation process. According to Ones and Viswesvaran (2001) theft appeared to be less predictable than broad counterproductive behaviours. They do however note that this comparison was made for overt integrity tests and not personality-based integrity tests. On the other hand, Goodstein and Lanyon (1999) found that theft as a criterion was slightly better predicted (.52) than broader measures of counterproductive behaviour (.45), and concurrent measures of validity were higher than predictive measures. This bodes well for the results of the current study when considering the methodology which uses theft as a criterion and which is concurrent in nature.

Sackett and his colleagues (Sackett & Harris, 1984, 1985) cited over 120 studies of different integrity tests and concluded as follows:

The present review found a large number of criterion related validity studies with external criteria including large scale predictive studies in which a substantial number of employees were subsequently dismissed for theft on the job and studies using a broad range of criteria, including absence, turnover and supervisory ratings. Thus a more compelling case that integrity tests can predict a number of outcomes can be made.

(Sackett & Harris, 1984, p 244)
From the above, the utility of external criteria in the measurement of integrity (of which theft is one) can be seen. In addition, the utility of Integrity tests in general within organisations can be seen.

In an independent review of 270 studies of integrity testing, O’Bannon, Goldinger, and Appelby (1989) came to much the same conclusion:

Studies of contrasted groups indicate that average honesty test scores differ for different groups of integrity...A large body of research exists for admissions of wrongdoing...Several time-series studies have shown that an integrity test can have a positive impact on such organisational measures as inventory shrinkage and terminations for theft.

(O’Bannon, Goldinger, & Appelby, 1989, p. 92)

Once again, the above findings confirm the predictive validity of integrity tests as well as their usefulness in organisations.

The most comprehensive and most recent study of the validity of integrity testing appears to be the meta-analysis reported by Ones, Viswesvaran and Schmidt (1993, 1995) using a database of 665 validity coefficients based upon 576 460 subjects. As was seen in Goodstein and Lanyon (1999) Ones, Viswesvaran and Schmidt estimated the true validity of all integrity tests to be .47 with counterproductive job behaviour as the criterion. The results of this meta-analysis appear to provide some compelling evidence for the criterion-related validity of integrity tests. Other research on integrity testing has reached similar conclusions to Ones et al. (1993). Integrity tests have been shown to be predictive of theft-related types of behaviour in a variety of settings (Harris and Sackett, 1987). Extensive research has demonstrated the ability of integrity tests to predict polygraph results, with a mean correlation of .49 (Sackett & Harris, 1984, p. 239; Neuman & Baydoun, 1998, p. 66).
Based on various studies and analyses, Ones et al (1993) concluded that integrity tests have a mean operational validity of .41. This was viewed as sufficient for making useful predications of job performance and counterproductivity on the job such as theft, disciplinary problems, and absenteeism. Their conclusions are similar to the American Psychological Association (APA) report (Goldberg, Grenier, Guion, Sechrest & Wing, 1991) and are supported by another comprehensive analysis of honesty in the workplace (Murphy, 1987).

Jones (1991) believes that the above conclusions fairly represent the current state of affairs in regard to integrity testing. He further confirms that the use of integrity tests as part of a selection battery appears to be justified. In addition, Jones found that businesses that have employed integrity tests in their employee-selection programs have shown multi-million dollar savings from theft as compared to businesses that have not employed integrity tests.

Interestingly to note, Mikulay and Goffin (1998) criticize validation studies not conducted in a controlled laboratory setting and express concern that measures currently used in the validation of integrity tests show signs of criterion deficiency (the effect of any factor on a criterion such that the validity of the criterion is diminished). They further state that criterion contamination (the effect of any factor on a criterion such that the criterion is not a valid measure of performance) is also a major concern in current validation practices: “As a result, there is considerable concern as to whether non laboratory-based integrity test scores are a reasonable means of achieving their primary goal, that is, the prediction of counterproductive behaviours” (Mikulay & Goffin, 1998, pp. 769 – 770). In order to account for criterion deficiency, Mikulay and Goffin conducted a validation study and developed and measured criteria in a controlled laboratory setting. The results demonstrated that “a set of criterion measures encompassing fraud, rule breaking, and pilferage could be developed in a laboratory setting and used to assess the validity of scores from integrity and personality scales” (Mikulay & Goffin, 1998, p. 784). The results of their study held positive implications for the potential practical importance of using personality and integrity test scores.
for preemployment testing in personnel selection contexts (Mikulay & Goffin, 1998). They do however admit that their laboratory-designed criteria should be further developed in order to enhance realism and maximise generalisability.

Finally, a study by Neuman and Baydoun (1998) attempted to address gaps in prior research on integrity tests by comparing the differential validity of overt and personality-based integrity tests with the same criteria of theft admissions and counterproductivity using the same populations. They also attempted to determine if general personality could explain additional variance between overt and personality-based integrity tests by analysing underlying constructs related to both types of tests. Their results found the following:

- Overt and personality-based integrity tests are predictive of self report admissions and counterproductive behaviours

- The personality-based integrity test analysed had the strongest relationship with openness, agreeableness, and extroversion. These personality scales describe a willingness to experience new and unconventional things with others (openness), the ability to get along and work with others (agreeableness), and a need to interact with others (extroversion). One could hypothesize that these three personality traits all appear to relate to continually and successfully interacting with others. Perhaps those who are socially well adjusted are less likely to engage in counterproductive behaviour.

- The overt integrity tests had the highest correlation with the personality constructs of extroversion and conscientiousness. This research lends additional support to the idea that conscientiousness appears to be a construct underlying or embedded in integrity and honesty.

- It appears as if the two types of integrity tests assessed measure somewhat different content domains, although it was interesting to note
that they were both significantly correlated with extroversion. Thus integrity does not appear to be a narrowly defined construct, since different measures of integrity appear correlated with different facets of personality. Although at first this may seem disconcerting, there is no reason to dismiss broad constructs in preference for narrowly defined ones. Furthermore, the broad or narrow definition of a construct has no bearing on its ability to predict job performance.

- General personality measures may have viability in combination with both overt and personality-based integrity tests to predict both theft admissions and counterproductivity more accurately. These findings may suggest that while integrity measures and general personality measures may be correlated, they are still measuring somewhat distinct domains of content. However, based on these results, each integrity test should be used in combination with a different set of personality scales.

- Contrary to previous research, the integrity tests did not appear to produce negative impressions on the examinees in this study. Thus, they did not find the integrity tests invasive or offensive. Examinees further felt that the overt integrity test was more job relevant. Examinees also indicated that the personality-based integrity test required greater concentration. Based on their scores on the External Attributions on the Test Attitude Survey (TAS), examinees apparently felt that their performance on the overt integrity test measure would be more important in determining their employment. This could have been the result of the more obvious nature and higher face validity of the construct measured with the overt integrity test.

(Neuman & Baydoun, 1998, p. 75 -77)
3.4 Criticisms and issues of controversy surrounding Integrity Testing.

According to Goodstein and Lanyon (1999) dozens of integrity tests exist in the employer marketplace. Many of these instruments are proprietary products whose publishers provide little or no information about their psychometric properties. Although both the American Psychological Association and the Association of Personnel Test Publishers have recommended strongly that such data be provided as an integral part of the manual of instructions to examiners, Goodstein and Lanyon (1999) are of the opinion that these recommendations have not had much effect.

According to Kolz (1999) the fact that integrity test publishers are reluctant to cooperate with independent researchers examining their products, frequently creates a problem for both researchers and personnel managers. This makes research more difficult and often creates an added expense for companies who must pay to have these tests scored. An example of this is Lilienfield (1994), who reported that 6 of 10 honesty test publishers rejected requests by researchers for test manuals and research reports. Cammera and Schneider (1995) have reported similar problems. As a result, test publishers have conducted much of the research on integrity tests. According to Kolz (1999) this has led to scepticism toward honesty tests by many professional researchers and practitioners. It is interesting to note that Sackett (1994) is of the opinion that test publisher related issues are not encountered with popular measures of the Big Five. According to Sackett (1994), given these facts, if integrity tests and Big Five scales are indeed measuring the same constructs, and predicting theft, performance, and counterproductivity equally well, an organisation would be better served economically and from a public relations standpoint by using personality scales.

In addition to the above, Sackett (1994) is of the opinion that the view of integrity tests by psychologists as polygraph surrogates and the marketing of early tests by polygraphers rather than psychological test publishers have tarnished the image of integrity tests among psychologists. Although most
current research appears to be independent of the polygraph, the level of professionalism exhibited by test publishers remains an area of concern for integrity test users, a specific concern being the quality of research results made available by publishers as well as the marketing claims made by them.

It should however be pointed out that as stated by Goodstein and Lanyon (1999) there are many responsible publishers who do provide research reports on the psychometric characteristics of their instruments and give permission to external researchers to use their instruments for investigative purposes. This was also the experience of the researcher whilst conducting the current study.

The research arm of the American Congress, the Office of Technology Assessment's (OTA) review of 1993 came to a negative conclusion about integrity testing. This conclusion was based partly on the fact that there were high numbers of false positives (a selection error in which a selection procedure incorrectly predicts an adaptive/positive outcome) in five studies; 73% to 97% of applicants failing an integrity test but who were hired anyway were not subsequently detected committing theft on the job (Goldberg et al, 1991). The OTA report concluded that research to date is not sufficient to prove or disprove claims of test validity. The report further suggest that continued attention is necessary due to the (a) potential harm to individuals from being misclassified by integrity tests (this could be in terms of their career prospects as well as becoming a self fulfilling prophesy), (b) potential adverse impact of integrity tests on the organisation as well as the individual being tested, and (c) potential invasion of privacy.

Sackett and Waneck (1996, p. 790) comment on the concerns stated by the OTA review as follows:

- As far as the issue of misclassification is concerned, this implies better regulation of integrity tests rather than their disuse. Misclassification of individuals by integrity tests should further be kept in perspective by
comparing it to the misclassification of other current alternatives, which are currently available.

- The OTA notes that integrity tests satisfy current procedures for assessing adverse impact, but speculate that they may not satisfy future procedures available. This argument, according to Sackett and Wanek (1996), is not compelling as no new standards have yet been developed and criticisms based on speculative future standards can be applied to all aspects of human knowledge, not just to integrity tests.

- The OTA does not take a firm stand on the issue of invasion of privacy, but merely notes the potential conflict between employer and applicant rights.

In contrast to the OTA, the American Psychological Association (APA) report, which was based on a much larger number of instruments, concluded that well standardised, integrity tests are valid predictors of honest behaviour in the workplace (Goodstein & Lanyon, 1999).

“ Its (APA) central conclusions are as follows: (a) a recommendation that publishers evaluate their test against the APA Standards for Educational and Psychological Tests, (b) adverse impact does not appear to be an issue, (c) the pattern of criterion-related validity evidence is consistently positive, (d) additional construct validity work is needed to clarify precisely what is being measured by the tests and how integrity tests relate to other constructs, (e) a recommendation that cutting scores be eliminated, as they suggest a simplistic honest-dishonest dichotomy, (f) marketing claims made by many test publishers go far beyond existing evidence, and (g) a call for openness in dissemination of research results and making tests available to independent researchers. Thus, although APA is very critical of test publishers in documentation and abuses in marketing, the overall evaluation of the test is favourable” (Sackett & Wanek, 1996, p. 796).
As stated in Sackett and Wanek (1996) the APA offers an observation that if employers are concerned about theft and counterproductivity, they will take action to deal with the problem. Banning integrity tests will result in employers turning to other potential approaches. They thus frame the question not as “are integrity tests beyond reproach?” but as “are integrity tests better than the available alternatives?” The APA concludes that the currently available alternatives are even less well understood than integrity tests.

3.5 Specific criticisms of Integrity Tests

According to Cammera and Schneider (1994) and Goldberg (1991) specific criticisms surrounding integrity tests can be classified into two distinct categories or sets. One set of criticisms focuses on how these tests are applied in the screening process examining issues such as the application of cut-off scores, the base-rate for various counter-productive behaviours, applicant reactions and faking (Cammera & Schneider, 1994; Dwight & Alliger, 1997; Whitney, Diaz, Mineghino and Powers, 1999). Another set of criticisms focuses on the evidence available for the validity or meaningfulness, of the inferences derived from test scores (Hogan & Brinkmeyer, 1997; Ones et al, 1993; Sackett & Waneck, 1996). As the issue of validity has been addressed in the section above, discussion will focus on the first set of issues.

3.5.1 The Issue of Base Rates

The base rate of theft and other wrongdoing has been the subject of considerable attention. According to Murphy (1987) the validity of an integrity test is only one part of the requirements for a decision about guilt or innocence. One also needs to know the false positive rate and the base rate of theft in the population.

“Based on a 90% criterion for reasonable doubt with respect to a guilty verdict, Murphy calculated that the maximum allowable false positive rate for a base of .05 was .001, and .047 relative to a base of .30” (Guastello & Rieke, 1991, p. 504). However, Manhardt (1989) argues that very few personnel
selection tests would meet this criterion. Martin and Terris (1991) state that when a valid selection test is used instead of a random selection, false positive rates are always reduced. In addition, "... based on standard utility theory, a valid test will reduce the false positive rate to a much larger extent when it is used to predict rare behaviours compared to frequently occurring behaviours" (Martin & Terris, 1990, p. 49). They further state that, "the false positive rate is unimportant for relative decisions such as selecting the best people from a pool of applicants, although it may be relevant for making absolute decisions such as whether to parole a particular prison inmate " (Martin & Terris, 1990, p. 49).

Sackett and Wanek (1996) believe that the basis or the concern surrounding base rates was the disparity between the passing rates on commonly used integrity tests and the public perception about the base rate of serious wrongdoing. After review of much research, they came to the following conclusion, namely that attempting to determine the base rate of employee wrongdoing is not central to evaluating integrity tests. They argue against the notion that a low base rate would be an impediment to the use of integrity testing for employee selection. Sackett and Wanek (1996) further found little value in tallying of the percentage of workers who have ever engaged in any behaviour contrary to the interests of the organisation. What they believe is however of value and necessary is the measurement of the frequency and magnitude of various forms of counterproductive behaviour, examination of the interrelationship between various forms of counterproductive behaviour to identify the construct of constructs underlying these behaviours, and then relating these constructs to the integrity-testing domain. Finally, with integrity tests emerging as predictors of both job performance and various forms of counterproductive behaviour, Sackett and Wanek (1996) believe that the justification of integrity tests does not rest solely on their relationship with a dichotomous theft criterion.

In addition to the issue of base rates, it is also important to consider applicant perceptions and reactions to integrity testing.
3.5.2 Applicant Perceptions and Reactions

With the increasing use of pre-employment personality testing, research on applicant reactions to personality tests has drawn more attention. Kravitz, Stinson, and Chavez (1996) provided descriptions of 16 commonly used employment tests to undergraduate research participants who then rated the perceived fairness, relevance, invasiveness, and overall appropriateness of each test.

Whitney, Diaz, Powers, and Powers (1999) conducted research on the acceptability of 16 different tests to job applicants and found that interviews and work samples were rated most positively by applicants based on a combination of fairness, relevance and appropriateness ratings, whilst measures such as astrology were rated the most negatively. They further found that cognitive ability tests received an average rating, ranking 7th on the list. Finally, honesty and personality tests received fairly low ratings, and were ranked 10th and 11th out of the 16 tests.

According to Ni and Hauenstein (1998), top job applicants may pursue other job options or offers if they form negative perceptions of the organisation based on the selection process. According to Gilliland (1994) viewing personnel selection success merely in terms of the psychometric aspects of validity and fairness can omit a very important consideration in the use of a selection instrument – the impact of the selection instrument on applicants’ perceptions of the organisation. According to Whitney et al. (1999), when applicants know very little about either the job or the organisation prior to application, selection procedures are likely to be used as cues about the job and organisation. They found that selection procedures found to be highly objectionable to applicants may have negative consequences for the organisation. These negative consequences may include reduced motivation to perform well in the organisation’s selection tests, withdrawal from the application process, or turning down of an offer of employment.
“Negative consequences as a result of objectionable procedures could also exacerbate the negative perceptions perceived by those rejected for employment, resulting in potential “spill over” effects which may influence the applicant’s subsequent consumption decisions regarding the company’s products, negative public relations to friends and other potential applicants, and even increased intentions to pursue lawsuits “ (Whitney et al., 1999, p. 36).

Gilliland’s (1993) model of applicant reactions to employment selection systems identified three factors that may affect the perceived overall fairness of a selection process. Propriety of questions, selection procedures and lack of applicant understanding of how test performance relates to future job performance. Applicants were positive towards employment selection systems and viewed them as fair if the questions asked appeared to be relevant to the position they were applying without being invasive of privacy. Applicants were also positive towards employment selection systems when a thorough explanation of the selection procedure was provided. Finally, applicants were positive towards employment selection systems, when the purpose and selection of particular employment tests were understood as being relevant to assessing on-the-job performance.

The utility of overt and personality-based integrity tests may be diminished if applicants have strongly negative reactions or consider them inappropriate for personnel selection. It is thus important to examine the relationships between types of integrity tests, perceptions of job relatedness, actual test performance and perceptions of justice.

Greenberg and Barling (1996) and Gilliland (1993) further discuss the issue of organisational justice in relation to integrity testing. According to Greenberg and Barling (1996), concern with organisational justice has focused attention on both the fairness of allocated organisational outcomes, as well as the fairness of procedures used to determine these outcomes. According to Gilliland (1993) these components are commonly termed distributive and procedural justice, respectively. Applied to personnel recruitment and
selection, organisational justice concerns focus not only on applicant fairness perceptions regarding the final hiring decision, but also perceptions of the fairness of the selection procedures themselves.

A specific area of debate surrounding applicant perceptions and reactions towards integrity testing is whether overt or personality-based integrity tests are perceived to be more acceptable by applicants. Currently, the degree to which test takers’ reactions differ across overt vs. personality-based integrity appears to remain uncertain. Ni and Hauenstein (1998) state that various studies have indicated that personality testing is among the least well received of selection procedures. “Together, the privacy and justice literatures suggest that invasiveness, face validity, and applicant perceptions of empirical validity determine reactions to personality tests… Relative to overt integrity tests, personality –based integrity tests are more likely to include invasive/low face validity items”(Ni & Hauenstein, 1998, pp. 393 - 403). Sackett (1994) reported that college students generally found administration of an overt paper and pencil integrity test acceptable for employment selection. McCulloch and Turban (as cited in Whitney et al., 1999, p. 36) similarly found that job applicants for life insurance sales positions expressed an overall positive evaluation of overt integrity tests (mean of 3.9 out of 5).

However, according to Rynes and Connerly (1993), it was noted that job applicants have a more positive attitude towards personality tests than overt integrity tests. They further found that applicants tend to have more faith in an organisation's ability to accurately measure personality than honesty.

In addition, where the issue of feedback is concerned, Whitney et al. (1999) found that since few individuals believe that they are of low integrity, receipt of a negative feedback on an overt integrity test is likely to provide the individual with apparent evidence that the test is unfair. Since individuals are less likely to understand precisely what a personality–based integrity test is assessing, they are less likely to have strongly negative response to such a test.
In addressing the issue of the acceptability of overt integrity tests versus the acceptability of personality-based integrity tests, Ones, Viswesvaran and Schmidt (1993), recommend that organisations consider the criteria they are concerned with most when using integrity tests. According to them, due to the fact that overt and personality-based integrity tests do not appear to differ in their prediction of general job performance, overt tests are more advisable when the criterion of interest is job performance. However, when a wide array of counterproductive behaviours is being measured, personality-based tests may be better suited, although it should be borne in mind that personality-based integrity tests are more likely to cause negative attitudes in the applicants. A thorough explanation of the use of personality-based integrity tests may assist in managing negative perceptions of applicants.

In addition to the above, the issue of faking needs to born in mind.

### 3.5.3 Faking

Social desirability, or faking good, is the tendency to create a favourable impression on a self-report inventory. This tendency ranges between slight exaggerations to outright lies. According to Furnham (1986) self-report inventories are especially subject to faking or the social desirability response set. “Potential social desirability among job applicants is often cited as a concern about using personality scales and integrity tests in applied settings…sometimes practitioners are hesitant to use integrity tests for fear that the scores may be altered by or improved by faking” (Ones et al., 1993, p. 246).

According to Ones et al (1993), there are over 15 similarly conducted individual faking studies for overt integrity tests. The results from these studies indicate that individuals instructed to represent themselves in a favourable light can do so. On average, a comparison of individuals instructed to fake good on integrity tests compared with those instructed to respond honestly indicate effect sizes over .50.
There has been discussion and speculation about whether overt integrity tests, because of their clear intent, were more easily faked than personality-based integrity tests (Sackett & Wanek, 1996). To test this hypothesis, Wanek et al (2003) and Lilienfeld (1994) administered Ryan and Sackett’s overt integrity instrument, and the Personnel Reaction Blank (PRB), a personality-based integrity test, to 214 graduate business students and 77 undergraduate students respectively. Subjects took both tests on either a fake good or respond honestly condition. The results of these two studies appeared to produce opposite effects, with Wanek et al (2003) finding a faking effect for only the PRB and Allinger, Lilienfeld and Mitchell (1996) finding a faking effect only for the overt test. Overt test means were further much higher in the Wanek study, which used a much older and educated subject population. These results led Sackett and Wanek (1996) to speculate that the subject population is important in faking studies, with ceiling effects possible when using overt tests with highly educated population, and with more experienced and sophisticated subjects better able to fake on personality-based tests.

Based on their research of overt integrity tests, Guastello and Rieke (1991) found that they are fakable: “Honesty tests are fakable as evidenced by the r of .43 between the Reid Report theft scale and the 16PF faking good scale, the r of .58 between the PSI theft scale and the PSI lie scale. Their susceptibility to faking thus renders honesty tests useless for predicting job behaviour without a score correction for faking” (Guastello & Rieke, 1991, p. 513).

The following section deals with the fakability of personality-based integrity tests in particular. According to Furnham (1986) studies examining the susceptibility of personality inventories to faking have either employed a within-subjects or between-subjects experimental design. In the within-subjects experimental designs, the same individuals take the personality inventory under two instructional sets. The responses of the same individuals across the two instructional sets are compared. In the between-subjects experimental design, the response of one group of individuals instructed to fake is compared to the responses obtained from another group of individuals
instructed to answer honestly. According to Cook & Campbell (1979), the two designs have their advantages and disadvantages. In terms of statistical power, given equal number of subjects, the within-subject design is more powerful. More important, the validity of the between-subject designs is predicated on the equivalence of the two groups and that there is no instruction-by-subject interaction.

According to Ones and Viswesvaran (1998) the results of a study on fakability of personality based and overt integrity tests suggest that faking good instructions produce larger increases in response distortion scale scores rather than in substantive personality scale scores. They found that, across the board, scores changed more dramatically in social desirability scales scores than in any other content-orientated personality scale. The implication of this is that response distortion scales appear to be useful in flagging individuals who fake. More significantly, these results suggest that interpreters of integrity tests can use response distortion scales to identify individuals who may be distorting responses in personnel selection situations. Social desirability scales appear to be very sensitive to response distortion. Finally, social desirability scales are also likely to be useful in capturing faking.

Ones and Viswesvaran (1998) conducted a meta-analysis to answer the question of whether or not individuals can fake their responses on personality inventories if instructed to do so. The Ones and Viswesvaran study examined mean scale score differences under faking good instructions.

The results indicated that if instructed to fake good, the respondents were able to change their responses by almost .50 standard deviations on the Big Five factors. Within-subjects design produced larger effect sizes and greater variability across the Big Five factors than the between-subjects designs. Across the Big Five personality dimensions, the standard mean differences between individuals instructed to fake good and respond honestly were .72 for within-subjects studies and .60 for between-subjects design studies. In other words, participants can
increase their scores by over .50 standard deviations on personality scales, if instructed to do so


The results of the study conducted by Ones and Viswesvaran in (1998) in this regard indicate that the convergent validities for each of the Big Five dimensions don’t appear to change significantly when social desirability is partialed out. The largest decrease in convergent validity was found for personality dimension of emotional stability. For emotional stability, convergent validity prior to partialed social desirability was .63. When social desirability was partialed out, convergent validity for emotional stability is .57. For conscientiousness, the decrease in social desirability was .2, a drop from .47 to .45. These meta-analytically based results lead one to conclude that convergent and divergent validities of the Big Five dimensions of personality remain relatively unaffected by social desirability influences.

Finally, it has been hypothesized that there are gender differences in faking personality inventories (e.g., Hammill & Wheeler, 1997: Gannon, Raber, Jenkins, Ketterman & Griffith, 1997). Critics have argued that because of gender differences in social desirability, women may have less of a chance to be hired (Gannon et al, 1997). In addressing this concern, Ones and Viswesvaran (1998) conducted a meta-analysis, the findings of which suggest that men score somewhat higher on social desirability scales. Similarly, older individuals appeared to score higher on these scales. Ones and Viswesvaran (1998) found that the practice of adjusting substantive personality scale scores on the basis of responses on social desirability could be expected to result in slightly larger adjustments for men and older individuals. However, Ones and Viswesvaran (1998) point out that it is worth noting that social desirability scales are not likely to be the cause of any adverse impact for women and older individuals.

In addition to the apparent fakability of integrity tests, it is further of relevance whether integrity tests are perceived to be relevant to the job situation.
3.5.4 Job relatedness

Job relatedness refers to the degree to which test items appear to measure content relevant to the job situation (Gilliland, 1993). Job-relatedness has two components. The first component, face validity, refers to the degree to which test content is perceived by applicants as relevant to the content of the job for which they are applying. The second component, perceived predictive validity, refers to whether applicants feel the test is likely to determine which candidate will be successful in the job. Nearly all studies, which have examined job-relatedness, have combined these components despite the distinct concepts measured by each (Chan, 1997). “Although researchers have sometimes reached differing conclusions regarding the perceptions of job-relatedness of paper and pencil integrity tests, it is unlikely that these tests would be rated as extremely high in job-relatedness by a large percentage of applicants” (Whitney, et al., 1999, p. 37).

In addition to the above, according to Whitney et al. (1999), despite inconsistent findings regarding test taker preferences between overt and personality-based integrity tests, a theoretical perspective appears to suggest that overt integrity tests may, in all likelihood be viewed as more job related than personality-based integrity tests. Overt integrity tests clearly assess some sort of inclination toward committing theft. Applicants for a wide variety of jobs are likely to agree that such behaviours are likely to impact negatively on an individual’s job performance. Whitney et al (1999) are thus of the opinion that overt integrity tests should be viewed as at least moderately job-related. On the other hand, as the purpose of personality-based integrity tests is intentionally masked from test takers, applicants administered these paper and pencil tests would be expected to have much greater difficulty perceiving the connection between these questions and job performance.

The results of a study conducted by Whitney et al (1999) confirmed the typical finding that test takers perceive integrity tests to have moderate levels of job relatedness. It further found that these perceptions were dependant on test type. Overt integrity tests were viewed as more highly job related than
personality-based integrity tests. This result replicates the findings of earlier investigations conducted by Jones (1991) and contradicts findings of three unpublished studies reported by Sackett and Wanek (1996) in which personality-based integrity inventories were viewed more positively than overt integrity tests. The study further found little evidence that test taker perceptions of job relatedness of an integrity test are related to test performance.

According to Whitney et al. (1999), a likely explanation for the findings above, may be that there is a much weaker relationship between perceived performance and actual performance on integrity tests than on other selection procedures. This would be particularly true for personality-based assessments of integrity.

### 3.5.5 Privacy

According to Ni and Hauenstein (1998), in general, privacy represents the control of information about oneself and control of the impressions that others form based on self disclosed information. Responding to personality tests limits the ability to control personal information.

In practice, the potential for personality and integrity tests to invade the right to privacy has been successfully argued in court. According to Bergmann, Mundt, and Illgen (1990) the law permits recovery for unreasonable intrusion into one’s privacy. This would provide a basis for the challenge of integrity testing by organisations. According to Bergmann, Mundt, and Illgen (1990), in analysing cases involving such challenges, the court is likely to balance an employer’s needs against an employee’s interests. A court will likely require that the employer’s use of integrity test be clearly and provably for the purpose of hiring honest and trustworthy employees.
3.6 Recommendations for the application of Integrity Testing.

According to Sackett and Wanek (1996), the OTA asserts that integrity tests should be held to a higher standard than other types of tests, due to the stigma of being mislabelled as dishonest. They argue that mislabelling on this dimension has greater consequences than mislabelling on the basis of other types of tests. This is due to the fact that the reputational effects of the label “dishonest” are asserted to be greater than labels attached due to other tests. In addition, if integrity tests become widespread, individuals mistakenly labelled dishonest could be permanently barred from the workforce. Finally, labelling may create a self-fulfilling prophecy, where if organisations already view an individual as dishonest, the individual may conclude that there are no longer sufficient incentives to refrain from dishonest behaviour.

Bergmann, Mundt, and Illgen (1990) provide some general principles to be kept in mind when selecting an integrity test:

- Firstly they recommend that independent research be conducted to verify test publisher’s claims of validity.
- Secondly, they recommend that validation evidence be carefully examined to determine relevance for a particular organisation.
- Thirdly, support services provided by the test publishers should be examined as well as the publisher’s willingness to provide validation information upon request. According to Bergmann, Mundt, and Illgen (1990), when selecting an integrity test for use in an organisation, the correlation coefficient should be:

- .30 or higher to be considered marginally acceptable,
- .50 or higher to be considered a good, valid test.
- It should be noted that in human resource selection correlations above .60 are not extremely common. It is not unlikely for coefficients to range from .30 to .50.
According to Bergmann, Mundt, and Illgen (1990) a test with a small correlation coefficient may be a wise decision even though it eliminates many satisfactory potential employees as it enables an employer to reject an applicant whose behaviour might result in a significant financial loss to the organisation. However, this luxury may not be possible when labour supply is short, but is possible when excess applicants are available in the external labour market.

With specific regard to the issue of participant reactions, Schuler's (1993) social validity theory can be useful. He proposed that applicant reactions are affected by four component factors: (1) information about the job and organisation, (2) participation and involvement in choosing selection situations or control over the selection situations and decision making, (3) transparency of the selection situation, the task, the evaluation process, and the measurement process, and (4) feedback of the selection result. The above four component factors can be used by organisations as guidelines to follow in order to increase acceptability of the integrity testing process. In fact, one would recommend that the above be borne in mind during any assessment process.

3.7 Summary

This chapter discussed existing theory available on integrity testing. It then addressed criticisms and controversies that surround the application of integrity tests, as such criticisms and controversies are significant and thus important to bear in mind when conducting any study on integrity testing. Finally, some available recommendations found in the literature for the application of integrity testing, were briefly outlined.

The following chapter, Chapter 4, discusses theft as a criterion in research, the impact of theft on organisations as well as a discussion of integrity as a personality trait vs. integrity as being influenced by situational factors. Finally that chapter concludes with recommendations to organisations on additional measures to be taken to minimise the impact of employee theft.
CHAPTER 4

THEFT – IMPACT ON ORGANISATIONS AND ORGANISATIONAL ACTIONS

4.1 Introduction

The purpose of this chapter is to examine the criterion of theft as well as the development of research on theft. A further aim of this chapter is to examine the impact of theft on organisations as a justification for detected theft as a choice of criterion in the current study. A discussion of integrity as a personality trait vs. integrity as being influenced by situational factors follows, as the discussion is relevant to the understanding of the occurrence of organisational theft and the management thereof. Finally, this chapter makes some practical recommendations to organisations on additional measures to be taken to minimise the impact of employee theft.

4.2 Understanding Theft

Karen Slora (In Jones, 1991) defines theft as the unauthorised taking of cash, merchandise or property. According to Greenberg and Tomlinson (2004) one of the first investigations into employee theft was conducted by Cressey in 1953, a criminologist whose objective was to discover what made embezzlers different from individuals who don’t embezzle. Greenberg and Tomlinson (2004) further state that the history of the study of theft has developed around four phases, which together form a data cycle. This is depicted in the Figure 4.1 (Greenberg and Tomlinson, 2004, p. 429).
According to Greenberg and Tomlinson (2004) two major themes consistently emerge from descriptive studies of theft, which were consequently built on by the other three research types in the DATA cycle:

- **Employee theft is governed by informal social processes experienced at work.**

  Horning (1970) conducted an interview study in which he found that informal organisational norms and culture to a large extent communicate limits and boundaries in which employee theft occurs within organisations. Sieh (1987) similarly found that norms exist among factory workers, which regulate the boundaries within which theft takes place. Mars (1982) found that over time, normal work roles are adjusted to serve norms of theft, causing these norms to become institutionalized. In addition, these informal processes ensured the continuation of theft amongst work groups.

- **Employee theft results from perceptions of unfair treatment on the job.**

  Dalton (1959) found that in many cases taking company property was viewed as a legitimate form of informal payment and was not regarded as in appropriate.
To sum up, the analytical research phase according to Greenberg and Tomlinson (2004) found that:

- Social norms not only account for theft but governed individuals’ behaviour and acceptance by others,
- Theft is regulated by employees and entrenched into the organisational culture,
- Norms involving the appropriateness of theft sometimes involve supervisors who condone such acts,
- People steal in an effort to restore feelings of justice and their willingness to do so is affected by the nature of the social treatment they receive from their employers,
- Individuals appear to be more strongly influenced by informal social sanctions than by formal, organisational sanctions,
- Measures of job satisfaction were strongly negatively correlated with employee theft.

In summary, the theoretical research phase according to Greenberg and Tomlinson (2004) found that one of the key findings of descriptive and analytical studies, which is supported by studies in the theoretical research phase, is that social approval is a means of gaining and maintaining the approval of key others in the workplace. According to Keller (1969), the approval of others is a desirable outcome, so behaviour that leads to it is strengthened. Just as social reinforcement is likely to increase theft, so can social reinforcement be used to discourage it. This forms the premise of Keller’s reinforcement theory. An example of this is found in a study by Gaetani and Merle (1983) who found that small rewards in the form of lottery tickets were effective in reducing cash shortages in retail stores. In addition, it was found that punishment in the form of making cashiers pay for shortages themselves reduced the frequency of theft.
In addition to the above, according to Hirschi, (1969) social bonding theory specifies that certain factors will encourage or discourage conformity with deviant behaviour, one of these factors being group commitment versus organisation commitment. Another factor is integration into and acceptance of the individual by the social group whilst the need for approval by others can also be seen as an important factor. The idea that underpaid employees will be inclined to steal follows from Adam’s equity theory. Adams (1965) postulated that people will experience distress when they are inadequately compensated. One way to alleviate this distress can be accomplished by taking company property.

The applied research phase according to Greenberg and Tomlinson (2004) found that:

- Theft is seen as fun and a pleasurable departure from routine as well as a challenge to authority and the organisational system,
- Workers who stole had a high expectancy of success, in other words, were confident that they would not get caught,
- Interpersonal justice training (techniques of delegation, supportive communication, and related topics) of managers mitigate reactions to underpayment and thus reduce theft.

A summary of conclusions about employee theft, which has been traced through the data cycle, is displayed below. According to Greenberg and Tomlinson (2004) this represents a framework for current as well as future studies on employee theft.
Table 4.1: Research objectives, associated research methods and findings of the DATA cycle (Greenberg & Tomlinson, 2004, p. 451).

<table>
<thead>
<tr>
<th>Research objectives</th>
<th>Research Methods</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive studies</td>
<td>Observations; Open-ended and semi-structured interviews</td>
<td>Informal social norms govern employee theft; People who feel unfairly treated steal from their employers</td>
</tr>
<tr>
<td>Analytical studies</td>
<td>Interviews: questionnaires</td>
<td>Conformity to theft norms is a source of group acceptance; Theft as a response to unfair treatment is believed to be justified</td>
</tr>
<tr>
<td>Theoretical studies</td>
<td>Lab experiments, Field experiments and quasi-experiments; questionnaires</td>
<td>Social Reinforcement predicts theft; Theft occurs in response to underpayment, inequity and interactional injustices</td>
</tr>
<tr>
<td>Applied studies</td>
<td>Intervention experiments</td>
<td>Eliminating the social rewards of stealing reduces theft; Interventions promoting fair treatment of workers among managers reduce theft among workers.</td>
</tr>
</tbody>
</table>
4.3 The impact of employee theft on Organisations

Based on the above, the researcher concludes that the costs of employee theft are far reaching and include financial as well as non-financial consequences. These costs include:

- Cost of staff turnover as a result of dismissals (P-E Corporate Services)
- The monetary value attached to the theft itself, (Mikulay, Neuman and Finkenstein, 2001)
- The cost and time of investigations into employee theft and related disciplinary enquiries,
- Creation of an organisational culture of dishonesty, (Greenberg and Tomlinson, 2004)
- Stress and motivation of employees exposed to employee theft by colleagues and loss of customer/client faith in organisation.

The choice of theft as a criterion for the current study becomes clearer when considering the costs of employee theft to organisations as mentioned above. In the particular organisation under study, management identified theft as one of the biggest problems being faced, placing the organisation at financial risk and impacting negatively on the morale and culture of the organisation. Whilst not much literature appears to be available on all the costs of employee theft, some of these factors will be discussed in more detail:

- **Cost of staff turnover as a result of dismissals**

When an employee is charged with theft and subsequently found guilty, that employee will be dismissed on the grounds of misconduct and theft. It is thus clear that one of the consequences of identified employee theft is high staff turnover and staff replacement costs. The calculation of these costs is provided by P-E Corporate Services, and discussed in more detail below.
As per P-E Corporate Services Human Resource Practitioners handbook (September 2004) labour turnover refers to the movement of people in and out of an organisation. Some turnover is generally regarded as desirable, since new hires invariably bring into an organisation a combination of new ideas, energy, technology, skill and experience. However, excessive turnover is regarded as undesirable and problematic, largely because of the costs of replacing valuable skill and experience. High turnover also has an obvious adverse impact on morale. Opinions differ on acceptable rates of turnover, with a maximum of 10 per cent per annum usually taken as the upper limit. Costs associated with the loss and subsequent replacement of staff is typically grouped into three categories, as follows:

Separation Costs – These include the costs of separation and/or severance pay, the loss of efficiency prior to separation, and the effect on turnover and profitability of any period of vacancy during the replacement search period. (Here we can assume one month at 50% efficiency).

Acquisition Costs – These include the cost of recruitment, selection and placement, or alternatively the costs of promotion or transfer within the organisation. (This is typically estimated at a cost of 20% annual salary).

Learning Costs – These include the costs of the new incumbent formally or informally acquiring the knowledge, skills and expertise required to perform his or her job, the time needed to adjust to the organisation and integrate into the work team. Also included here are costs resulting from any errors he or she may make during the period of learning. (Here the calculation is typically 70% efficiency for first three months plus 5% annual remuneration for additional training costs).

Calculated on the above basis, the costs amount to 37% of annual salary. Thus even if staff turnover is controlled at 10 per cent per annum, turnover costs can average between 3 and 4 per cent of payroll.
• The monetary value attached to the theft itself

According to Jones (1981) counterproductive behaviour comprises of both property-based (e.g. theft, vandalism) and production-based (e.g. absenteeism and unauthorised extensions of work breaks) deviances, which are violations of the standards of acceptable workplace behaviour. According to Mikulay, Neuman and Finkenstein (2001), although counterproductive behaviours may serve the immediate self-interest of an employee, they are destructive to the organisation in the long run, and, consequently, to the employee’s long-term interests. “The nature and frequency of counterproductive behaviour creates a serious problem for many organisations. Annual losses from employee theft have been estimated at least $40 billion (Jones, 1981) and may be the cause of as many as 10% to 30% of business bankruptcies “(Mikulay, Neuman and Finkenstein, 2001, pp. 279-280).

According to Goodstein and Lanyon (1999) the magnitude of the problem of employee theft is enormous. This has been confirmed by much research by Sackett and Harris (1984), Hollinger and Clark (1983), Slora (In Jones, 1991) Kolz (1999) and Sullenberger (1985) as was discussed previously. As per Blank (2002) employee theft is still on the rise, soaring from $400 billion in lost revenue for U.S. businesses in 1996 to an estimated $600 billion in 2002.

• Loss of customer/client faith in organisation

According to Kaptein and van Reenen (2001) integrity is often seen as the responsibility of the organisation, as the integrity of its employees directly impact on the public’s image of the organisation. If the employees in an organisation are seen to be dishonest or lacking in integrity, the organisation as a consequence is often perceived in the same light. This is nowhere more applicable than in the financial or banking sector where honesty and integrity is one of the most valued organisational traits. The consequences for a
financial institution whose customers/clients have lost their faith in its ability to honestly manage their money are dire.

- **Stress and motivation of employees exposed to employee theft by colleagues**

The literature does not appear to cover this issue very well. However, one available source, viz. Bothe (1995) professes to have demonstrated beyond a doubt that when people function in an atmosphere of complete honesty, they feel safe, happier, and suffer no stress. And as a result, they are more productive and have a positive effect on everybody they deal with.

4.4 **Theft as a Criterion**

From the above, it is clear that organisations have a responsibility to themselves as well as their stakeholders to ensure that theft within their ranks is kept to a minimum. This highlights the need for a reliable means of minimising risk. Integrity tests have been shown to be predictive of theft-related types of behaviour in a variety of settings (Harris & Sackett, 1987) and can thus be useful in this regard. However, it should be noted that when using detected theft as a criterion in the validation of integrity test scores, the following should be borne in mind:

- According to Cunningham, Trucott and Wong (1990), the rate of detected workplace theft is expected to be substantially lower than the rate of actual theft. There may also be qualitative differences between typical detected and undetected theft because the former represents an unsuccessful counterproductive behaviour. “Consequently, a good predictor of detected theft may be primarily useful in identifying those applicants who are likely to commit theft and be caught, whereas it is primarily those individuals capable of avoiding detection who would be of greatest concern to an organisation” (Mikulay & Goffin, 1998, pp. 769 – 770).
• According to Murphy (1993) criterion contamination is also a concern, where inventory shrinkage, when used as a criterion measure of employee theft, results in a measure that is contaminated by spoilage, customer shoplifting, and accounting errors. It is thus important for researchers as well as organisations to be aware of, and if possible account for other factors that may contribute to inventory shrinkage when it is used as a criterion measure in this regard. One also needs to question whether this criterion is the most appropriate when so many other extraneous variables could play a possible role.

4.5 Integrity as a personality trait vs. integrity as being influenced by situational factors

Some debate exists as to whether integrity is a stable personality trait or is influenced by situational factors. The researcher would like to propose that regardless of whether certain individuals possess stable personality traits that predispose them to committing theft, certain organisational factors impact on theft within organisations. These organisational factors or situational variables are discussed below.

In addition to integrity being a concept which is applied at an individual level, Kaptein and van Reenen (2001) refer to the concept of organisational integrity. “When we speak of an organisation’s integrity, we mean the degree to which its employees are actually encouraged, both formally (i.e. organisational structure) and (consciously or otherwise) informally (i.e. organisational culture), to behave responsibly. The organisation’s integrity is the result, not the sum or the average, of the integrity of its employees” (Kaptein & van Reenen, 2001, p. 284).

Mikulay, Neuman and Finkenstein, (2001) suggest that three main aspects of a situation help to determine the likelihood of counterproductivity: (a) desirability (reflecting both attitudes about the behaviour and perceptions about its necessity), (b) group norms (reflecting both subjective norms and
perceptions about a behaviour’s acceptability among group members), and (c) risk (reflecting both perceived behavioural control and perception of risk.)

Authors such as Mills and Stratton (1982) believe that personality explanations of behaviour may not be as important as the effect of the organisation and the job environment. Mumford, Gessner, Connelly, O’Conner and Clifton (1993) are of the opinion that specific characteristics operate in a systematic causal system which condition people’s inclination for counterproductive behaviours such as theft. They identified 7 situational factors viz. (1) alienation, (2) non-supportive family, (3) negative role models, (4) life stressors, (5) competitive pressure, (6) exposure to negative peer groups, and (7) financial need, based on developing a set of background data intended to capture situations likely to influence development or expression of characteristics related to counterproductive behaviour. They do however not provide a further in-depth discussion of these characteristics in their research.

If it is in fact the case that situational variables impact on committing theft, then organisations certainly have some control over these organisational characteristics. “Accordingly, stronger evidence for the meaningfulness of these (integrity) tests might be obtained by examining the relationship of scores on overt and personality-based measures of integrity with the variables specified in systematic explanatory systems intended to account for destructive, counterproductive acts” (Mumford et al, 1993, p. 241). A model that provides a useful framework of this kind of investigation is found in the work of Mumford et al (1993), Holt, Clifton, O’Conner, Smith, Gessner and Mumford (1997) and O’Conner, Mumford, Clifton, Gessner and Connelly (1995). They identified seven differential characteristics viz narcissism, fear, negative life themes, self regulation, object beliefs, power motives and outcome uncertainty, that may be related to the propensity for destructive, counter productive behaviour in organisational settings, which are discussed below.

Narcissism leads to a motivated defence of a weak self-system, which according to Mumford et al. (1993) induces feelings of outcome uncertainty
and a need for power. Fear is also assumed to lead to perceptions of threat, which directly effects outcome uncertainty. When individuals are uncertain of their ability to attain desired outcomes, self-protection tendencies activate power motives. Once activated, these power motives induce a tendency to exploit others, which, with desensitisation, may lead to the emergence of object beliefs or the view that others can be used as objects or tools for personal gain. Object beliefs may lead to the emergence of negative life themes. Negative life themes along with object beliefs, power motives, self-regulation and outcome uncertainty reflect beliefs and motives held to exert direct effects on people’s willingness to engage in counterproductive acts. These characteristics are graphically represented in Figure 4.2 below.

**Figure 4.2: Model of the relationship between individual characteristics and destructive, counter-productive acts** (Mumford et al, 1993, p. 242).

According to Mumford et al (1993) the characteristics as presented in the above figure function in a causal system, conditioning propensity for counterproductive behaviour.
Both the development and expression of personality characteristics such as narcissism, fear, and power motives, depend, in part, on the environment or situations to which the individual had been exposed (Blass, 1991; Mason & Blakenship, 1987). Researchers have been examining the impact of situations on the tendency for counter-productive behaviour. Broadly speaking, the results obtained in these studies indicate that situational variables such as stress, authority norms, and competitive pressure can influence the occurrence of these acts (Darely, 1992).

According to Mumford et al (1993) it appears reasonable to argue that exposure to situational factors could be linked to scores on integrity tests. According to Mumford et al (1993) one way situational variables might influence integrity test scores is by contributing to the development of relevant personality characteristics such as fear or power motives. In addition, another possible way in which situational influences might act is by conditioning expectations about appropriate behaviour and the likely behaviour of others.

According to Mikulay et al (2001) research has examined the effect of desirability factors, such as equity and economic need; normative factors such as organisational climate; and risk factors, such as an organisation’s security systems and the opportunities for committing a counterproductive behaviour. According to Mikulay et al (2001) this research supports the role of desirability, group norms, and risk in the determination of the likelihood of counterproductive behaviour. In addition, this research supports research found by previous researchers (Mars, 1974; Dalton, 1959; Keller, 1969; Gaetani & Merle, 1983), which led to the development of Greenberg and Tomlinson’s Data cycle (2004), discussed earlier.

In a study conducted by Mikulay et al (2001) to investigate the interaction between personal and situational factors in predicting counterproductive behaviour, the first direct examination of the influence of these two factors is offered. The results of their study supported the argument that counterproductive behaviour is influenced by both personal and situational factors, but only provided limited support for the argument that an interactional
relationship between personal and situational factors provided motivation for counterproductive behaviour. The results of their study showed that:

- An increase in the workplace in the desirability of outcomes related to counterproductive behaviour resulted in an increased likelihood of three counterproductive behaviours occurring in that workplace. In other words, employees in settings where counterproductivity is more desirable are more likely to be absent and tardy and to engage in vandalism, but not necessarily more likely to engage in theft. It should however be noted that the impact of outcome desirability on the likelihood of theft may have been lower in this study because the desirability of theft was created mainly through the manipulation of equity. As in the study no values were assigned to the money being dealt with, participants may not have been able to conceptualise theft as a solution to the equity problem. Mikulay et al (2001).

- A work setting that presented a lower risk of counterproductively being detected produced a greater likelihood of absenteeism, tardiness and theft. Employees in a setting where counterproductivity was less likely to be detected responded to this low risk by displaying a higher likelihood of committing counterproductive behaviours. Mikulay et al (2001).

- Regarding their likelihood to commit theft, individuals with high integrity were relatively unaffected by variations of risk in the work environment. However, the lack of risk freed those low in integrity to act in accordance with their integrity-related attitudes in ways they were unable to do in higher risk settings. Individuals of low integrity appear to be aware of the dangers presenting a work situation in which it is risky to steal and will therefore avoid stealing. Mikulay et al (2001).

The results of the study show that although it is crucial to hire people of high integrity, this is only the first step. Given the effects of desirability and risk, an
over reliance on integrity testing will not maximise the potential to decrease counterproductive behaviours within organisations.

According to Mikulay et al. (2001), if the role of situational factors is neglected in deviance reduction programmes, a possible cause may be the interaction between integrity and risk on the likelihood of theft. According to them, in this situation, selecting job applicants who score high in integrity or increasing the risk attached to theft is enough of a deterrent to decrease the likelihood of theft. To achieve results in reducing theft, Mikulay et al. (2001) do not believe that it is necessary for management to pursue both courses. Given the success of reducing theft by focusing on only one factor, it is understandable why managers may not realise the necessity of focusing on both person and situational factors to deter counterproductive behaviours.

Because integrity is easily quantifiable and conducting integrity tests as part of a selection programme is easier than putting various mechanisms in place to increase the risk of individuals who may be prone to engage in theft and other counterproductive behaviour, it is often an easier option for management to implement. Mikulay et al. (2001) are however of the belief that a combination of these two approaches will in all likelihood result in a better outcome of efforts to deduce counterproductive behaviours, than an over reliance on only one.

In addition to the research above, several authors mention studies, which found that normal individuals can act rather abnormally given a stressful or difficult situation (Mills and Stratton, 1982). Similarly, several authors stress the impact that job environment, occupational socialisation, and job stress can have to change individuals’ situational explanations of behaviour rather than personality traits (Aylward, 1985; Walker, 1986).

Walker (1986) and Sanders (2003) conducted research into integrity in the police force, which according to them can be generalised to most organisations, although they did not do so in their research. According to Walker (1986) blaming police misbehaviour on individual officers or a flawed
selection process can potentially lead police agencies in the wrong direction. He argues that because of occupational socialisation, it is likely that honest, moral officers with desirable incoming personality traits can find themselves engaging in misbehaviour if their police organisation supports, condones, and socialises officers into such behaviours. Dwyer, Prien and Bernard (1990) state that the ‘rotten apple’ theory of police behaviour is too simplistic. While psychological screening can be a valuable tool, a police agency’s organisational culture and the situational characteristics of the job of policing are just as important to police behaviour as are personality traits. Sanders (2003) and Burkhart (1980) agree that a problem with trait theory is that personality does not explain all variations in behaviour and that the environment explains a large part as well. It may be that personality traits explain only part of police behaviour because one of the unique features of policing is the power of the peer group. Those who do not fit in with peers may find themselves isolated, alienated, and eventually quit the police force. According to Sanders (2003), it is therefore likely that in organisations that emphasise good behaviour, officers with good personality traits are free to follow these dispositions. However, according to Sanders (2003), in departments with deviant or corrupt organisational cultures, those good officers will either fit in or leave, thereby confounding a good selection process.

4.6 Recommendations for theft reduction in Organisations

Based on the above, it is clear that situational factors contribute to theft in organisations. In addition to minimising risk by implementing integrity testing as part of the selection procedures, various authors (Sanders, 2003; Peterson, 2004; McDonald & Nijhof, 1999; and Kaptein & van Reenen, 2001) provide recommendations for organisations who wish to reduce theft in their organisations. These are discussed below:

According to Sanders (2003) an organisational culture that supports a good selection process is essential. Finding ethical, responsible, qualified individuals and then imbedding within them an identification with clear, non-
arbitrary rules as well as teaching them positive norms (non-deviant unwritten rules), allows those individuals with excellent qualities to remain so. Regardless of how honest and hardworking one individual is, organisational culture certainly has the possibility of being overwhelming. Smart, capable employees realise that going against the organisational tide can be self-defeating. If organisations do not reward hard work, honesty, or loyalty, good employees will be disillusioned and either adapt or leave.

Peterson (2004) states that higher perceived leader integrity and stronger beliefs in universal moral rules are associated with lower intentions to commit unethical acts. An interaction exists between perceived leader integrity and a belief in universal moral rules. Individuals with a strong belief in moral rules exhibit low intentions of committing unethical acts, regardless of the perceived integrity of their leaders. This suggests that organisations will benefit from assisting in the moral development of its employees as well as ensuring that management is perceived to have a high level of integrity by employees.

McDonald and Nijhof (1999) further suggest the following organisational activities, which can create conditions for ethical and/or high integrity behaviour of employees, thus decreasing their likelihood to engage in counterproductive work behaviours: These activities are discussed in table 4.2 below.

**Table 4.2: Relationship between organisational activities and conditions for ethical behaviour** (McDonald & Nijhof, 1999)

<table>
<thead>
<tr>
<th>ORGANISATIONAL ACTION</th>
<th>CONDITIONS FOR ETHICAL BEHAVIOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing a code of conduct</td>
<td>Introducing formal organisational norms</td>
</tr>
<tr>
<td></td>
<td>Influences personal intentions of employees</td>
</tr>
<tr>
<td>Training Employees</td>
<td>Appreciation of formal organisational norms</td>
</tr>
</tbody>
</table>
| **Anecdotes and storytelling** | Develops skills for dealing with complex ethical questions  
Influences personal intentions  
Develops informal organisational norms  
Makes morality a legitimate topic of communications |
| **Reward system to back up ethically responsible decisions** | Develops informal organisational norms  
Influence between the consistency between personal intentions and actual behaviour |
| **Monitoring systems and performing ethics audits** | Availability of information  
Influence on personal intentions and preventing irresponsible behaviour |
| **Communication Channels** | Determines formal procedures of decision making  
Availability of information through building in dialogue opportunities |
| **Job design** | Determines formal procedures of decision making, through distribution of responsibilities  
Allocation of financial resources  
Determines whether there is enough time to perform all tasks conscientiously |
| **Appointing an ethics officer or implementing an ethics hotline** | Influences skills for ethical decision making because of the opportunity to discuss it with a second person |
| **Information system** | Influences the availability of information |
| **Employee Selection** | Influences personal intentions through careful selection of employees who fit with the organisational norms and climate |
| **Process layout** | Influences the necessary skills because complex processes require high skills  
Influences the availability of information |
because complex processes imply the need for much information

<table>
<thead>
<tr>
<th>Quality management and organisational strategy</th>
<th>Influences formal and informal organisational norms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Determines the allocation of financial resources</td>
</tr>
<tr>
<td></td>
<td>Determines the adequacy of equipment</td>
</tr>
</tbody>
</table>

Based on the concept of organisational integrity, Kaptein and van Reenen (2001) advocate a process of integrity management within organisations. Integrity management concentrates on the aspects of integrity that are manageable on an organisational level. The relationships that organisations thus need to manage in order to decrease the likelihood of employee theft are:

(a) The relationship between the employee and the organisation

Employees may have personal interests and expectations that do not necessarily parallel the interests and responsibilities of the organisation. This may create a dilemma for an employee.

(b) The functional relationship between employees.

Specialisation creates units that compete with one another for organisational resources and the interests of the unit are not necessarily the same as the interests of the entire organisation.

(c) The relationship between the organisation and it’s stakeholders.

Stakeholders usually confront an organisation with conflicting interests. Employees may thus be faced with conflicting norms, interests and expectations.
On the basis of 150 different breaches of integrity, Kaptein (1998) developed seven factors that encourage a balance between the above relationships:

(1) Providing clear expectations for employees with regard to making a reasonable choice about the three relationships;
(2) Providing consistent and unambiguous expectations;
(3) Formulating achievable expectations for employees;
(4) Creating support for attempts to fulfil expectations;
(5) Providing insight into whether or not employees and the organisation as a whole are living up to expectations;
(6) Making conflicting expectations discussable, both among employees themselves and between themselves and their managers, and encouraging employees and managers to tackle each other about failures to live up to expectations;
(7) Rewarding employees who live up to expectations and disciplining employee who wilfully fail to live up to expectations.

In addition to the above, Kaptein and van Reenen (2001) recommend that an integrity audit be carried out by organisations.

Because each organisation is unique, effective measures can only be taken if the management not only has an insight into the sort and extent of breaches of integrity, but also into their nature, i.e. the organisational causes. An integrity audit can help clarify and unravel the implicit and explicit, internal and external expectations confronting employees. The audited and analysed expectations can form the basis for taking concrete steps to improve employee guidance

(Kaptein & van Reenen, 2001, p. 11).

The Association of Certified Fraud Examiners (ACFE), in Austin, Texas, (as cited in Blank, 2002) have identified several trends that can help HR managers detect employees who might steal. These include the following:
• The majority of employees, who steal (68.6 percent), have no prior criminal record.

• More of them are males (53.5 percent versus 46.5 percent females) who have a high school education or less.

• As the employee’s education level rises, the incidence of theft declines: 56.9 percent of thieves have a high school education or less, 32.7 percent have a bachelor’s degree, and 10.4 percent have a postgraduate education.

• Be aware of employees who are struggling financially or suddenly make large purchases far beyond their means.

• Also be aware of an increase in employee theft prior to, or in the midst of, merger and acquisition activity, as employees may be insecure and fearful of their future in the organisation during these times.

According to The Association of Certified Fraud Examiners (ACFE), most employee theft or fraud and theft can be prevented with internal controls, including:

• Background checks, which could include criminal checks as well as double-checking of references

• The duties of employees should be segregated, so that one employee does not have all control and oversight over the finances and/or inventory.

• An internal accounting system, or a system of checks and balances whereby transactions are reviewed and approved by managers, is essential.

• An internal anonymous hotline for employees to report fraud can also be helpful. According to the ACFE anonymous tips from employees led to the highest percentage of cases being discovered (26 percent).
4.7 Summary

The purpose of this chapter was to examine the criterion of theft as well as the development of research on theft more closely. The impact of theft in organisations as a justification for detected theft as a choice of criterion in the current study was also examined. A further important issue discussed was the debate between integrity being a stable personality trait versus being situationally influenced, which is relevant to understanding the occurrence of theft in organisations. Finally, recommendations to organisations on additional measures to be taken to minimise the impact of theft on organisations were discussed. Chapter 5 discusses the OPQ32i in more detail.
CHAPTER 5

OCCUPATIONAL PERSONALITY QUESTIONNAIRES

5.1 Introduction

The purpose of this chapter is to outline the development and use of the Occupational Personality Questionnaires and then to discuss the OPQ32 as a choice of measurement tool in the current study, and more specifically, as a possible predictor of employee theft. The chapter begins with a brief look at personality assessment and how this relates to integrity and employee theft. Secondly the choice of the OPQ32i as a measurement tool in the current study is discussed followed by a discussion of the background of the OPQ in general and then the OPQ32i specifically. Finally, the norms of the OPQ32i are discussed as well as the link between the OPQ32i and the Big Five personality factors.

5.2 Personality Assessment

Recent surveys of employer usage of personality inventories in the United Kingdom, other European countries and North America suggest their increasing popularity as a method to assess candidates. Despite earlier more pessimistic qualitative reviews of the criterion-related validity of personality tests, more recent meta-analytical investigations have provided robust findings, which are generally unambiguous, in support of their use in the employee selection process (Anderson & Ones, 2003). These combined factors have stimulated renewed interest in different aspects of the contribution made by personality inventories when it comes to assessment and selection procedures (Anderson & Herriot, 1997; Ones & Anderson, 2003). In several countries it is apparent that the use of inventories of work-related personality has become increasingly widespread not just for managerial and senior level appointments, but also for more junior and entry-level jobs as well (Anderson & Ones, 2003).
Unlike overt integrity tests, personality-orientated inventories are typically not designed solely as measures of integrity, but rather as predictors of a wide variety of counterproductive behaviours, such as substance abuse, theft, dishonesty, insubordination, absenteeism and various forms of passive aggression. According to Schmidt, Ones and Hunter (1992), personality measures have been used increasingly as integrity tests to detect poor impulse control, lack of conscientiousness, disregard of rules and regulations, and general organisational delinquency. Schmidt et al (1992) further suggest that an important construct link may exist between personality domains and integrity. One such personality-orientated measure is the OPQ (Occupational Personality Questionnaire).

5.3 Choice of the OPQ32i as a measurement tool in the current study

The OPQ has been chosen for the purposes of the current study, as it is an inventory of work-related personality, which is widely used for selection purposes within various organisations in South Africa. Specifically, the OPQ32i is used as a selection tool in a well-known South African financial institution where top management has identified employee theft as a key concern. They thus have the need for a selection tool, which can form part of their selection procedure and which is able to differentiate between individuals who are likely to commit theft, and those individuals who are not. In addition to the above, SHL, the publishers of the OPQ32i are in the process of developing and validating an OPQ32i integrity report, based on specific dimensions measured by the tool. Finally, SHL is continuing research and development of the OPQ to include South African norms and to be appropriate for South African organisations. The OPQ is a well-developed and marketed work-related personality inventory with the potential to add great value to South African organisations in the arena of integrity testing and predicting employee theft.
5.4 Background and development of the Occupational Personality Questionnaire

The first development phase of the OPQ took place in the United Kingdom between 1981 and 1984. Fifty three organisations from the private and public sector supported and sponsored this development through providing financial assistance and access to trialing groups. These organisations included local and national government, manufacturing, banking, retailing, transport, oil, insurance, leisure, accountancy and service sectors.

The development of the OPQ progressed via literature surveys, a repertory grid analysis and critical incident techniques to develop initial models of personality, which were extensively trialed and progressively refined. No single theory of personality was followed. An eclectic approach was rather adopted by using personality traits and management style constructs proposed by Eysenck, Cattel, Murray, Hersey and Blanchard, as well as other psychologists and management theorists (Saville, Sik, Nyfield, Hackston & MacIver, 1996). The OPQ was thus developed from a model of personality, originally generated from a reviewing of existing questionnaires and personalities, work related feedback and information from various organisations, as well as from some repertory grid data generated by company employees (Barrett, Kline, Paltiel & Eysenck, 1996). New scales were subsequently proposed by studying assessment criteria, management competencies and appraisal documentation, and eliciting personality constructs from a cross-section of people in work (Saville, Holdsworth, Nyfield, Cramp & Mabey, 1993).

These constructs were defined by a team of 10 psychologists and items were written to represent each of their respective personality scales, which were then subjected to a number of trials and refined over four years using itemetric and factor analytic methods.
Saville et al (1996) created several hundred trial items that were tested within various companies and organisations in the United Kingdom. 31 Scales were retained from the various analyses implemented on these items. These scales provided the operational definition of the OPQ model of personality. Item analyses were used to ensure that the scales were reliable and not too highly correlated with one another, but it is not claimed that the scales are factorially pure (Matthews and Stanton, 1994).

According to Matthews and Stanton (1994), the scales are grouped into three categories, associated with relationships with people, thinking style and feelings and emotions respectively. Saville et al (1996) state that the OPQ measures personality at three levels. The first six factors, five of which describe the “Big Five” factors plus an achievement factor. (The OPQ’s link with the Big Five is of particular relevance to, predicting employee theft, which is the focus of the current study and will be discussed in more detail shortly). At the next level is a 16-factor solution. Third is the deductively – rather than factor analytically derived- “Concept Model” consisting of 30 scales, which were designed to provide a more in-depth analysis of personality at the specific trait level than that provided by more parsimonious, but less detailed, factor analytical versions. The OPQ is supported by the generally high internal consistency and test-retest reliability of the scales, and increasing evidence for criterion validity (Matthews, Stanton, Graham & Brimelow, 1989).

The OPQ Concept model attempts to avoid the problem of each scale trying to cover too much (Saville et al, 1996). The skill in using the OPQ lies not in the meaning of individual scales, but also in understanding what they suggest in combination. Saville et al (1996) use the analogy of a company balance sheet to explain this aspect. Although each set of figures should be clear and concise, the skill is in understanding what the total picture means.

The OPQ has already been validated in several previous studies. Saville and Willson (1991) demonstrated relationships between the self-report OPQ scales and peer ratings. Dulewicz (1992) indicated relationships between OPQ scales and managerial competency ratings, whilst the incremental
validity of the OPQ over ability tests was demonstrated by Sevy (1992). In a meta-analytic exercise based on 21 separate studies, Robertson and Kinder (1993) showed that self-report OPQ scales were particularly strongly related to competencies such as creativity.

The OPQ is widely used in personnel selection and staff development applications in the United Kingdom and several versions of the questionnaire are published and distributed, based on a common hierarchical model of personality.

5.5 The Occupational Personality Questionnaire Version 32 (OPQ32)

In their OPQ32 Manual and Users guide, SHL (1999) define the OPQ32 as an occupational model of personality, which describes 32 dimensions or scales of people’s preferred or typical style of behaviour at work. It is an updated version of the original OPQ Concept Model. The OPQ32 is designed to be an international model of personality reflecting the changing nature of work at the beginning of the 21st century. SHL (1999) state that the development of the OPQ has been guided by five criteria:

- Designed specifically for the world of work
- Avoids clinical or obscure psychological constructs
- Comprehensive in terms of personality scales measured
- For use by Human Resource Professionals and Psychologists
- Based on sound psychometric principles

Table 5.1 below outlines the 32 scales of the OPQ 32
Table 5.1: OPQ 32 Scale descriptions (OPQ32 Manual and Users guide, 1999)

<table>
<thead>
<tr>
<th>Relationships with people</th>
<th>Persuasive</th>
<th>Influence</th>
<th>Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely pressures others to change their views, dislikes selling, less comfortable using negotiation</td>
<td>Persuasive</td>
<td>Enjoys selling, comfortable using negotiation, likes to change other people’s views</td>
<td></td>
</tr>
<tr>
<td>Happy to let others take charge, dislikes telling people what to do, unlikely to take the lead</td>
<td>Controlling</td>
<td>Likes to be in charge, takes the lead, tells others what to do, takes control</td>
<td></td>
</tr>
<tr>
<td>Holds back from criticising others, may not express own views, unprepared to put forward own opinions</td>
<td>Outspoken</td>
<td>Freely expresses opinions, makes disagreement clear, prepared to criticise others</td>
<td></td>
</tr>
<tr>
<td>Accepts majority decisions, prepared to follow the consensus</td>
<td>Independent minded</td>
<td>Prefers to follow own approach, prepared to disregard majority decisions</td>
<td></td>
</tr>
<tr>
<td>Quiet and reserved in groups, dislikes being the centre of attention</td>
<td>Outgoing</td>
<td>Lively and animated in groups, talkative, enjoys attention</td>
<td></td>
</tr>
<tr>
<td>Comfortable spending time away from people, values time spent alone, seldom misses the company of others</td>
<td>Affiliative</td>
<td>Enjoys other’s company, likes to be around people, can miss the company of others</td>
<td></td>
</tr>
<tr>
<td>Feels more comfortable in less formal situations, can feel awkward when first meeting people</td>
<td>Socially Confident</td>
<td>Feels comfortable when first meeting people, at ease in formal situations</td>
<td></td>
</tr>
<tr>
<td>Makes strengths and achievements known, talks about personal success</td>
<td>Modest</td>
<td>Dislikes discussing achievements, keeps quiet about personal success</td>
<td></td>
</tr>
<tr>
<td>Prepared to make decisions without consultation, prefers to make decisions alone</td>
<td>Democratic</td>
<td>Consults widely, involves others in decision making, less likely to make decisions alone</td>
<td></td>
</tr>
<tr>
<td>Selective with sympathy and support, remains detached from others’ personal problems</td>
<td>Caring</td>
<td>Sympathetic and considerate towards others, helpful and supportive, gets involved in others’ problems</td>
<td></td>
</tr>
</tbody>
</table>

### Thinking Style

<p>| Prefers dealing with opinions and feelings rather than facts and figures, likely to avoid using statistics | Data Rational | Likes working with numbers, enjoys analysing statistical information, bases decisions on facts and figures |
| Does not focus on potential limitations, dislikes critically analysing information, rarely looks for errors and mistakes | Evaluative | Critically evaluates information, looks for potential limitations, focuses upon errors |
| Does not question the reasons for people’s behaviour, tends not to analyse people | Behavioural | Tries to understand motives and behaviour, enjoys analysing people |
| Favours change to work methods, prefers new approaches, less conventional | Conventional | Prefers well established methods, favours a more conventional approach |
| Prefers to deal with practical rather than theoretical issues, dislikes dealing with abstract concepts | Conceptual | Interested in theories, enjoys discussing abstract concepts |</p>
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>More likely to build on than generate ideas, less inclined to be creative and inventive</td>
<td>Innovative</td>
<td>Generates new ideas, enjoys being creative, thinks of original solutions</td>
</tr>
<tr>
<td>Prefers routine, is prepared to do repetitive work, does not seek variety</td>
<td>Variety seeking</td>
<td>Prefers variety, tries out new things, likes changes to regular routine, can become bored by repetitive work</td>
</tr>
<tr>
<td>Behaves consistently across situations, unlikely to behave differently with different people</td>
<td>Adaptable</td>
<td>Changes behaviour to suit the situation, adapts approach to different people</td>
</tr>
<tr>
<td>More likely to focus on immediate than long-term issues, less likely to take a strategic perspective</td>
<td>Forward thinking</td>
<td>Takes a long-term view, sets goals for the future, more likely to take a strategic perspective</td>
</tr>
<tr>
<td>Unlikely to become preoccupied with detail, less organised and systematic, dislikes tasks involving detail</td>
<td>Detail conscious</td>
<td>Focuses on detail, like to be methodical, organised and systematic, may become preoccupied with detail</td>
</tr>
<tr>
<td>Sees deadlines as flexible, prepared to leave some tasks unfinished</td>
<td>Conscientious</td>
<td>Focus on getting things finished, persists until the job is done</td>
</tr>
<tr>
<td>Not restricted by rules and procedures, prepared to break rules, tends to dislike bureaucracy</td>
<td>Rule following</td>
<td>Follows rules and regulations, prefers clear guidelines, finds it difficult to break rules</td>
</tr>
<tr>
<td>Feelings and Emotions</td>
<td>Emotion</td>
<td>Dynamic</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Tends to feel tense, finds it difficult to relax, can find it hard to unwind after work</td>
<td>Relaxed</td>
<td>Finds it easy to relax, rarely feels tense, generally calm and untroubled</td>
</tr>
<tr>
<td>Feels calm before important occasions, less effected by key events, free from worry</td>
<td>Worrying</td>
<td>Feels nervous before important occasions, worries about things going wrong</td>
</tr>
<tr>
<td>Sensitive, easily hurt by criticism, upset by unfair comments or insults</td>
<td>Tough Minded</td>
<td>Not easily offended, can ignore insults, may be insensitive to personal criticism</td>
</tr>
<tr>
<td>Concerned about the future, expects things to go wrong, focuses on negative aspects of a situation</td>
<td>Optimistic</td>
<td>Expects things will turn out well, looks to the positive aspects of a situation, has an optimistic view of the future</td>
</tr>
<tr>
<td>Wary of others’ intentions, finds it difficult to trust others, unlikely to be fooled by people</td>
<td>Trusting</td>
<td>Trusts people, sees others as reliable and honest, believes what others say</td>
</tr>
<tr>
<td>Openly expresses feelings, finds it difficult to conceal feelings, displays emotion clearly</td>
<td>Emotionally controlled</td>
<td>Can conceal feelings from others, rarely displays emotion</td>
</tr>
<tr>
<td>Likes to take things at a steady pace, dislikes excessive work demands</td>
<td>Vigorous</td>
<td>Thrives on activity, likes to be busy, enjoys having a lot to do</td>
</tr>
<tr>
<td>Dislikes competing with others, feels that taking part is more important than winning</td>
<td>Competitive</td>
<td>Has a need to win, enjoys competitive activities, dislikes losing</td>
</tr>
<tr>
<td>Sees career progression as less important, looks for achievable rather than highly ambitious targets</td>
<td><strong>Achieving</strong></td>
<td>Ambitious and career-centred, likes to work to demanding goals and targets</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Tends to be cautious when making decisions, likes to take time when reaching conclusions</td>
<td><strong>Decisive</strong></td>
<td>Makes fast decisions, reaches conclusions quickly, less cautious</td>
</tr>
</tbody>
</table>

The OPQ32 model of personality is measured by two questionnaires: OPQ32n and the OPQ32i. The current study examines the OPQ32i, which is an ipsative format. Aiken (1997) defines an ipsative format as a test format (for example, forced choice) in which the variables being measured are compared with each other, so a person’s score on one variable is affected by his or her scores on other variables measured by the instrument. Naturally, an ipsative format has implications on the interpretation of results. This will be discussed in further detail in subsequent chapters. Respondents consider four statements, and choose the statement they consider “most” like them and “least” like them.

The OPQ32i questionnaire also includes a consistency scale. According to SHL (1999) people who answer the questionnaire honestly and accurately will tend to respond in a consistent manner when presented with similar items. However, people who are trying to distort their answers, or choosing those items they think will be viewed most positively, or not paying attention to the way they are answering, will tend to be inconsistent in their answers to different questions. As the consistency scale is likely to impact on the results of the other scales, it is important to have a clearer understanding of it. Table 5.2 below provides a more in-depth description of the scale.

An argument that the above raises, is whether individuals who attempt to distort their answers and thus answer the questionnaire inconsistently, in other words attempt to fake, may be the very individuals who are likely to commit theft in organisations. According to Ones and Viswesvaran (1998)
although this link may be intuitively appealing, it is not supported by available data. According to Ones and Viswesvaran (1998), large-scale meta-analyses have shown that faking does not destroy predictive validity in the personality domain in general and integrity tests in particular.

Table 5.2: Description of Consistency Scale (OPQ32 Manual and Users guide, 1999)

<table>
<thead>
<tr>
<th>Low Scores</th>
<th>High Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual has responded less consistently across the questionnaire</td>
<td>Individual has responded more consistently across the questionnaire</td>
</tr>
</tbody>
</table>

How the scale works
The consistency scale is a measure of how consistent people are across the questionnaire. The more the answers to the questions change as the person goes through the questionnaire the lower the Consistency scale.

Key Behaviour
Low consistency scores generally indicate a relatively high degree of difficulty completing the questionnaire. There are 4 common reasons that may underlie low Consistency scores:

- **Highly Situational Style** – Behaviour tends to be highly situational and this leads them to answer questions differently across the questionnaire.

- **Difficulty with Language** – Difficulty understanding the questionnaire where English is not the first language or reading is poor.

- **Low Motivation** - Are not motivated to complete the questionnaire and answer randomly

<table>
<thead>
<tr>
<th>Key Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A high consistency score generally good understanding of the questionnaire and a reasonable level of motivation. High consistency scores generally indicate that the person has completed the questionnaire successfully</td>
</tr>
</tbody>
</table>
Faking Response - Try to manage the impression given in responses. It is very difficult to do this consistently

<table>
<thead>
<tr>
<th>Faking Response</th>
<th>Moderate Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Try to manage the impression given in responses. It is very difficult to do this consistently.</td>
<td>Generally an indication that the individual who responded is well motivated and has no difficulty understanding the questionnaire.</td>
</tr>
</tbody>
</table>

In their OPQ32 Manual and Users guide, SHL (1999) propose that the OPQ32 has the following applications:

- **Selection** – Competency-based selection, biographical interviews, screening, promotion, selection within organisational change initiatives;
- **Assessment and Development Centers**
- **Training and development** – Individual development, 360°, leadership skills, mentoring and coaching;
- **Performance Management**
- **Team Building** - team development, putting a team together;
- **Counselling** – performance, stress, career pathing, outplacement;
- **Organisational change** – Acquisitions and mergers, succession planning, restructuring, redeployment;
- **Research**

5.6 The OPQ32 and the Big Five

In the construction of the OPQ conceptual and/or deductive approaches as well as an inductive approach were followed. In the conceptual or deductive approach questionnaire items are written to reflect a pre-specified or a priori model of personality, whilst in the inductive approach, a wealth of data about personality is used and a reductionist approach taken in order to establish the simplest, most parsimonious statistical solution to the data. The construction of the OPQ was briefly discussed in the previous section – Background and
Development of the OPQ, and will not be discussed in further detail. However, of importance to the current study, is the relationship between the OPQ scales and the Big Five model of personality as it relates to the possible prediction of employee theft. According to Robinson and Bennett (1995) theft is a manifestation of counterproductive behaviour, which research has found individuals with lower levels of integrity, more likely to engage in (Mikulay and Goffin, 1998; Ones et al, 1993). Thus by utilising the OPQ to identify specific personality traits linked to integrity, it can be used to predict employee integrity as well as employee theft.

Stanton, Matthews, Graham and Brimelow (1991), in a study of 94 undergraduates, extracted five factors from the OPQ and compared them with the Big Five model of personality factors. According to Stanton et al (1991) Factor 1 corresponds to the Extroversion personality dimension. Factor 2 corresponds to the Will personality dimension. Factor 3 can be identified with Conscience. Factor 4 seems close to Neuroticism and Emotional Stability. Factor 5 is linked to Affection. They further stated that their study shows that the “Big Five” personality factors can be identified in the five Higher-order factors of the OPQ. According to SHL integrity must be viewed from a broad perspective and includes an individual’s overall work orientation/commitment, social conformity/rule following, social agreeableness and emotional stability.

Table 5.3 below displays the correspondence between the 5 factors extracted from the OPQ and the “Big Five” and related personality dimensions (Stanton, Mathews, Graham, & Brimelow, 1991, p. 27).
Table 5.3: The correspondence between the 5 factors extracted from the OPQ and the Big Five and related personality dimensions. OPQ32 Manual and Users guide, SHL (1999)

<table>
<thead>
<tr>
<th>Five Factor model and major Loadings</th>
<th>Big Five and related personality Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1</strong></td>
<td><strong>Extroversion</strong></td>
</tr>
<tr>
<td>Outgoing</td>
<td>Energy</td>
</tr>
<tr>
<td>Affiliative</td>
<td>Sociability</td>
</tr>
<tr>
<td>Socially confident</td>
<td></td>
</tr>
<tr>
<td>Controlling</td>
<td></td>
</tr>
<tr>
<td>Emotional control (-)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 2</strong></td>
<td><strong>Agreeableness</strong></td>
</tr>
<tr>
<td>Competitive (-)</td>
<td>Will (-)</td>
</tr>
<tr>
<td>Caring</td>
<td>Independence (-)</td>
</tr>
<tr>
<td>Democratic</td>
<td>Dominance (-)</td>
</tr>
<tr>
<td>Achieving (-)</td>
<td></td>
</tr>
<tr>
<td>Critical (-)</td>
<td></td>
</tr>
<tr>
<td>Modest</td>
<td></td>
</tr>
<tr>
<td>Independent</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 3</strong></td>
<td><strong>Conscientiousness</strong></td>
</tr>
<tr>
<td>Detail conscious</td>
<td>Conscience control</td>
</tr>
<tr>
<td>Forward Planning</td>
<td>Super-ego strength</td>
</tr>
<tr>
<td>Conscientious</td>
<td>Obsessionality</td>
</tr>
<tr>
<td>Socially desirable</td>
<td>Socialisation</td>
</tr>
<tr>
<td><strong>Factor 4</strong></td>
<td><strong>Neuroticism</strong></td>
</tr>
<tr>
<td>Relaxed (-)</td>
<td>Emotionality</td>
</tr>
<tr>
<td>Worrying</td>
<td>Anxiety</td>
</tr>
<tr>
<td>Tough Minded (-)</td>
<td></td>
</tr>
<tr>
<td>Optimistic (-)</td>
<td></td>
</tr>
<tr>
<td>Factor 5</td>
<td>Openness to experience</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Innovative</td>
<td>Affection</td>
</tr>
<tr>
<td>Artistic</td>
<td>Conservatism (-)</td>
</tr>
<tr>
<td>Behavioural</td>
<td></td>
</tr>
<tr>
<td>Independent</td>
<td></td>
</tr>
</tbody>
</table>

5.7 Norms of the OPQ32i

The Following norm groups are provided for the OPQ32i questionnaire (Manual and Users guide, SHL, 1999):

- **Standardisation sample for OPQ32i**

  This group consists of 807 respondents. About two thirds of the sample was drawn from people in various roles across seven different organisations in industry and commerce, and the remaining third were students from a number of higher education institutions. The data was collected in 1998.

- **Managerial and Professional sample for OPQ32i**

  This group consists of 329 respondents from a wide range of professional functions including personnel, finance, general management, and technical specialists. This was a relatively experienced group with nearly half having over 15 years work experience. The questionnaire was completed during 1998.

- **Undergraduate sample for OPQ32i**

  This group consists of 249 respondents from eleven institutions of higher education and two business management schools. The data was collected in 1998.
The chapter is concluded by examining reliability and validity information as provided in the OPQ32 user manual. As per SHL (1999), reliability coefficients of .7 are generally considered the minimum level for the use of an aptitude test in selection. With personality questionnaires lower values are sometimes acceptable, but as the reliability drops below .7 scores will become less stable and differentiate less effectively. Internal consistency reliabilities of the OPQ32i range from .67 to .88 with a median of .81.

The standard error of measurement provides an error band around a score. Where reliability is high, the standard error of measurement will be small. The sten score standard error of measurement for all scales of the OPQ32i is around one.

Where scale intercorrelations are concerned, despite the large of scales in the OPQ32, these scales show a fair degree of independence: 89% of the OPQ32i scale pairs share less than 10% common variance.

5.8 Summary

This chapter examined personality assessment and how this relates to integrity and employee theft. The choice of the OPQ32i as a measurement tool in the current study was discussed, followed by a discussion of the background of the OPQ in general and then the OPQ32i specifically. Finally, the norms of the OPQ32I were discussed as well as the link between the OPQ32i and the Big Five personality factors. Chapter six, which follows discusses the research methodology used in the current study.
CHAPTER 6

RESEARCH METHODOLOGY

6.1 Introduction

Chapter six discusses the research methodology used in the current study. The discussion begins with the definition of the research problem and statement of hypotheses, followed by a discussion of the research design and data analysis, statistics used in the study as well as a discussion of the selection and description of participants and data gathering techniques.

6.2 Definition of the Problem

This study attempts to determine whether specific personality dimensions of the OPQ32i (Occupational Personality Questionnaire32 Version i) have the ability to discriminate between those individuals who are likely to commit theft in a financial institution from those who are not.

A further aim of the study is to determine whether the OPQ32i can be utilised in a South African financial institution to provide a measure of integrity, and consequently be utilised to predict employee theft.

The Hypotheses of the current study are thus as follows:

\[ H_0 = \text{OPQ 32i dimensions predict employee theft.} \]
\[ H_{a1} = \text{The OPQ 32i dimensions do not predict theft of employees} \]

\[ H_0 = \text{The Conscientious dimension of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.} \]
\[ H_{a2} = \text{The Conscientious dimension of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.} \]
$H_{O_3} =$ The *Emotionally controlled dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

$H_{A_3} =$ The *Emotionally controlled dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.

$H_{O_4} =$ The *Achieving dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

$H_{A_4} =$ The *Achieving dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.

$H_{O_5} =$ The *Rule following dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

$H_{A_5} =$ The *Rule following dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.

$H_{O_6} =$ The *Conventional dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

$H_{A_6} =$ The *Conventional dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.


6.3 Research Design and analysis of data

An empirical study with a quantitative approach has been conducted. In order to assess the criterion-related validity of the OPQ with theft as the criterion, a concurrent validation strategy was followed. According to Ones and Viswesvaran (2001) “Criterion-related validity indicates the degree to which scores in a selection test correlate with a criterion. In personnel selection, a demonstration of criterion-related validity is essential for the operational usefulness of a test to be established” (Ones & Viswesvaran, 2001, p. 32). A brief description of the difference between predictive validity and concurrent validity follows.

According to Murphy and Davidshofer (1994) predictive validity is recognised as the most accurate method of estimating validity. However, they also state that predictive validity “is recognised for presenting the most serious ethical and practical problems” (Murphy & Davidshofer, 1994, p. 132). Concurrent validity, as opposed to being a single method of study, refers to a variety of practical procedures used by researchers to assess validity. The following brief discussion of the two concepts is based on the work of Murphy and Davidshofer (1994).

Predictive validity determines the correlation of tests scores calculated before a hiring decision is made, with the scores of specific criterion, after the hiring decision has been made. Although the most accurate measure of criterion-related validity, predictive validity is seen as impractical as results are only available once the hiring decision has been made. In addition, according to Aiken, “predictive validity is concerned with how accurately test scores predict criterion scores, as indicated by the correlation between the test (predictor) and a criterion of future performance” (Aiken, 1997, p. 95). According to Murphy and Davidshofer (1994) the advantage of predictive validity is that it provides simple and direct measures of the relationship between test scores and criterion-based performance. They key to predictive validity is the requirement that the population under study be similar to the general
population of applicants. Predictive validity is thus impractical as it is of as little use in personnel selection for organisations to make the same hiring decision for all job applicants (either select all of them or none of them), as it is to make a decision based on a random selection of job applicants. In addition to this practicality, ethically speaking, an incorrect selection decision has negative consequences for the successful/non-successful applicant as well as the organisation. As was discussed previously, a non-successful applicant may develop behaviour leading to a self-fulfilling prophecy and may also report negative accounts of the organisation to those who he comes into contact with. On the other hand the impact of an incorrect decision on a successful candidate naturally has financial implications for the organisation and puts the individual into a situation where he is bound to fail.

As they have the same fundamental goal as predictive validity studies, concurrent validation studies are seen as a practical alternative. It is quite simple to obtain test and criterion scores from an intact, preselected population, such as current employees who have already been selected. The key difference, then, between predictive and concurrent validity is that in the former, a random sample of the population is used, and in the latter a preselected sample is used. According to Aiken (1997), concurrent validation procedures are employed whenever a test is administered to a group of people in various categories for the purpose of determining whether the average scores of people in the various categories are significantly different. If the average scores differ substantially from category to category, then the test may be used as another, perhaps more efficient way of assigning people to those categories. According to Murphy and Davidshofer (1994) the advantages of concurrent validity studies are their practicality, the short time frame within which information can be gathered, as well as the similar sample size and outcome of concurrent validity results to predictive validity sample sizes and results. Despite its advantage, concurrent validity studies give rise to certain statistical problems, the most significant of which appears to be range restriction, which will underestimate the validity of the test quite severely if range restriction is extensive. Conceptual problems arising from concurrent studies include the fact that due to the existence of a preselected
sample, only minimal discrimination can take place, thus revealing very little about the validity of decisions. Also, the population in a concurrent validity study differs significantly from the population in general, which could have implications for the correlation between scores and criteria.

6.4 Statistics Used

6.4.1 General Statistics

Initially general statistics such as means, medians, modes and standard deviations were obtained in order to get a general understanding of the data. Frequency of responses was also further examined.

6.4.2 T Tests

Secondly, a two-tailed independent-sample t-test was conducted in order to determine whether the means of the personality dimensions of conscientiousness, emotional control, achievement orientation, rule following and conventionality of individuals who had been found guilty of theft, differed from the means of those same dimensions in individuals who were still working in the organisation and had not been found guilty of theft. Harris (1998) defines a t-test as a statistical significance test used to test hypotheses about one or two means when the population standard deviation is unknown.

As seen in Harris (1998), the statistical significance of the result of a t-test (p-value) is the probability that the observed relationship (e.g., between variables) or a difference (e.g., between means) in a sample occurred by pure chance, and that in the population from which the sample was drawn, no such relationship or differences exist. One could say that the statistical significance of a result tells us something about the degree to which the result is "true" (in the sense of being "representative of the population"). More technically, the value of the p-value represents a decreasing index of the reliability of a result. The higher the p-value, the less we can believe that the observed relation between variables in the sample is a reliable indicator of the relation between
the respective variables in the population. Specifically, the p-value represents the probability of error that is involved in accepting our observed result as valid, that is, as "representative of the population." Typically, results that yield $p \leq .05$ are considered borderline statistically significant. Results that are significant at the $p \leq .01$ level are commonly considered statistically significant, and $p \leq .005$ or $p \leq .001$ levels are often called "highly" significant.

6.4.3 Effect Sizes

Thirdly, in order to determine significance of the differences between the means above, the effect size was calculated. As per StatSoft, the statistics homepage of the makers of STATISTICA (www.statsoft.com), effect size is basically a means of quantifying the efficacy of an intervention. This principle was also adjusted to suit non-experimental designs or comparisons, through the use of simple contrasts. Effect size allows the researcher to go beyond the simplistic black-white mindset to the refined grey-shade approach. Finally, effect size aim to estimate the amount of variation a difference in means explains. As per Cohen (1992), an effect size of .2 is generally considered small, one of .5 medium and one of .8 large.

6.4.4 Canonical Discriminant Analysis

Based on the results of step two and three a Canonical Discriminant Analysis is done in order to determine the strength of the differences in means found. According to Klecka (1980) one of the areas in which this technique has been successfully employed is personnel placement testing. Multivariable statistics provide a simultaneous analysis of multiple independent and dependant variables and allow for a deeper understanding of the complex relations among sets of variables than more traditional statistics. Klecka (1980) refers to Discriminant Analysis as a statistical technique that allows one to identify variables that best discriminate members of two or more groups from one another. Canonical Discriminant Analysis successfully identifies the linear combinations of attributes, which contribute maximally to group separation. According to Klecka (1980), the basic prerequisite for the use of discriminant
analysis is that two or more groups exist which are presumed to differ on several variables, which can be measured on the interval or ratio level. He further goes on to state that there is no limit to the number of discriminating variables as long as the total number of cases exceeds the number of variables by more than two. As will be seen below, the proposed study meets the statistical requirements in this regard.

6.4.5 Cross Tabulations

According to Harris (1998), a cross tabulation between gender and race was done in order to obtain further detail about the group under study in so as to make qualitative interpretations. Crosstabulation is a combination of two (or more) frequency tables arranged such that each cell in the resulting table represents a unique combination of specific values of crosstabulated variables. Thus, crosstabulation allows us to examine frequencies of observations that belong to specific categories on more than one variable. By examining these frequencies, we can identify relations between crosstabulated variables.

According to Harris (1998) the Pearson Chi-square measure is based on the fact that one can compute the expected frequencies in a two-way table (i.e., frequencies that one would expect if there was no relationship between the variables). The Chi-square test becomes increasingly significant as the numbers deviate further from this expected pattern. The value of the Chi-square and its significance level depends on the overall number of observations and the number of cells in the table. Relatively small deviations of the relative frequencies across cells from the expected pattern will prove significant if the number of observations is large. The only assumption underlying the use of the Chi-square (other than random selection of the sample) is that the expected frequencies are not very small. The reason for this is that, actually, the Chi-square inherently tests the underlying probabilities in each cell; and when the expected cell frequencies fall, for example, below 5, those probabilities cannot be estimated with sufficient precision. Harris (1998) further explains that the Fisher Exact Test is only
available for 2x2 tables and is based on the rationale that the marginal frequencies in the table, and assuming that in the population the two factors in the table are not related, how likely is it to obtain cell frequencies as uneven as or worse than the ones that were observed? This probability can be computed exactly by counting all possible tables that can be constructed based on the marginal frequencies. Thus, the Fisher Exact Test computes the exact probability under the null hypothesis of obtaining the current distribution of frequencies across cells, or one that is more uneven.

Finally, crosstabulations for race and the personality dimension of Consistency were conducted in order to obtain a possible explanation for the results found in the preceding steps.

### 6.5 Selection of Participants and data Gathering Methods

The QPQ 32i is currently being used as a selection tool for all prospective employees at a South African financial institution. All QPQ 32i profiles of selected employees are kept on a database. The statistical analysis was done on a random selection of these existing QPQ 32i profiles. Records further exist of individuals who have been found guilty of theft as a result of being accused, going through the organisation's internal disciplinary procedures and consequently dismissed. The total population (N=22) of these individuals was also used for analysis purposes. The entire population was used in this case as this was the total available sample and only a randomly selected portion of this sample would have resulted in an insufficient number of participants.

Two groups of participants were selected, based on their membership to two mutually exclusive groups:

**Group 1:** A random sample of employees who have been selected for employment and who remain employed without having any cases of theft or fraud being brought against them.
**Group 2:** The total population of employees who have been selected for employment and who have consequently been dismissed as a result of being found guilty of theft. In all of these cases, guilt was established through following the internal disciplinary procedures of the organisation.

Further information regarding the sample is provided in table 6.1, 6.2 and 6.3 respectively

**Table 6.1: Sample Composition – Employees who committed theft and employees who did not**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees dismissed due to theft</td>
<td>22</td>
<td>19.0</td>
</tr>
<tr>
<td>Employees currently employed</td>
<td>94</td>
<td>81.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>116</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Figure 6.1: Sample Composition - Employees who committed theft and employees who did not**

As can be seen from the above table and figure the total sample size in this study is 116. Of this sample 22 individuals (19% of total sample size) were dismissed for theft and were named group 2. Group 1 is the remaining 94
individuals (81% of sample) who did not commit theft and remain with the organisation.

Table 6.2: Gender Distribution of sample

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>61</td>
<td>52.6</td>
</tr>
<tr>
<td>Female</td>
<td>55</td>
<td>47.4</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Figure 6.2: Gender Distribution of sample

When considering the gender distribution of the sample, as can be seen from the above table and figure, 61 participants (52.6% of total sample) were males, whilst the remaining 55 participants (47.4% of total sample) were female.
Table 6.3: Race distribution of sample

<table>
<thead>
<tr>
<th>Race</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>18</td>
<td>15.5</td>
</tr>
<tr>
<td>African</td>
<td>55</td>
<td>47.4</td>
</tr>
<tr>
<td>Indian\Asian</td>
<td>11</td>
<td>9.5</td>
</tr>
<tr>
<td>Coloured</td>
<td>32</td>
<td>27.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>116</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Figure 6.3: Race distribution of sample

Participants from the African group made up the majority (55 participants and 47.4 %) of the sample followed by the Coloured race group (32 participants and 27.6%), the Caucasian race group (18 participants and 15.5%) and finally the Indian/Asian race group (11 participants and 9.5%).
6.6 Summary

The above chapter provided a discussion of the research methodology used in the current study. The discussion began with the definition of the study problem and statement of hypotheses, followed by a discussion of the research design and data analysis, statistics used in the study as well as a discussion of the selection and description of participants and data gathering techniques. The results of the statistical analyses are outlined in Chapter 7.
CHAPTER 7

RESEARCH RESULTS

7.1 Introduction

Chapter seven outlines the results of the research conducted. Results are conveyed in tabular form with a brief discussion of what is represented in each table.

7.2 General Group Statistics

Table 7.1 below provides the general statistics of the entire group in terms of means, medians, modes and standard deviations for the 5 personality dimensions under study. The means, medians, modes and standard deviations for the Consistency scale are also provided due to possible impact on results as was discussed in Table 5.2 in Chapter 5.

Table 7.1: General Group Statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>6.259</td>
<td>6.000</td>
<td>6.0</td>
<td>1.6104</td>
</tr>
<tr>
<td>Conscientious</td>
<td>6.060</td>
<td>6.000</td>
<td>6.0</td>
<td>1.7260</td>
</tr>
<tr>
<td>Rule Following</td>
<td>7.957</td>
<td>8.000</td>
<td>10.0</td>
<td>1.9711</td>
</tr>
<tr>
<td>Emotionally Controlled</td>
<td>5.009</td>
<td>5.000</td>
<td>4.0*</td>
<td>1.7668</td>
</tr>
<tr>
<td>Achieving</td>
<td>6.897</td>
<td>7.000</td>
<td>7.0</td>
<td>1.5173</td>
</tr>
<tr>
<td>Consistency</td>
<td>3.852</td>
<td>4.000</td>
<td>4.0</td>
<td>1.8269</td>
</tr>
</tbody>
</table>
* Multiple modes exist, the smallest value is shown

OPQ 32i raw scores are translated into stens with a median of 5.5. As can be seen from the table above the medians for the Conventional and Conscientious dimensions obtained by the group as a whole were 6, whilst the median for Rule Following dimension was 8, the Emotionally Controlled dimension 5 and the Achieving median 7. Interestingly to note, the median scores obtained for the group for the Consistency dimension was 4. Results are similar for the obtained means. Note also that the most frequently occurring score for the Consistency dimension was 4.

**Table 7.2: Frequency of responses**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>1.0</th>
<th>2.0</th>
<th>3.0</th>
<th>4.0</th>
<th>5.0</th>
<th>6.0</th>
<th>7.0</th>
<th>8.0</th>
<th>9.0</th>
<th>10.0</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>Count</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>25</td>
<td>29</td>
<td>25</td>
<td>12</td>
<td>10</td>
<td>2</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>1.7%</td>
<td>1.7%</td>
<td>7.8%</td>
<td>21.6%</td>
<td>25.0%</td>
<td>21.6%</td>
<td>10.3%</td>
<td>8.6%</td>
<td>1.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Conscientious</td>
<td>Count</td>
<td>3</td>
<td>5</td>
<td>14</td>
<td>15</td>
<td>29</td>
<td>26</td>
<td>18</td>
<td>6</td>
<td></td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>2.6%</td>
<td>4.3%</td>
<td>12.1%</td>
<td>12.9%</td>
<td>25.0%</td>
<td>22.4%</td>
<td>15.5%</td>
<td>5.2%</td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td>Rule Following</td>
<td>Count</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>16</td>
<td>20</td>
<td>10</td>
<td>19</td>
<td>38</td>
<td></td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>1.7%</td>
<td>2.6%</td>
<td>6.9%</td>
<td>13.8%</td>
<td>17.2%</td>
<td>8.6%</td>
<td>16.4%</td>
<td>32.8%</td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td>Emotionally Controlled</td>
<td>Count</td>
<td>7</td>
<td>14</td>
<td>29</td>
<td>29</td>
<td>14</td>
<td>9</td>
<td>9</td>
<td>5</td>
<td></td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>6.0%</td>
<td>12.1%</td>
<td>25.0%</td>
<td>25.0%</td>
<td>12.1%</td>
<td>7.8%</td>
<td>7.8%</td>
<td>4.3%</td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td>Achieving</td>
<td>Count</td>
<td>1</td>
<td>5</td>
<td>16</td>
<td>22</td>
<td>31</td>
<td>23</td>
<td>15</td>
<td>3</td>
<td></td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>.9%</td>
<td>4.3%</td>
<td>13.8%</td>
<td>19.0%</td>
<td>26.7%</td>
<td>19.8%</td>
<td>12.9%</td>
<td>2.6%</td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td>Consistency</td>
<td>Count</td>
<td>15</td>
<td>12</td>
<td>22</td>
<td>26</td>
<td>20</td>
<td>9</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>13.0%</td>
<td>10.4%</td>
<td>19.1%</td>
<td>22.6%</td>
<td>17.4%</td>
<td>7.8%</td>
<td>7.8%</td>
<td>.9%</td>
<td>.9%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Table 7.2 above provides the frequency of responses obtained in terms of number of responses and percentages. Note by observing the distribution of scores that 65.1 % or 75 of the 115 respondents appeared not to respond consistently throughout the questionnaire.

7.3 Results of T-Test

Prior to a Canonical Discriminant Analysis being done in order to determine the strength of the differences in scores on the personality dimensions under study between Group 1 (individuals who have not committed theft) and Group 2 (individuals dismissed or committing theft), a two-tailed independent-samples t-test was conducted.

The two-tailed independent-samples t-test was conducted in order to determine whether in fact, the means of the personality dimensions of conscientiousness, emotional control, achievement orientation, rule following and conventionality differed between group 1 and group 2.
### Table 7.3: Two-tailed independent-samples T-test

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>t</td>
</tr>
<tr>
<td>Conventional</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.330</td>
<td>.567</td>
<td>.045</td>
</tr>
<tr>
<td>Conscientious</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.573</td>
<td>.451</td>
<td>.365</td>
</tr>
<tr>
<td>Rule Following</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.987</td>
<td>.322</td>
<td>1.320</td>
</tr>
<tr>
<td>Emotionally Controlled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.716</td>
<td>.399</td>
<td>1.456</td>
</tr>
<tr>
<td>Achieving</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>1.500</td>
<td>.223</td>
<td>-.424</td>
</tr>
</tbody>
</table>
As was seen in the previous chapter a $p \leq .05$ is considered borderline statistically significant. Results that are significant at the $p \leq .01$ level are considered statistically significant, and $p \leq .005$ or $p \leq .001$ levels are referred to as "highly" significant. Note in figure 6.3 above, that none of the $p$ values for the dimensions under study can be regarded as being even borderline statistically significant. Based on these results, a Canonical Discriminant Analysis was not conducted.

### 7.4 Effect Sizes

Although the $p$-values above cannot be regarded as being statistically significant, a measurement of effect size was nevertheless conducted in order to determine how large any occurring differences were. The results are outlined in the table below.

**Table 7.4: Effect size for Conventional Directional Measures**

<table>
<thead>
<tr>
<th>Consistency</th>
<th>Equal variances assumed</th>
<th>.101</th>
<th>.752</th>
<th>-.744</th>
<th>113</th>
<th>.458</th>
<th>-.3231</th>
<th>.4340</th>
<th>-1.1829</th>
<th>.5367</th>
</tr>
</thead>
</table>

As can be seen from the above table, the effect size for the conventional personality dimension was .004, which is regarded as very small.
Table 7.5: Effect size for Conscientious

<table>
<thead>
<tr>
<th>Directional Measures</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal by Interval</td>
<td>Eta Conscientious Dependent</td>
</tr>
</tbody>
</table>

As can be seen from the above table, the effect size for the conscientious personality dimension was .034, which is regarded as very small.

Table 7.6: Effect size for Rule Following

<table>
<thead>
<tr>
<th>Directional Measures</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal by Interval</td>
<td>Eta Rule Following Dependent</td>
</tr>
</tbody>
</table>

As can be seen from the above table, the effect size for the rule following personality dimension was .123, which is regarded as very small.

Table 7.7: Effect size for Emotionally Controlled

<table>
<thead>
<tr>
<th>Directional Measures</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal by Interval</td>
<td>Eta Emotionally Controlled Dependent</td>
</tr>
</tbody>
</table>

As can be seen from the above table, the effect size for the emotionally controlled personality dimension was .135, which is regarded as very small.
Table 7.8: Effect size for Achieving

<table>
<thead>
<tr>
<th>Directional Measures</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal by Interval</td>
<td>Eta Achieving Dependent</td>
</tr>
</tbody>
</table>

As can be seen from the above table, the effect size for the achieving personality dimension was .040, which is regarded as very small.

In summary, the above tables indicate that although all the effect sizes found were very small, that the effect sizes for the Rule Following and Emotionally Controlled dimensions appear to be slightly higher, whilst almost no effect sizes were found for the remainder of the dimensions.

7.5 Cross Tabulation Results

The graphs and tables below provide the results for the cross tabulations conducted.
Table 7.9: Crosstabulation Results for Gender

<table>
<thead>
<tr>
<th>Group</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees dismissed due to theft</td>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Male</strong></td>
</tr>
<tr>
<td>Count</td>
<td>14</td>
</tr>
<tr>
<td>% within Group</td>
<td>63.6%</td>
</tr>
<tr>
<td>Employees currently employed</td>
<td><strong>Female</strong></td>
</tr>
<tr>
<td>Count</td>
<td>8</td>
</tr>
<tr>
<td>% within Group</td>
<td>36.4%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>Count</td>
<td>22</td>
</tr>
<tr>
<td>% within Group</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td><strong>Group</strong></td>
</tr>
<tr>
<td>Count</td>
<td>47</td>
</tr>
<tr>
<td>% within Group</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td><strong>Employees currently employed</strong></td>
</tr>
<tr>
<td>Count</td>
<td>47</td>
</tr>
<tr>
<td>% within Group</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>Count</td>
<td>94</td>
</tr>
<tr>
<td>% within Group</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td><strong>Employees dismissed due to theft</strong></td>
</tr>
<tr>
<td>Count</td>
<td>61</td>
</tr>
<tr>
<td>% within Group</td>
<td>52.6%</td>
</tr>
<tr>
<td></td>
<td><strong>Employees currently employed</strong></td>
</tr>
<tr>
<td>Count</td>
<td>55</td>
</tr>
<tr>
<td>% within Group</td>
<td>47.4%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>Count</td>
<td>116</td>
</tr>
<tr>
<td>% within Group</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Graph 7.1: Crosstabulation Results for Gender

As can be seen from the above table and graph, 63.6% or 14 individuals dismissed for theft (group 2) in the organisation were males, whilst 36.4% or 8 were females. Of those still employed (Group 1), 50% or 47 were male and 47% or 50 were female. When considering that males made up 52.5% of the sample, a 63.6% theft rate amongst males is significant.
Table 7.10: Crosstabulation Results for Race

<table>
<thead>
<tr>
<th>Group</th>
<th>Employee</th>
<th>Race</th>
<th>Count</th>
<th>% within Group</th>
<th>Count</th>
<th>% within Group</th>
<th>Count</th>
<th>% within Group</th>
<th>Count</th>
<th>% within Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Employees dismissed due to theft</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Count</td>
<td>7</td>
<td>11</td>
<td>1</td>
<td>3</td>
<td>22</td>
<td>31.8%</td>
<td>50.0%</td>
<td>4.5%</td>
<td>13.6%</td>
</tr>
<tr>
<td></td>
<td>% within Group</td>
<td>31.8%</td>
<td>50.0%</td>
<td>4.5%</td>
<td>13.6%</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employees currently employed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Count</td>
<td>11</td>
<td>44</td>
<td>10</td>
<td>29</td>
<td>94</td>
<td>11.7%</td>
<td>46.8%</td>
<td>10.6%</td>
<td>30.9%</td>
</tr>
<tr>
<td></td>
<td>% within Group</td>
<td>11.7%</td>
<td>46.8%</td>
<td>10.6%</td>
<td>30.9%</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Count</td>
<td>18</td>
<td>55</td>
<td>11</td>
<td>32</td>
<td>116</td>
<td>15.5%</td>
<td>47.4%</td>
<td>9.5%</td>
<td>27.6%</td>
</tr>
<tr>
<td></td>
<td>% within Group</td>
<td>15.5%</td>
<td>47.4%</td>
<td>9.5%</td>
<td>27.6%</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Graph 7.2: Crosstabulation Results for Race

From the above table and graph it can be seen that of those individuals who were dismissed for committing theft (Group 2) 31.8% were Caucasian, 50% were African, 13.6 were Coloured and 4.5 % were Indian/ Asian. When considering that Caucasians made up only 15.5% of the sample a 31.8% theft amongst Caucasians suggests that they are the race group who amongst whom most dismissals due to theft occurred.

Table 7.11: Crosstabulation results for Consistency across Race

<table>
<thead>
<tr>
<th>Consistency</th>
<th>Count</th>
<th>Caucasian</th>
<th>African</th>
<th>Indian\Asian</th>
<th>Coloured</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not consistent</td>
<td>Count</td>
<td>8</td>
<td>41</td>
<td>5</td>
<td>21</td>
<td>75</td>
</tr>
<tr>
<td>% within Consistency &gt;= 5</td>
<td>10.7%</td>
<td>54.7%</td>
<td>6.7%</td>
<td>28.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Consistency Consistent</td>
<td>Count</td>
<td>10</td>
<td>13</td>
<td>6</td>
<td>11</td>
<td>40</td>
</tr>
<tr>
<td>% within Consistency &gt;= 5</td>
<td>25.0%</td>
<td>32.5%</td>
<td>15.0%</td>
<td>27.5%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>18</td>
<td>54</td>
<td>11</td>
<td>32</td>
<td>115</td>
</tr>
</tbody>
</table>
When considering the consistency of responses amongst the race groups, it can be seen from the above table and graph, that Africans answered the questionnaire the least consistently. The percentage of Africans who answered inconsistently was 54.7%, where the total percentage of Africans in the entire sample was 47%. More or less as many Coloureds answered the questionnaire consistently as inconsistently. Finally it appears that more Caucasians as well as Indians/Asians answered the questionnaire consistently than not.

7.6 Summary
The above chapter outlined the research results of the current study. A discussion of these results follows in Chapter 8.
CHAPTER 8

DISCUSSION OF RESULTS, LIMITATIONS OF STUDY AND
RECOMMENDATIONS FOR FUTURE RESEARCH

8.1 Introduction

Chapter eight outlines the discussion of results found in the current study firstly in terms of a discussion of the statistics. This is followed by a discussion of current theory where integrity as a construct as being based on personality characteristics versus situational factors is considered. This is followed by a discussion of the problems associated with personality-based integrity testing as well as the difficulties associated with theft as a criterion. Limitations of the current study are discussed, as are recommendations for future research. The chapter is then concluded with a discussion of general recommendations for the use of integrity tests and the utility of integrity tests.

8.2 Purpose of research and hypotheses.

As was seen previously, the general purpose of the current study is to establish the validity of the OPQ 32i (Occupational Personality Questionnaire 32 Version i) in predicting workplace theft in a financial institution.

The primary aim of this study was to assess whether specific personality dimensions as measured by the OPQ 32i discriminate between those individuals who are likely to commit theft in a financial institution from those who are not. The Hypotheses are as follows:

\[ H_0 = \text{OPQ 32i dimensions do not predict employee theft.} \]
\[ H_{a1} = \text{The OPQ 32i dimensions do not predict theft of employees} \]
Ho_2 = The *Conscientious dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

Ha_2 = The *Conscientious dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.

Ho_3 = The *Emotionally controlled dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

Ha_3 = The *Emotionally controlled dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.

Ho_4 = The *Achieving dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

Ha_4 = The *Achieving dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.

Ho_5 = The *Rule following dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

Ha_5 = The *Rule following dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or theft in a financial institution from those who don’t.

Ho_6 = The *Conventional dimension* of the OPQ 32i differentiates those individuals who commit fraud or theft in a financial institution from those who don’t.

Ha_6 = The *Conventional dimension* of the OPQ 32i does not differentiate those individuals who commit fraud or
The following section provides a discussion of the results obtained in order to assess whether the above hypotheses can be accepted or rejected.

8.3 Discussion of results

The two-tailed independent-samples t-test (displayed in Table 7.3) was conducted in order to determine whether the means of the personality dimensions under study differed significantly between those individuals dismissed for theft and those individuals who were not dismissed for theft. From the results presented in Table 7.3 it can be seen that no statistical differences were found for any of the dimensions under study between the two groups.

Thus hypotheses H01 through to hypothesis H06 were not supported by the results. Hence Ha1 through to Ha6 can be accepted.

When further considering the results of the measurement of effect size, which was conducted in order to determine how large any occurring differences were, the following was found: The effect size for the dimensions of rule following and emotional stability can be considered as small, whilst minimal effect sizes were detected for the dimensions of conventional, conscientious and achieving.

In an attempt to understand these results it is important to firstly examine other statistical results found in the analysis. Secondly it is necessary to consult available theory. Thirdly it is important to consider the limitations of the study, which may have had an impact on the results. These discussions follow below.
8.3.1 Discussion of statistical results

As can be seen from the results of the general statistics (represented in Table 7.1), it can be seen that the mean scores obtained for the entire sample (both group 1 and group 2) for the consistency dimension was 3.852, which can be regarded as below average. Results are similar for the obtained median, whilst the most frequently occurring score for the Consistency dimension was 4. This suggests that most of the sample under study did not answer the OPQ 32i questionnaire consistently. Naturally, when a questionnaire is not answered consistently, the results obtained on its scales/dimensions are questionable. A possibility thus exists that no statistically significant or even non-significant differences were found for any of the dimensions under study between the two groups due to inconsistency of responses.

As was seen in Chapter 5, according to their OPQ32 Manual and Users guide, SHL (1999) suggest the following reasons why an applicant may answer the questionnaire inconsistently:

**Highly Situational Style** – Behaviour tends to be highly situational and this leads them to answer questions differently across the questionnaire.

**Difficulty with Language** – Difficulty understanding the questionnaire where English is not the first language or reading is poor.

**Low Motivation** - Are not motivated to complete the questionnaire and answer randomly

**Faking Response** - Try to manage the impression given in responses. It is very difficult to do this consistently

When further considering the results displayed in table 7.11 and graph 7.3, it can be seen that of the 54 Africans represented by the sample, 41 of them answered the questionnaire inconsistently.
Whilst low motivation could in certain situations account for inconsistent scores, it is unlikely the case with this sample group as motivation is more likely to be high than low when individuals are applying for employment. That the majority of the sample group has a highly situational response style is also an unlikely explanation for the inconsistent results.

When considering that the OPQ23i was completed by the sample as part of a selection process, the possibility exists that applicants were trying to manage the impression they created in the questionnaire and thus answered inconsistently. According to Furnham (1986) self-report inventories are especially subject to faking, which is often cited as a concern about using personality scales and integrity tests. According to Guastello and Rieke (1991) a score correction for faking is essential if results are to be valid. The OPQ23i does not have a score correction for faking, which leads one to question the accuracy of the results obtained.

The other likely explanation of the inconsistent responses, especially when taking into account the fact that a large majority of Africans answered inconsistently, is that language difficulties or cultural interpretation of the questions had an impact on response style and thus the overall lack of difference between the means of the two groups on the dimensions in question.

### 8.3.2 Theoretical reasons for results

**Integrity a difficult construct to define**

As was discussed in Chapter 2, researchers have experienced integrity as being a difficult construct to define (Murphy, 1993; Sackett, 1994; Kaptein & van Reenen, 2001). Debate exists as to whether integrity is a single trait or made up of various components, whether integrity differs from honesty, and whether integrity means the same in practice and in theory. Certain theorists such as Butler and Cantrell, (as cited in Hosmer, 1995), are of the belief that
integrity is one of the components, which make up the construct of trust, whilst Small and Dickie (1999) believe that integrity is a value and not necessarily a construct of measurement in its own right. A construct that is difficult to define is by nature difficult to measure. It is the belief of the researcher that the difficulty in the conceptualisation and measurement of the construct of integrity is one of the major contributions to the mixed and inconsistent results that have been found by researchers.

In addition to the above, integrity may be seen as a subjective construct, with each individual having his own conception of what integrity is and of what constitutes high-integrity behaviour. Watson (2003) in a study of the cultural dynamics of corporate fraud examined the influence of cultural heritage, age, education, gender and occupation as factors, which influence attitudes about fraud. He found that although different cultures tended to view fraud somewhat differently, the variation was not statistically significant. Where age was concerned, Watson found that younger respondents (under age 31) were more tolerant to fraud than other age groups.

**Integrity as being influenced by personality vs. being influenced by situational factors.**

As was seen in previous chapters, researchers believe that although the general assumption of tests used to predict employees' behaviour is that integrity is a stable trait, integrity may also be situationally influenced. According to Ones, Viswesvaran, and Schmidt (1995), even if honesty tests can identify reliably individuals who “think dishonestly, it is not clear that dishonest behaviour results. Similarly, individuals who consider themselves honest (and express honest attitudes) may be able to justify and engage in dishonest behaviour. Mikulay, Neuman and Finkenstein, (2001) suggest that aspects of a situation, such as desirability, group norms and risk, rather than personality factors, help to determine the likelihood of counterproductivity.

As no mean differences were found in the current study on personality dimensions between individuals who were dismissed for fraud and those who
were not, the fact that possible situational variables could have led to individuals committing theft should be further considered. Mumford et al (2001) claim that situational variables account for more variance in integrity than the individual variables. As discussed in the literature review of Chapter 4, they identified 7 situational factors viz. (1) alienation, (2) non-supportive family, (3) negative role models, (4) life stressors, (5) competitive pressure, (6) exposure to negative peer groups, and (7) financial need, which are likely to influence development or expression of characteristics related to counterproductive behaviour.

According to Greenberg and Tomlinson (2004) employee theft is governed by informal social processes experienced at work, levels of job satisfaction as well as perceptions of unfair treatment on the job. In addition, they found that theft is entrenched into the organisational culture. Kaptein and van Reenen (2001) refer to the concept of organisational integrity, which refers to the degree to which an organisation’s employees are encouraged, both formally (i.e. organisational structure) and (consciously or otherwise) informally (i.e.) (organisational culture), to behave responsibly.

In the financial institution under study, it was found that the overall salaries paid to employees was markedly lower than market-related remuneration rates for similar organisations, which could lead to perceptions of unfair treatment as seen above and in the literature review of Chapter 4.

In addition, the impact of the organisational culture may also have had an influence of the development of theft behaviour of employees, where formal and informal processes within the organisation encourage such behaviour. The investigation of these factors was beyond the scope of the current study, and although there is reason to believe that organisational culture may be a contributing factor to the development of theft behaviour of employees, this can at this stage not be substantiated. However the impact of organisational culture may prove a useful topic for future research, when considered in conjunction with the ability of integrity tests to predict counterproductive behaviour and theft.
Typically integrity tests used in selection seek to identify enduring characteristics of the individual. If these test scores are strongly influenced by malleable situational influences, then the utility of these tests may be questionable. Accounting for these extraneous variables is thus crucial when conducting a study of personality dimensions and their ability to predict employee theft. When the current study is considered, the importance of considering both personality dimensions as well as situational variables in the development of theft behaviour of employees is highlighted.

Problems associated with personality-based integrity testing

When considering the appropriateness of a personality-based measure of integrity, such as the OPQ32i, in attempting to predict employee theft, it is important to note that these tests assess traits associated with dishonest behaviour and broader constructs than those measured by overt integrity tests. (Sackett, 1994) They are thus less influenced by the construct problem of integrity than are overt integrity tests. In addition, because personality-based integrity tests suggest an overall behavioural tendency, they are useful for predicting other counterproductive workplace behaviours. Based on the above, personality-based integrity tests may thus have greater utility in work environments than overt based integrity tests. In addition, Sackett (1994) states that an important advantage of personality-based integrity tests is the fact that personality tests typically are not scored using a cut-off that indicates whether a person is acceptable or not.

An important area of debate however is whether personality-based integrity tests elicit more negative applicant attitudes and perceptions than do overt integrity tests. This is an important consideration as attitudes and perceptions about an instrument impact on a respondent’s motivation and response style. Neuman and Baydoun (1998) found that examinees felt that overt integrity tests were more job relevant and that personality-based integrity tests required greater concentration. In general it was found that overt integrity tests had higher face validity. Ni and Hauenstein (1998) state that various
studies have indicated that personality testing is among the least well received of selection procedures. They further state, “relative to overt integrity tests, personality–based integrity tests are more likely to include invasive/low face validity items” (Ni & Hauenstein, 1998, pp. 393-403). When considering that personality–based integrity tests appear to correlate well with overt integrity tests (Ones, 1993; Ones, Schmidt & Viswesvaran, 1993), which appear to elicit more positive responses from applicants and further provide a more direct measure of theft, one could argue that in certain circumstances overt integrity tests may prove to be a advantageous.

When considering the current study, the possibility exists that the OPQ32i elicited more negative applicant attitudes and perceptions than an overt integrity test would have. However, as the OPQ32i it is an inventory of work-related personality, the items are likely to have been viewed as more job relevant than more traditional personality questionnaire. Nevertheless, the OPQ32i remains a personality questionnaire whose purpose is disguised and may thus be perceived by applicants as having low face validity.

Problems with theft as a criterion

Another possible explanation for the results found in the current study is the difficulty with theft as a measurement criterion. In the current study, theft was defined as the unauthorised taking of cash, merchandise or property (Jones, 1991), with detected theft being based on those individuals who had been suspected of theft, having consequently gone through the organisation’s disciplinary enquiry procedures and being dismissed upon establishment of guilt.

Theft is not always easy to identify and much theft and other counterproductive behaviour go undetected. It is thus difficult to obtain an accurate measure of such behaviours. As was seen in previous chapters Cunningham, Trucott and Wong (1990) are of the opinion that the rate of detected workplace theft is expected to be substantially lower than the rate of actual theft. Detected theft represents an unsuccessful counterproductive
behaviour whereas a measure of actual theft would be of most value to organisations. In addition, researchers (Neuman & Baydoun, 1998; Goodstein & Lanyon, 1999; Ones & Viswesvaran, 2001; McDaniel & Jones, 1988; Mikulay & Goffin, 1998) have also found that admissions of counterproductive behaviour such as theft were better at predicting integrity than external criteria, such as detected theft.

8.4 Limitations of study

Generalisability of results

Due to the fact that this sample was drawn from a single financial institution in South Africa, the generalisability of results to other financial institutions as well as organisations in other industry sectors is limited. Further future research should be attempted in varying financial institutions as well as other organisations.

The impact of sample size on statistical results

A possible explanation for the results obtained in the current study could be the size of the sample, which may be considered as not being sufficiently large. According to Lenth (2001) a sample size must be large enough to ensure scientific as well as statistical significance as well as ensuring that the resources utilised within the studies were worth the effort. In addition, suitable sample size naturally also enhances knowledge of the field of study. Little published literature appears to be available on sample size determination for specific tests, although sample size determination in any study is impacted upon by budgetary, practical and time constraints. It is the opinion of the researcher that useful insights could nevertheless be gained from the current study, although a follow-up study incorporating data from additional respondents would prove useful.
Language

The researcher in the current study did not assess the language capability of the participants. Had this formed part of the research, further explanation and confirmation of the inconsistent response style may have proven useful.

Choice of criterion

As discussed above, difficulty exists with the choice of theft as a criterion. Future researchers should take this into account when selecting criteria to measure integrity.

8.5 Recommendations for future study

- As integrity is a construct that is difficult to define, additional research is required on the construct validity of integrity tests, to clarify precisely what is being measured by the tests and how integrity tests relate to other constructs.

- Mikulay et al (2001) suggest that understanding both the independent effects of personality dimensions and situational variables and the effect of the interaction between personality dimensions and situational variables, may lead to more effective control of counterproductive behaviour than can be achieved by focusing on only one or the other.

- Future research should continue to study the dimensionality of personality-orientated measures. Specifically, research is needed that can address the dimensions underlying conscientiousness that best predict theft and theft in the workplace. As was seen in Fallon, Avis, Fallon et al (2000), conscientiousness is proposed to consist of hard work, orderliness, conformity and self-control. Each of these may have a different relationship with different aspects of theft. It is thus important to understand precisely which of these dimensions of
conscientiousness predict theft, as not all integrity tests may be measuring the same dimension of conscientiousness.

- When considering the current study, which has as its sample a diverse multi-cultural group, the possible impact of cultural differences on the perception and attitudes about certain workplace behaviours, including theft should be considered, as this may impact on response style on selection questionnaires as well as differences in workplace behaviour. As such an investigation exceeds the scope of the current study; it is recommended that it be considered in future studies.

8.6 Recommendations when using Integrity Tests

Bergmann, Mundt and Illgen (1990) make the following recommendations when choosing an integrity test for use in an organisation:

- Look for research independent from that of the test publisher to verify the validity of an integrity test;
- When comparing various integrity tests, ensure that the criteria used for one correlation, is the same for the second correlation;
- Examine validation evidence carefully to ensure that the instrument is appropriate for the company in which it is to be used;
- Examine the quality of support services provided when purchasing the tool;
- The test publisher should be willing to provide validation information on request. Consider how many studies have been done and in what industries;
- Examine how accurately the tool measures integrity – a correlation coefficient of .30 or higher is regarded as marginally acceptable, .50 or higher is considered good;
- Remember that although results may be statistically significant, it does not necessarily mean that they are practically significant;
8.7 Summary and conclusion

The above chapter provided an outline of the discussion of results found in the current study. Limitations of the current study were discussed, as were recommendations for future research. The chapter concluded with a discussion of general recommendations for the use of integrity tests and the utility of integrity tests.

The results of the study confirm the fact that further research is required in the field of integrity. It is believed by the researcher that the results and consequent recommendations of the current study will prove useful to future researchers. It is also believed that with a better understanding of integrity, organisations will minimize the impact of theft and other counterproductive behaviours on their bottom line and also create a positive culture, which prizes and encourages the integrity of its employees.
REFERENCES


P-E Corporate Services Human Resource Practitioners handbook (September 2004)


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