

# VALIDITY STUDY ON THE ZULU DISCUS BEHAVIOURAL PROFILING SYSTEM FOR SOUTH AFRICAN CONDITIONS

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This dissertation represents the student's own work.

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## ABSTRACT

The research outlines the statement of the problem, motivation for the study and the related legislated requirements for all research in the field of psychological assessment. It will also take a closer look at related issues supporting the background of psychometric testing and present day themes and trends that are becoming prevalent in contemporary practice. There is an in-depth discussion on Personality which is one of the main foundation components of the Discus Behaviour Profiling System which is personality. Points on, ethics, translation, validity, reliability, test construction and cross cultural matters are also discussed. Research methodology is related back to the Equity Act No. 55 of 1998 and sets out the problem statement, objectives of the study, sampling, and discusses the ipsative questionnaire as well as the Statistical Analysis. The Methodology of multiple regression is explained and an example given. The method of the data collection process and the results set in tables of Pearson Correlation Coefficients Scatter plots are given to clarify the finding on Dominance – Influence – Steadiness and Compliance dimensions. The final findings confirms the need for this research, highlights the distortion found in compliance (or conscientiousness) and discusses the reason for this as well as the need for further research on this matter.

## **CHAPTER ONE**

### **THE NEED FOR A ZULU BEHAVIOR PROFILING INSTRUMENT**

#### **1.1 INTRODUCTION**

Legislation in South Africa now makes it necessary to ensure that all assessments are in line with the Equity Act No. 55 of 1998. This chapter outlines the motivating factors as well as several other standard technical elements intrinsic to research. The literature review looks briefly at the beginning of assessment tools, cultural fairness, and selection procedures in testing, ethnic diversity and research design.

#### **1.2 STATEMENT OF THE PROBLEM**

The purpose of this study is to analyse the Zulu Discus Behavioural Profiling System Instrument in relation to legislation, in order to establish the validity of this instrument for further use in the South African context.

#### **1.3 MOTIVATION FOR THE STUDY**

At present South Africa lacks assessment tools that have been found to be culturally fair. There have been numerous debates around many of the psychological assessing tools currently in use. Unfortunately, in many of the cases, lack of understanding and insight into the instruments has caused unnecessary doubt and suspicion surrounding these instruments. A validity study on the Zulu phrase-based instrument has not as yet been conducted in South Africa. Any form of assessment in South Africa must be found to be in accordance with the Equity Act, No. 55 of 1998:

- must have been scientifically shown to be valid and reliable
- is able to be applied fairly to all members tested
- is not biased against any candidate or group.

#### **1.4 HYPOTHESES**

- The Zulu behaviour profiling system is a valid instrument in relation to the criteria set out in the Equity Act.
- The Discus Behavioural Profiling System can be declared culturally fair in relation to the criteria stipulated in the Equity Act, No 55 of 1998.

##### **1.4.1 VARIABLES**

- The Independent variable is the English Discus Behavioural Profile System.
- The Dependent variable is the Zulu Discus Behavioural Profile System.

##### **1.4.2 RESEARCH OBJECTIVES**

The research objectives are:

1.4.3 To determine whether the Zulu Discus Behavioural Profiling System is valid in relation to the criteria stipulated in the Equity Act No. 55 of 1998 Chapter 11 which lay down the following requirements:

- Psychological testing and other similar assessments of an employee are prohibited unless the test or assessment being used has been scientifically shown to be valid and reliable, that is, can be applied fairly to all employees and is not biased against any employee or group.

#### **1.5 DELIMITATION OF THE STUDY**

- This study will focus only on groups in KwaZulu-Natal. It will therefore not include organisations/ groups in other provinces.
- Only the phrase-based instrument will be used.

## 1.6 RESEARCH DESIGN (RESEARCH METHODS)

### 1.6.1 SAMPLE SIZE

The sample size will be 400 per assessment. In order for significant results in a questionnaire a sample size of 100 is sufficient Rosnow & Resenthal, (1998). The respondents will be selected from groups in KwaZulu Natal.

### 1.6.2 SAMPLE METHOD

In a validity study you would prefer to have the richest sources to test the questionnaire. Therefore purposive sampling will be used. Welman & Kruger (1999:63) indicate that purposive sampling is the most important kind of non-probability sampling and continue that ingenuity and previous research findings allow purposive samples to be regarded as being representative of the relevant population. Shillar ([www.villanova.edu/rosemary.schilliers](http://www.villanova.edu/rosemary.schilliers):2002) explains purposive sampling as "judgemental sampling". Her view is that it proceeds on the belief that the researcher knows enough about the population and its element to hand pick a sample, which is suited to this research type.

### 1.6.3 METHOD

As an alternative – in order to validate the Zulu instrument, each respondent will be given a Zulu instrument to complete as well as an English instrument, and the process repeated at a suitable interval (Test – retest). The English version of the instrument has been validated (Roodt 1999). The English instrument has been translated into Zulu. Each questionnaire will be allocated a serial number and kept by the researcher. The instruments will not be interpreted in terms of personality type. Cross tabulation will be done using both the English and Zulu instruments. Vijver & Leung (1997:139) indicated that cross-cultural differences in scores on social and behavioural measures tend to be open to multiple interpretations – a wide variety of measures can

be taken to enhance the validity of cross-cultural comparisons Millsaps (2002) ([www.millsaps.edu/socio/cros-tabulation:2002](http://www.millsaps.edu/socio/cros-tabulation:2002)) further explains that cross-tabulation is a method of representing how categories of an independent variable are distributed across categories of a dependent variable. This in turn indicates if there are patterns of association between four variables in a cross tabulation matrix. In this research a cross tabulation will be done between the English instrument and the Zulu instrument.

Therefore, if the pattern of association between the corresponding factors of the four questionnaires is high, validity can be claimed. The Pearson Product-moment correlation coefficient (PMCC) ( $r$ ) will be used in this research.

The PMCC describes the relation between two variables X and Y measured on the same object <http://wik7pedia.org>.

This research will demonstrate later on coefficients ranging from -1 to 1 will be used as part of the analysis.

In order to test this rationale a chi-square test of homogeneity can be conducted to test whether the proportion of respondents falling into each category is the same. Reber (1986:119) states that the chi-square is a statistical test that allows tests and differences between independent samples using frequency data – or between a sample and some set of expected scores. A contingency coefficient for the chi-square can be computed to determine the degree of correlation between the responses of the questionnaires.

For the purpose of this research however, data will be analysed using the SPSS package. The level of significance will be set at 5% and p-values will be used for decision making.

## 1.7 CONCEPTUAL CLARIFICATION

### 1.7.1 DISCUS BEHAVIOUR PROFILING INSTRUMENT

The Discus Behaviour Profiling Instrument covers four basic traits of personality.

- Dominance
- Influence
- Steadiness
- Compliance

The Discus Behavioural Profile System consists of 24 questions. Each question has four options from which to choose. The focus of the profile is on the work environment. For this particular study the phrase-based format has been used. This instrument which is the English version phrased based paper and pencil has been found to be reliable and valid (Roodt 1999). The test can be administered using a computer or paper and pencil. As with most personality profiles the Discus Behavioural Profiling System is not meant to be used as a stand-alone test. For the purpose of this study the phrased based Zulu Questionnaire will be used, and it will be administered with paper and pencil.

### 1.7.2 THE IPSATIVE QUESTIONNAIRE

Reber (1986:375) defines the ipsative frame as "Reflected or measured against the self". An ipsative scale or an ipsative questionnaire is one in which the responder uses his or her own behaviour or values as the basis for making comparisons and judgements.

The ipsative questionnaire will be used as this type of score compares the individual against himself/herself. By using the ipsative questionnaire each person provides his or her own frame of reference to the test.

#### 1.7.3 RELIABILITY

This implies how good the test is. Does the test really work? Subjective opinions and biases may lead to many reckless claims. Empirical research or object evaluation to determine reliability is vital.

Welman & Kruger (1999:143) define reliability as the extent to which the obtained scores may be generalised to different measuring occasion, measurement / test administrators.

Anastasi (1982:102) defines reliability as the consistency of scores obtained by the same persons when re-examined on the same test, on different occasions or with different sets of equivalent items – or under other variable examining conditions. For the purpose of this study the researcher will use Anastasi's interpretation.

#### 1.7.4 VALIDITY

Milkovich (1991:263) defines validity as the degree to which predictions from selected information are supported by evidence. Macmillan (1976:102) states that the most important question asked about a psychological test is its validity. She defines this as a degree to which the test actually measures what it purports to measure. "Validity provides a direct check on how well the test fulfils its function". For the purpose of this study, Milkovich's definition will be applied.

#### 1.7.5 CROSS-CULTURAL FACTOR

In South Africa we have a diversity of population, all of whom would like at some stage to be employed. With expanding education and employment needs, methods need to be found to facilitate fair testing for accurate

placement of potential work force in the country. Job selection and correct placement is vital in South Africa's growing economy. Anastasi (1976:286) suggests cultural disadvantage is a relative concept. The problem surrounding cross-cultural fairness often arises 'due to the existence' of subcultures or minorities in a dominant culture.

In South Africa the majority culture has challenged the validity and reliability of many of the Eurocentric tests and foundations on which these tests are based. As many of the "European" tests have not been validated in the South African environment they are the unknown factor at present.

#### 1.7.6 PERSONALITY

Meyer, Moore & Viljoen (1997:12) define personality as follows:

"Personality is the constantly changing but nevertheless relatively stable organisation of all physical, psychological and spiritual characteristics of the individual which determines his or her behaviour in interaction with the context in which the individual finds himself or herself".

Personality tests are defined by Anastasi (1982:497) as instruments for the measurement of emotional, motivational, interpersonal and attitudinal characteristics as distinguished from abilities. For the purpose of this study Anastasi's definition is accepted.

##### 1.7.6.1 Objective Personality Test

These tests are paper and pencil tests, and have a checklist, which is ticked off in accordance with instructions given. There are many well known tests in this field. The Discus Behavioural Profiling System, which is the subject of this study, is registered as a class "C" test according to the Health Profession Council of South Africa. Amongst others one finds the Minnesota Multiphasic Personality Inventory (MMPI) Arnold & Feldman (1986:442). The Discus is a Behavioural Profiling test that could be classified as an objective test.



## 1.8 SUMMARY

With the change of political dispensation in this country a new set of legislation has been developed to include all groups in South Africa. A new mindset and approach to assessment instruments are required. At present we are at the starting point of this learning process.

## CHAPTER TWO

### 2. PSYCHOMETRIC ASSESSMENT AND PERSONALITY

#### 2.1 INTRODUCTION

For some years now there has been an ongoing debate amongst academics and the legal fraternity surrounding psychometric testing. The researcher has found a number of articles surrounding this topic, which are relevant to this study and need to be integrated into the thinking around this study.

Magwaza (1995:12) raises the question of how to assess potential with an emotional concern for cultural fairness. Magwaza also questioned issues such as cost-effectiveness of some tests and that the candidate brings the contentious issue of negative transference into the test environment. On the matter of negative transference, the researcher does find some common ground. Unfortunately the whole mystique surrounding psychometric testing has not been handled with a supportive approach, emphasizing the support for this research.

Mamabolo (1996:24) stresses the importance of economic wellbeing for South Africa. He encourages the development of yardsticks to be used as norms supporting standards and levels of performance. He also questions where constriction of cultural fairness begins, and indicates that it starts with development of standards supported by validation and reliability, which as the researcher sees it, is part of the purpose of this study.

Erasmus and Arumugam (1998:40) were amongst the first to predict doom for psychometric testing in South Africa. However, they raised the very relevant point that tests must be relevant for the purpose for which they were being used.

Roodt (1999:40) expresses concern that if testing was abandoned:

- What would replace it?
- How could validity and reliability be judged?

She also made the vital point that should we ban testing; we would probably interfere with our international competitiveness and the future of our education and development.

Marais (1999:18) supported this assessment but did go to considerable lengths to explain the importance of bringing checking systems into play so as to control correctness and ethics. Amongst other suggestions was the introduction of:

- Content assessor – Process assessor and an internal moderator for all tests conducted.

## 2.2 IN THE BEGINNING

The assessment tools of today have their beginnings in the 1850 period. Francis Galton, who spent a great deal of time trying to understand differences between people, was a pioneer in this field. The table below sets out how the first thinking unfold to the point where psychometrics become a valid scientific process.

An overview of the path of assessment since its origin.

1882	Galton establishes an anthropometric laboratory.
1890	Cattell coins the term mental test.
1904	Binet begins work on his intelligence scale.
1905	Jung begins using the word association method.
1913	Kraepelin publishes his work on psychiatric diagnosis.
1916	Terman produces an American Version of the Binet Scale
1917	The Yorkers committee develops the Army Alpha Test.
1921	Rorshach publishes his work on the inkblot test method.
1935	Morgan and Murray publish the TAT

1938	Bender publishes her Bender Gestalt Scale.
1939	L.K Frank uses the term projective techniques in his work.
1939	The Wechsler Bellevue Intelligence Scale is published.
1943	The MMPI is published
1947	Halstead introduces a neuropsychological test battery
1952	The first Diagnostic Statistical Manual.
1931	Behavioural assessment becomes popular.
1980's & 1990's	Saw further development with DSM series.

**TABLE 2.1**

**SOURCE : PHARES, J.P. & TRUIL, T : PATH OF ASSESSMENT DEVELOPMENT 1997:57**

To date the English version of the Discus Behaviour Profiling System has been validated (Roodt 1999). The Zulu Questionnaire has not yet been validated.

### 2.2.1 Cultural Fairness

The issue of cultural fairness supports the need that this type of study should be undertaken at this time, in the light of the constructing legalities set out in the Equity Act, No 55 (1998)

The Equity Act (no. 55 of 1998) states as follows:

Psychological testing and other similar assessments of an employee are prohibited unless the test or assessment being used:

- Has been scientifically shown to be valid and reliable.
- Can be applied fairly to all employees.
- Is not biased against any employee group.

### 2.3 CROSS CULTURAL EQUIVALENCE

One of the objectives of this study is to look at cultural equivalence in the Discus Behaviour Profiling System. The possibility that unfounded prejudice may indicate that the Discus is not suitable under our present Equality Act needs to be examined and clear validation on this topic identified. Tyson (1987:341) explains that a cross cultural equivalence is a questionnaire that is measuring the same thing in different cultures and finding scores that are quantitatively the same. Tyson (1987:341) also indicates that basic cognitive processes such as the way information is processed tends to be universal and occurs in all cultures. The content of the cognitive component for a particular attitude object does however seem to vary in different cultures.

In South Africa there is a need to adapt or translate tests for use in our society. According to the literature on this it would seem that the term adaptation of a test is preferred rather than translation. Meiring, Van de Vijver & Rothman (Psy SA, Vol 36:342) discuss this matter in depth – there is an awareness in South Africa at present of bias in testing. Acknowledged by the above-mentioned authors are the modified items, and their testing and re-testing and clear demonstration of cultural fair results. The various types of bias will be discussed in more detail later in the research.

#### 2.3.1 FORMAL CHARACTERISTICS OF SELECTION PROCEDURES

The British who have several ways of ensuring that, as far as possible, certain characteristics are taken into consideration before the testing of anyone is carried out. In short these revolve around procedural and distributive justice – procedural rules are used to ensure credibility in this process.

Some of the selection procedures are:-

- Job-relatedness of the test.
- Opportunity to perform adequately in the test.
- Reconsideration opportunity (to rerun score sheets).
- Administrative consistency in the assessment.
- Explanation of all procedures.
- Feedback, timelessly.
- Selection and justification for the decision.
- Interpersonal respect.
- Two way communication about the process

(Walley Smith, 1998:8)

By adhering to these selection procedures one can see how the British were trying to build comprehensive credibility into their testing criteria and why the South African interpretation has many similar control points, giving rise to legislation such as Chapter 11 (8) of the employment Equity Act No. 55 of 1998.

### 2.3.2 ETHICAL STANDARDS IN TESTING

Muchinsky, Kriek & Schrender (1998:76,77) consider that part of the problem in South Africa surrounding testing has been the ethics used by testers and the methods of interpretation. The ethics of psychological testing are a major responsibility for psychologists. The South African society for Industrial Psychology has published guidelines for the validation and use of Personnel Selection Procedures (Published in 1992).

Briefly the guide looks at:

- Who may use and administer these tests

- Who can buy the tests
- Invasion of privacy and confidentiality
- Purpose for which the test is used
- Record keeping of the test

Walley (1995:13) categorically states that the Discus Behavioural Profiling System is one of the best profiling tools he has used. He also points out that it is important to ascertain that the list measures what it claims to measure, and that there is consistent evidence that, that is what it does.

### 2.3.3 DIVERSITY

Among the first calls for caution in psychometric testing came in the Green Paper on Employment Occupational Equity, (Milne,1998: 74). The authors of this paper felt that Psychometric tests in South Africa should be avoided unless they could demonstrate respect for diversity. The professional board for Psychology has had grounds for anxiety on this issue as there have been companies and some professionals that have abused tests for inappropriate reasons, emphasising the need for this research.

Mamabolo (1996:24) argues that the barometer of change needs to be as diverse as the group to which it is being applied – "if norms in the group change then the gauge or comparison must change". Following from this thought the researcher must comment that – does this view means that a minority within the larger group is ignored and discarded completely? Does blind democracy affect validity and reliability?

Mamabolo (1996) also poses an interesting question in that he debates whether the actual organisational culture should influence the norm or yardstick used in the final factor analysis related to the assessment.

#### 2.3.4 COMPANY DECISIONS

Taking into account the criteria for psychometric testing as set out in the Employment Equity Act (Act 55 of 1998) (chapter 11, section 8) companies will have to decide how they intend to approach psychometric testing in the future. Levy (1999:90) indicates several factors that could influence testing. The author makes mention of factors such as:

- What does this part of the act mean to our Company?
- Will we accept it as an integral part of our business strategy?
- Do our senior executives understand the complexities of this section?
- Do we need policy to guide us?
- Do we have sufficient resources to drive this section of the Act?

Without validation studies being done, factors that are mentioned above cannot be seriously contemplated. Section 8 of chapter 11 of the Employment Equity Act will have a major impact on all areas of recruitment and selection, underscoring the vital need for this study's empirical researching results.

#### 2.4 PERSONALITY

Many early personality tests were used to diagnose the mental state of individuals. However, this has led to a wide variety of personality measures being developed.

Although there is some disagreement about factors that are most influential in a given situation, theoretical speculation exists that a number of factors transcend cultural difference. Five factors are given in Rosnow and



Rosenthal (1999:107). The current thinking supports the idea of the following domains of individual personality:

- Neuraticism – or the degree of nervousness, moodiness and temperamentally.
- Extraversion – or the degree of talkativeness, assertiveness and activity.
- Openness to experience – or the degree of imagination, curiosity and creativity.
- Agreeableness – or the degree of kindness, trust and worth.
- Conscientiousness – or the degree of organisation, thoroughness and reliability.

Rosenthal (1999) notes that each factor is presumed to be made up of thousands of specific traits.

According to Muchinsky (1993:109) personality tests do not have right or wrong answers, tests are based on what the test taker likes or degree of agreement on an issue.

According to Rosnow and Rosenthal (1999:104) psychologists have shown that it is possible to predict performance in occupations from well constructed measures of personality tests.

An issue which the researcher finds interesting is the challenge mentioned in Rosnow and Rosenthal (1999:105) on self reporting: the matter of how able a test taker is able to be "self reporting" if the test taker has very little "sense of self". The researcher feels that this is a valid point.

The Discus Behaviour Profiling System is a personality test; it focuses on four main factors, namely: dominance, influence, steadiness and compliance and, as it is often used in evaluation of potential managers, self reporting ability could have a major effect on this assessment instrument.

Considering that the Discus is a personality profile, the research will look broadly at personality in this section and how personality factors interrelate with the Discus test.

Accepting at this point the definition given in Chapter one of personality, the research needs to establish a more comprehensive view of the foundation aspects in personality that might relate to the Discus.

According to Allport & Du Toit (1986:18), in looking at personalities, found aspects such as;

- Hierarchies or layers of personality importance
- Ordering or arranging certain personality characteristics
- Adjustment or trying to find identity and fit in the world
- Uniqueness.

Emphasizing the uniqueness of the individual, as important factors in the foundation of personality, Tyson (1987:265) also discusses Allport's inclusion of temperament as characteristic phenomena of a person's basic personality.

Van Niekerk (1996:47) refers to Freud's theory of personality and finds ego, id and superego to be the main factors in Freud's opinion. Freud maintained that the id was present at birth and is the source of psychic energy, Freud sees the id as unconscious, consequently with no impact on the outside world and operates as the pleasure principle. Freud sees the ego as a harmony constricting trying to find balance in energy from international development on the grounds of reality. It would be from this centre that cognitive thinking and choices related to Dominance, Influence and Steadiness would evolve.

Compliance would evolve from the Discus Behavioral Profiling System approach as Van Niekerk (1996:49) states that cognitive and perceptual processes take place in this state.

The superego, Freud interpreted as the social component of the psyche; it strives towards moralistic goals, and can be seen as the reflection of society's collective unconscious. Many personality tests will reflect the results of the superego as Van Niekerk (1996:49) indicates that at an adult level the superego reflect values and norms deemed appropriate for specific situations.

From the researcher's point of view other aspects of Freud's theory that may influence personality testing would be Freud's thinking on sexual gratification or libido (life instinct) and the death instinct (Thanatos) or the self destruction factor. Both these factors would influence choices made in testing. One is also not able to ignore the ego defense mechanisms in personality. Freud's saw these mechanisms at two levels:

- They function at an unconscious level.
- They help to lessen anxiety.

Krupp and Chatton (1980:630) discuss several of these. Amongst others, they look at:

- Repression or selective forgetting
- Displacement: dominant responses that for some reason cannot be expressed are displaced to other objects.
- Sublimation: deflecting impulses to socially acceptable expressions.
- Projections: our own unacceptable attitudes and behaviors ascribed to others.

Considering the complexities and implications of the above, one can understand the present stance on legal issues surrounding psychometric testing. Following this though one needs to understand that Freud was only one of many who put forward theories on personality development and that he was criticized for paying too much attention to the subconscious and his opinion that man was deprived of freedom to choose and be responsible.

Still in keeping with the psychoanalytical paradigm of Freud, the researcher finds the perspectives of Carl Jung very relevant to the Discus Behavior

Profiling System study as parallels are drawn in the Discus literature to some personality dimensions investigated by Jung, namely the introversion and extroversion aspects of personality.

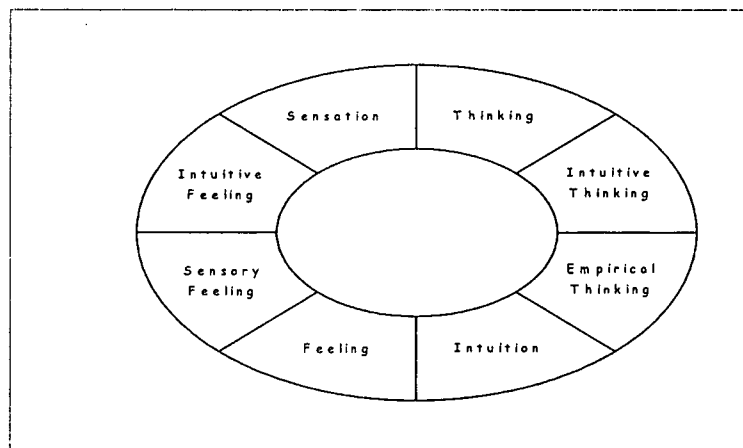
Jung proposed that the personality, or psyche as he referred to it, consisted of the ego – the personal unconscious and its complexes and the collective unconscious and its archetypes. (Jacobi 1968:6)

Along with this came the approach of his theory of introversion and extroversion, which then links to the functions of thinking, sensing, feeling and intuition.

Unlike Freud, Jung saw the ego shared by both the conscious and the unconscious (Jacobi, 1968: 6). Should the ego move more to one than the other, this would have considerable effect on personality type. Following this fact, one would then see this impact suggest as considerable in a test such as the Discus Behavioral Profiling System which has correlation to the dimensions of the personality types related to introversion and extroversion.

FIGURE 2.1

SOURCE : SELF GENERATED : EIGHT PERSONALITY TYPES



The above diagram indicates Jung's approach to factors that will impact on conscious and unconscious, introvert and extrovert personality types. These eight personality types can further be broken down to sixteen types.

Robertson (1992:172) also mentions several other dimension of Jungian personality theory such as the Anima and Animus. The Anima being the female archetype within the male unconscious and the Animus being the male archetype within the female unconscious. In simpler forms Jung saw anima as feelings and emotionalism in men and Animus as logic and rationality in women. As can be imagined both these factors would be pivotal roles in decision making and behavioral style. Further aspects are the Persona or the mask which people present to the outside world – the shadow or primitive side of our personalities and the self which Jung saw as the “inner god” within each person; the “self” is a combination of the Anima and Animus archetype.

Unlike Freud who saw man in a negative light with strong inclinations towards a death wish (Sahakian, 1976:41), Jung believed that we possess a tendency towards growth and wholeness (Hall and Lindzey, 1970:99).

The literature indicates that there are many contributions to the study of personality, all focused on trying to establish a set of criteria to define personality. Regardless of the fact that these theories differ greatly, one is struck by the fact that there are many common denominators to personality. One answer to this puzzle is that psychometric testing does have good foundations for legitimate claims to be taken seriously, emphasizing the need and support for further studies.

## **2.5 COMPARATIVE APPROACHES TO FREUD , JUNG AND ERIKSON**

Following the discussion above one finds it is interesting to look at the table below (pg23) comparing Freud, Erikson and Jung. Freud is acknowledged as the father of Psychoanalysis, Jung and Erikson took from him when developing their own theories. Jung's work has had a direct influence on the Discus profile. This stems from Jung's work on the four personality types – sensing, intuitive, feeling, and thinking. Marston the developer of the Discus Behavior Profiling System saw the potential in this theory and developed his test from this principle.

AUTHOR	CORE STATEMENT	STRUCTURE OF THE PERSONALITY	DEVELOPMENT OF PERSONALITY	OPTIMAL DEVELOPMENT OF PERSONALITY	MEASUREMENT AND RESEARCH
Freud conflict model Psychoanalytical Psychology	The tendency to maximize instinctual gratification while minimizing punishment and guilt	ID (Primitive component) EGO (Developed from id - reality drive) Super ego (developed from ego moral codes of society)	Oral stage (about 1 <sup>st</sup> year) Anal stage (about 2 <sup>nd</sup> year) Phallic Stage (about 3 <sup>rd</sup> to 6 <sup>th</sup> year) Latent stage (about 5 <sup>th</sup> to 12 <sup>th</sup> year) Genital stage (Puberty onwards)	Little difference between SIE health and disturbed people. Conflict free existence is not possible. Balance conflict management. <ul style="list-style-type: none"> <li>No regression to pre-genital stage</li> <li>Balanced ego</li> <li>Effective reality testing</li> </ul>	<ul style="list-style-type: none"> <li>Catharsis hypothesis</li> <li>Projective techniques.</li> </ul>
Erikson Neo-Freudian Ego Psychology	Tendency to develop a self	Broad acceptance of Freud model – executive agent the ego and two protagonists (id and superego) however they play a lesser role than in Freud interpretation.	Eight stages throughout life. <ul style="list-style-type: none"> <li>Infancy -&gt; trust -&gt; distrust -&gt; hope.</li> <li>Early childhood -&gt; autonomy -&gt; doubt -&gt; willpower</li> <li>Play age -&gt; initiative -&gt; guilt -&gt; purpose.</li> <li>School age -&gt; industry -&gt; inferiority -&gt; competence.</li> <li>Adolescence -&gt; identity -&gt; confusion</li> <li>trustworthiness</li> <li>Early adulthood -&gt; respect -&gt; autonomy -&gt; new roles -&gt; intimacy -&gt; love</li> </ul>		

AUTHOR	CORE STATEMENT	STRUCTURE OF THE PERSONALITY	DEVELOPMENT OF PERSONALITY	OPTIMAL DEVELOPMENT OF PERSONALITY	MEASUREMENT AND RESEARCH
Erikson			<ul style="list-style-type: none"> <li>• Adulthood-&gt; generativity -&gt; stagnation -&gt; care</li> <li>• Maturity -&gt; integrity -&gt; despair -&gt; wisdom</li> </ul>	<ul style="list-style-type: none"> <li>• Development through life span.</li> <li>• Necessary ego strengths for each stage.</li> <li>• Positive development for the whole of society</li> </ul>	<ul style="list-style-type: none"> <li>• Play construction</li> <li>• Ego identity scale</li> <li>• Inventory of psychosocial development</li> </ul>
Jung Analytical Psychology	Emphasis on dreams as expression of the unconscious deem phrases on sexuality and greater emphasis on spirituality	<ul style="list-style-type: none"> <li>• The Conscious - used for external functioning and internal functioning.</li> <li>• The Personal - unconscious (store room) of experiences and interaction with the world and accompanying interpretations.</li> <li>• Collective unconscious - inherited potential independent of the personal unconscious contains instinct and archetypes.</li> <li>• Persona - Public self.</li> </ul>	<ul style="list-style-type: none"> <li>• The process of individuation and transcendent - inspired by the archetype of self throughout a person's life span.</li> </ul>	<ul style="list-style-type: none"> <li>• Attaining the self usually occurs in the middle years of life.</li> <li>• Conscious through self knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Word association.</li> <li>• Dream analysis</li> <li>• Active imagination.</li> <li>• Myers Briggs Type Indicator</li> <li>• Eysenck Personality Inventory.</li> </ul>
Jung		<ul style="list-style-type: none"> <li>• Anima animus - male and female physiological traits of both sexes.</li> <li>• Shadow - primate instincts</li> <li>• Self - integrates various components of the psyche into harmony.</li> </ul>			<ul style="list-style-type: none"> <li>•</li> </ul>

TABLE 2.2

SOURCE : CORSINI, R. & WEDDING, D 1995 : JACOBI, J. 1968 : MEYER, MOORE & VILJOEN 1997 : NGE, R. 1992 : COMPARATIVE ANALYSIS OF FREUD & JUNG

## 2.6 EVALUATION OF THESE THEORIES

Looking at table 2.2 one notices that Freud had strong assumptions about human nature – tensions demanding relief, sexual drive, aggressive drive / life and death instincts. In general Freud had a pessimistic view of humans (Nye, 1975:130). Freud saw continual conflict between human nature and civilization, sex and aggression.

In Nye's opinion (1975:135) he states that Freud was not experimental enough and that Freud did not collect quantitative data but manipulated qualitative subjects.

Freud has also been accused of assigning different meaning to his terminology at different times.– this is a general complaint about Freud and Jung. The researcher has noted that various literature has commented that one can be led astray by this tendency.

Meyer (1997:95) acknowledges Freud's wide influence on the twentieth century, but also criticizes Freud for the fact that he tended to place more value on psychological issues rather than biological explanation and behavior.

Erikson, a neo-Freudian, by contrast is acknowledged for his development in mental psychology. He is said to have the most influence of all modern psychoanalysts (Meyer, 1997:227). It is noted that Erikson's research was based on extensive experience with children (Meyer, 1997:228).

Jung often complained that he was misunderstood (van Niekerk, 1996:102). Criticism was that he was accused of unscientific approaches to his studies. Jung is said to only have taken data from his patients and used religion, mysticism and alchemy as sources of information.

In turn Jung has stated that scientific methods were inadequate for studying complicated psychic phenomena and he rejected the method rather than the subject (Meyer, 1997:127). In Jung's defense, Van der Post (1976:161)



states that through his studies Jung restored femininity to its rightful place when investigating the anima – animus factors.

Whatever one feels about the above three men, one can see from the literature that their contribution has been the foundation for modern day psychology and personality measurement.

Briefly looking at other personality theories one notes :

Behaviorists like Skinner and Miller. Individual psychology type developed by Adler. Corsini. (1995:1)

Person-centered approach from Rogers, Murray, Kelly, Frankl and Maslow. The contribution of Ellis to Rational Emotive Theory (RET).

The cognitive approach by Beck. Existential Psychotherapy and Rollo May. Corsini (1995:1).

Relating this back to the basic principles of personality testing Hjelle (1981:13) suggests some polarities when looking at personality.

Freedom – Determinism

Rationality – Irrationality

Holism – Elementalism

Subjectivity - Objectivity

He discusses these bipolar dimensions as follows:

Hjelle (1981:13) sees each assumption with a pole and extreme position at its opposite end. Following from this one needs to consider that a personality theorist bases their position on one pole or a position between, i.e. a theorist who takes a position closer to the "irrational" perspective or "pole" would make very different assumptions to one who took position or a rational approach such as Kelly and his opposite in "irrational" Freud. A personality theory

reflects the configuration of positions that a theorist takes on basic assumption about human nature (Jelle,1981:14).

This in turn raises the question in the mind of the researcher – does the assumption by the author of the personality theory affect the thinking of the personality test developer? And to what degree would similar tests from different personality approaches effect the outcome of such psychometric testing (validity and reliability) ?

Would a test taker who has a personality "type" more suited to the Humanistic approach, show fewer distortions than a personality "type" that is not compatible with this approach in psychometric testing? Leading from this, one can understand the new approach set out in the Equity Act as stated in Chapter one of this research, enforcing the position of scientific evidence of validation and reliability.

Looking at other personality factors, Robbins (1993:100) states, on the issue of personality determinates, that "personality is made up of hereditary and environmental factors moderated to some degree by situational conditions". The author describes hereditary factors as those determined at conception – physical stature, temperament, muscle composition and biological rhythms. Environment is seen as the factors such as the culture in which we are raised, norms of family and friends.

Situational factors are described as constraints that different situations impose on behavior i.e. church or place of employment. Robbins (1993:102) also discusses aspects of personality traits which he considers to be in excess of 17 953 when last counted.

Robbins (1993:103) lists a few primary traits and their opposites, which are used to support many theories in psychometric testing, these are:

Reserved	vs.	Outgoing
Submissive	vs.	Dominant
Expedient	vs.	Conscientious

The above are a few examples given by him. These types of comparative studies and "psychological tension" found in opposites are where the final analyses is found when scoring assessments.

## **2.7 COMPARATIVE APPROACHES TO ROGER AND KELLY**

In acknowledging the various theories, it is interesting to look at the humanistic approach. This school feels that humans are goal directed, capable of change and that self concept influences personality. This is in complete contrast to the previous theories. Taking this statement further, one needs to ask the controversial question – have the first and second generation personality theories of Freud and Jung now dated themselves? Does this make the assessment tools developed from them superfluous? However, after having asked such a question one can take another view – the approach taken by the developer of Discus Behavioral Profiling System( Marston ) in the early 1900's was from the analytical theory of Carl Jung which to some degree folded down from Sigmond Freud. However, in the opinion of the researcher, what has not been noted in its broadest contexts is the humanistic approach and intimations found in Marston's original work. Marston took this view long before it was popularized by the more contemporary group. Bearing the above statements in mind one now becomes aware that the Discus Behavioral Profiling System is not only well balance between first generation Analytical and Psychoanalytical thinking but also has a foundation in current Existentialist, Humanistic approached.

AUTHOR	VIEW OF HUMANKIND	STRUCTURE OF PERSONALITY	DYNAMICS OF PERSONALITY	THEORY OF ILLNESS HEALTH / CURE	MEASUREMENT AND RESEARCH
<u>Rogers</u> Humanistic phenomenological school.	<ul style="list-style-type: none"> <li>Study humans as a whole.</li> <li>Self actual isolation</li> <li>Aware of positive and negative attributes</li> <li>Architect of one's own life</li> </ul>	19 propositions of his theory. <ul style="list-style-type: none"> <li>Total world experience</li> <li>Organism</li> <li>Self concept</li> <li>Experience and meaning of external objects.</li> <li>Experience and meaning concerning the individual.</li> </ul>	<ul style="list-style-type: none"> <li>To actualize maintain and enhance the experiencing organism.</li> <li>Understanding the internal frame of reference of the individual.</li> <li>Goal directed behavior.</li> <li>Emotion accompanies to goal directed behavior</li> <li>Values attached to experiences.</li> </ul>	<ul style="list-style-type: none"> <li>Illness rooted in socialization process</li> <li>Made to feel that your experiences are invalid and unsound. Cure arises from reflection of feeling.</li> <li>Person centred approach.</li> <li>Unconditional positive regard.</li> <li>Health is based on openness to experience self trust ongoing reorganization and growth of the self structure</li> </ul>	<ul style="list-style-type: none"> <li>Content analysis</li> <li>Q-Technique</li> </ul>
<u>Kelly</u> Humanistic / Cognitive	Fundamental Postulate A person thought processes are psychologically channeled by the ways in which he or she anticipate events.	<ul style="list-style-type: none"> <li>Construction system</li> <li>People differ from one another in their construction of events.</li> <li>Commonality – extent that one employs construction which is similar to another process.</li> </ul>	<ul style="list-style-type: none"> <li>Fundamental human motivation</li> <li>Predict events</li> <li>Circumspection – control cycle (CPC)</li> </ul>	<ul style="list-style-type: none"> <li>Health is through optimum emotional maturity.</li> <li>Illness is due to events which are not anticipated – construction does not achieve its purpose</li> <li>Cure comes from appropriate construction system being used.</li> </ul>	<ul style="list-style-type: none"> <li>Role Construct Repertory Test (REP)</li> </ul>

TABLE 2.3

SOURCE: CORSINI, R. & WEDDING, D 1995 : MEYER, MOORE & VILJOEN 1997 : VAN NIEKERK E. 1996 : COMPARATIVE ANALYSIS HUMANISTIC APPROACH : ROGERS & KELLY

When one considers the effect Rogers has had on the field of counseling psychology, it is not unusual to find his basic techniques woven into many strategies in therapy and counseling. Moore (1997:491) mentions how different it is to find a theory which deals with the person and not the unconscious.

Mye (1992:131) points out that according to Rogers, human nature can and should be trusted. This is obvious when looking at the above table – contrasting this to Freud one can see how very different personality theories in the psychoanalytical field and the Humanistic field are.

Maddi (1996:113) criticizes Rogers from the point of view that Rogers developed a theory of psychotherapy and not a holistic theory of personality.

On looking closely at Kelly one is aware that many of his postulants were new to the field of personology. Kelly saw the human being as a scientist (Meyer, 1997:497), which in itself is a new approach. Unfortunately Kelly died at a young age and social scientists today question many of his theories.

Hjelle (1981:355) also notes that Kelly's work generated little in the way of further research but he does credit him with the Rational Emotive Therapy (RET) test. While Kelly's contribution was limited in his field his thinking undoubtedly influenced Marston's approach in Personology.

## **2.8 ORGANIZATIONAL FACTORS AND PERSONALITY**

Arnold and Feldman (1986:40) view personality from the point that it is hereditary to a degree but that cultural, social and environmental factors play a role. However, on the point of how personality may influence our behavior at work they are ambivalent; they explain that predicting or knowing how someone may perform at work because one knows that persons personality type or style, is not enough to make a realistic assessment. Arnold and Feldman (1986:41) felt that

analysis of personality alone is incomplete without taking the many other multiple factors operating in an organizational environment into account and links them to make a comprehensive analysis of behavior.

In later research Muchinsky (1993:110) concludes that personality as predictability for job success has undergone a complete cycle. Muchinsky (1993: 110) states that it was thought that personality variables were related to job performance – Muchinsky (1993: 111) agrees that this is a logical conclusion and use examples like the MMPI developed by Hathaway and McKinley (1943). However Muchinsky does state that he feels that they were overused and misused (on reading this one can understand S.A. concern in this area.)

After some research at the time Guion & Gottier (1965) concluded that evidence on personality inventories did not support their use for selecting personnel.

Muchinsky (1993) goes further on the matter and states that research did however continue on the issue and that psychologists once again confirmed that personality variables did influence job performance. He further indicates that errors occurred when job performance prediction had been taken from conventional personality inventories that were not meant for industrial use with "normal" adults. The MMPI (Minnesota Multiphasic Personality Inventory) had been developed for clinical diagnosis to differentiate "normal" from "abnormal". Consequently scales were not correct for industrial work. Since then new inventories have been designed for the working population.

Tetton and Jacobs (2001:84) state that there are two main examples of diagnostic tests which measure how individuals fit into one or another system of personality. One is the abovementioned MMPI, the other being the Myers Briggs Type Indicator. Considering that the Discus shows definite correlation to the two tests in question one is further encouraged as to the integrity of this instrument.

Supporting this theme we find in a recent study done by Coetzee, Martins, Basson & Muller published in the *SA Journal of Industrial Psychology* (Vol 32.2:65), further evidence of the relations with the Myers Briggs Type Indicators "personality preferences" is seen. Using the Pearson product Correlation Coefficients (as used in this research) one notices many interesting personality and behavior items arising – this study was done across age and race in South Africa.

While this study does not focus on pure clinical aspects of personality, it is interesting to note that Totton and Jacobs (2001:83) make interesting comments on personality and predisposition to illness – the suggestion is made that there is strong evidence to support this position. They refer to Joan Arehart Treichel (1981) describing "biotypes" amongst other. While biotypes are not directly linked to the Discus Behavior Profiling System one is encouraged that with the many other assessment instruments that uncover common ground with the Discus, biotypes may at some stage in the future find correlation with the ever expanding comparisons that can be made with the Discus Behavior Profiling System. Understanding biotypes can only be of help when professionals make recruitment decisions based on assessment instrument results.

Some of the predispositions discussed are :

CANCER	HEART ATTACKS	ALLERGIES	HEADACHES
<u>Early life experiences of,</u> Lack of love with psychological traits in, Repressed, Self blaming, Negative, Compliant type.	<u>Early life experience of,</u> Too close to parents encouraged to achieve. With psychological traits in, Ambitious, hardworking, competitive, Stressed, angry.	<u>Early life experiences of,</u> Dominating mother / ineffectual father, With psychological traits in, Repressed hostility.	<u>Early life experiences of,</u> Strict upbringing. With psychological traits in, A punitive conscience

TABLE 2.4  
SOURCE TOTTON & JACOBS : BIOTYPES 2001



These statements now raise the question of how such findings would relate to the Discus Behavior Profiling System. Could they be taken into account when hiring someone with, for example, a very high Dominant or low Compliance factor? Views could be expressed in controversial long term factors relating to health, financial loss, medical aids and absenteeism and human relationship matters.

Taking this line of thinking one step further, Kets - de Vries (1984:40) expresses the finding in his book that there are five main organizational styles which are dysfunctional.

Paranoid :            Caused mainly through an atmosphere of distrust and insecurity

Compulsiveness :   Programmed bureaucratic dysfunctions , inflexibility.

Dramatic :           Rash expansion policies, inconsistent strategies.

Depressive :        Anachronistic strategies.

Schizoid :           Lack of leadership, distrust, lack of collaboration.

Kets - De Vries (1984:40) further supports the need for testing and a careful analysis of how the psychometric factors can be used to employ the right fit to the right position. Evaluating assessment factors to corporate strategies and functional/ operational needs in a company is vital. Emphasizing the support for responsible psychometric testing and a clear understanding of the important role that personality has to play in the holistic approach to organizational wellness is emphasized.

It appears from further literature by Kets de Vries (1995:115) that the dynamics of personality in entrepreneurs can be approached from another point. The author

discusses the parallels around the polarities of high control / low control and the dimension of acceptance / rejection attitudes expressed by parents towards their children. He contends that the way parents react towards their children has extremely important functions later on in both personality development and the work environment. Kets - De Vries states that this behavior is internalized – the dimensions assimilated in his opinion leads to four possible configurations for each parent:

Respectively:       Acceptance and high control  
                          Acceptance and low control  
                          Rejection and high control  
                          Rejection and low control

Complications are: Constitutional disposition,  
                          Sibling rivalry.

The author's hypothesis is that depending on the child's perception, a potential entrepreneur, may - in a situation of high control and rejection, may be filled with a sense of inconsistency - reject authority figures and tend towards paranoia.

As discussed earlier the author considers paranoia to be one of the "big five" problems in organizations. Kets - De Vries (1995:117) goes on to discuss further complicating factors in his theory. Not losing sight of explanations in the Discus User Guide one can again draw parallels in evaluating the interesting perspective gained when looking at these components and the critical role personality plays in psychometric tests. This area would require further research.

Considering the findings in the literature that is being discussed, the researcher is of the opinion that the Discus Behavior Profiling System finds itself in respectable company , which in turn further reflects and supports the position to

prove the Discus Zulu model to be a valid instrument in relation to legislation set out in the Equity Act No. 55 of 1998 Chapter 11.

## **2.9 CONCLUSION**

From Galton, beginnings to the present, much research has been computed and will still continue. In this country matters such as cross culture assessment will take centre stage. The validation of the Discus Behavioural profile in Zulu holds promise of a better understanding of our present political dispensation and further requirement in psychometrics. The influence of first and second generation Freudian and Jungian thinking will continue to influence psychometrics.

## **CHAPTER THREE**

### **PSYCHOMETRIC ASSESSMENTS WITHIN A MULTI – CULTURAL SETTING**

#### **3.1 INTRODUCTION**

In this chapter the pros and cons of language usage, the importance of assessment centres and the role they play in other countries is discussed. Perception of testing and their interpretation is also juxtaposed. Some issues with discrimination and adaptation of these instruments is debated, relating to various forms of validity that are necessary. The various administration matters around testing and criteria needed to allow for this process to be seen to be fair, is also discussed. Finally, there is also a focus on test construction itself and our multicultural society. Humans have always asked questions about themselves and tried to understand the many aspects of what makes up a personality. Many authors have written about personality - from Plato and Aristotle to the more contemporary writers such as Freud, Jung and Egars. From these authors hypotheses, many different personality theories have arisen, with each author taking an aspect from their own frame of reference to life and building on it.

#### **3.2 PERSONALITY TESTING**

Huysamen (1984:89) is of the opinion that there is close interaction between theories on personality and measurement of personality. He further states that progress in research on one factor is progress in research on the other. The argument is supported by the researcher; establishing the validity and reliability as indicated in the problem statement will pave the way for other related research in this field. Huysamen (1984:90) also comments on three methods of measuring personality namely; questionnaires such as the Discus, projective techniques and ratings.

Tests of interests are usually measured by ipsative type questionnaires, whereas projective and ratings are done by persons who are familiar with the subject, mainly through observation.

Edenborough (1994:36) has views on using the word "test" when describing personality measurement – he raises the issue that "personality questionnaire" should be used. He argues that these instruments do not "test" behavior directly but how the respondent chooses to describe his behavior. He also raises the point that in these "test" there are no right or wrong answers.

Edenborough (1994) goes further to mention, and raises the question "Are there right and wrong personality mixes for certain jobs?" He does not give a final opinion on this but does state that Cattell's guide of the 16PF (1989) uses both the term "test" and "questionnaire" in her work. Considering the strong correlation found by Roodt (1999) in her statistics study, with the 16PF one is again assured of the company the Discus finds itself in. Roodt (1999) found that the p-values were .0001

### **3.3 ASSESSMENT CENTRE**

In general assessment centres are used to identify leadership potential. Their popularity was encouraged by the large amount of publicity they received in the United States during the 1980's. At this time the United States was moving into affirmative action and found assessment centres useful when looking at selection, promotion and early identification of managers.

A conference held in Stellenbosch in 1989 hosted by the Society for Industrial and Organisational Psychology of South Africa, was the start of an orchestrated attempt to focus on these issues in South Africa.

Charous (1987) after doing a broad study found that assessment centres ratings appeared to show and support findings on black managerial potential. (IPM Journal August 1989; Culture Fairness of the Assessment Centre)

An interesting point raised in this article was that differences in Black and White overall assessment centre ratings were mainly found among candidates for first line supervisory level. The issue now arises; is this an indication of discrimination? Or due to poorly informed or overly anxious managers trying to send in "the right quota" of previously disadvantaged candidates to Assessment centres in the hope that these candidates may show some unidentified potential.

The author of this article quoted many different studies and points of view in what seemed to be a balanced argument, coming to the final conclusion that assessment centres appear to be fair and results are reliable. The author concludes that people regardless of race or sex that are found to be on a higher rating at these centres tend to perform better "on the job" than those that have a poor rating.

It is the author's opinion that these studies in the U.S.A. have a direct bearing on what we should find in this country. The author is careful to mention that variables such as cultural differences between South African black people and American blacks may need to be factored into results of studies done in this regard in South Africa.

The researcher feels that although there may be grounds for some similarities to be drawn between South African blacks and American black people, to make a blanket statement that strong correlations exist between these two cultures and results of tests can be taken as proof thereof, would be overly optimistic.

Looking at some of the more practical aspects of assessment centres one needs to acknowledge that this is not the cheapest option of assessment. However

expenses can be seen as relevant to the situation. In an article entitled *Psychometric Testing and Human Resource Management* (S.A. Journal of Industrial Psychology 2002:77-86), Van der Merwe discusses this fact and is of the opinion that in spite of the expense, efficiency of selection and placement of staff is vital. Acknowledging the high cost of staff turnover, the author is of the belief that the means justifies the end. His article states that if psychometric testing is handled with insight and sensitivity it remains the most effective way to place key staff. In his view, assessment centres are usually best equipped to manage this process.

On pursuing benefits of assessment centres to the organization [www.s-main.com/psychometrictesting](http://www.s-main.com/psychometrictesting) also mentions factors such as:

- It provides objective information on candidate's skills and competencies required for the job.
- It's a basis for an employee development plan – thereby increasing the speed at which the employee returns productivity to the firm.
- It helps to optimize decisions taken about the member.
- It demonstrates the importance placed on people by the organization.

Assessment centres help staff members or candidates who pass through them to create a more objective base to evaluate their situation and placement. The literature also confirms the professional approach used by these institutions.

[www.s-main.com/psychometrictesting](http://www.s-main.com/psychometrictesting) goes on to discuss a table of instruments/ exercises that can be used by assessment centers:

Verbal Reasoning – ability to reason with written information; numerical reasoning – reasoning with numbers and statistics; pre-prepared presentation – spoken communication; analytical presentation – spoken and written communication using problem solving and judgments; in tray – planning and

organizing; thinking exercise – creativity; competency interview – current and past behaviour; technical interview – ascertain knowledge and capabilities of person; coaching and role play – conflict resolution, listening skills.

According to literature produced by the National Occupational Standards of Management (2003) discusses drawbacks of psychometric type tests used by assessment centres and other professionals. Their opinion is that testing tends to create the impression that it gives precise answers to complete, and in some cases intriguing questions about personality and other human factors, and often in the tone of summarized answers that implies the ability to predict behaviour. Again we are faced with ethical issues on these matters. Another limitation discussed by this article is the cost of using, administering and evaluating tests and the problem of interpretation of these items.

While one can always find reasons to use these tests, many of the opponents of testing feel that one should first identify whether the objective of what is required will be met by complex testing and is cost effective for the situation. Other issues often raised are the correct choosing of a test – money and time are often wasted with inappropriate tests (possibly all the more reason to use assessment centre professional services) and one needs to take into account that more than one test is usually required.

If one evaluates many of the documents written on assessment centres and testing in general, it is obvious that in interpretation of all testing – psychometric or similar – understanding their significance and limitations of result is impressive.

The National Occupational Standards of Management (2003) does argue at the end of this article that one should always remember that people with quite different personalities may succeed in any given job for a variety of different reasons.



The question now arises from a South African point whether, with the effects of the brain drain and the legal framework requirements discussed in Chapter one, this country is still able to meet the challenges that lie ahead.

In an article written by Margaret Jorgensen titled "Can the Testing Industry Meet growing Demand?" ([www.nap.edulissues](http://www.nap.edulissues)), Jorgensen raises the question about the ability of the testing industry in America to cope. The article indicates that they can – however much argument is raised around standards that are not being correlated and mass use of standardized tests which are not always suitable to circumstances in that situation.

George Domino (2000:371) makes some interesting findings which tend to support assessment centres and the predicting of job performance when cognitive type tests are used. From the literature one learns that Schmidt and Hunter (1981) report that cognitive ability tests are equally valid for minority and majority applicants. He clarifies this with the following statement :

"Cognitive tests are fair to minority applicants in so far as they do not underestimate expected job performance of minority groups".

On further reading the researchers' quotes from Hunter and Hunter, (1984) and Schmidt and Hunter (1979) using Meta-analysis (discussed in Chapter one), it was found that:

- Cognitive – ability tests have a mean validity of .55 in predicting training success.
- There is no job for which cognitive ability does not predict training success.
- As job complexity decreases, the validity of cognitive tests decreases, but the validity of psychomotor tests increases.

A possible argument here could be – does psychomotor test validity decrease when job complexity rises? Unfortunately there are no comments on this in the literature.

- As stated in much of the literature this group also mentions that validity could be increased by using other measurements such as social skills and personality tests that are relative to the situation.

Another issue related to assessment centres is the very real problem of testing people who are disabled in some way.

The Department of Labour has set out its definition of disability along with the relevant acts from which the definition and supporting legislation has been derived. In principal the definition and policy emanates from The Employment Equity Act No. 55 of 1998 and needs careful scrutiny. The consequences of neglect by a psychometrist in this sphere could be problematic.

The documentation on the subject is set as follows using the National Legislation on:

- Section 54(1)(a) of the Employment Equity Act, No. 55 of 1998
- RSA Constitution Act. No. 108 of 1996 as amended
- Basic Conditions of Employment Act
- Skills Development Act
- National Integrated Strategies on Disabilities
- United Nations Rules on Equalisation of Opportunities.

Definition of Persons with Disabilities under the Act:

The scope of protection for people with disabilities in employment focuses on the effect of a disability on the person in relation to the working environment, and not on the diagnosis or the impairment.

People are considered as persons with disabilities if they satisfy all the criteria in the definition:

Having a physical or mental impairment;

- (i) Which is long-term or recurring; and
- (ii) This substantially limits their prospects of entry into, or advancement in employment.

#### **Impairment**

As set out in the Employment Equity Act No 55 of 1998 any person being assessed would need to be accommodated should they present with a condition as set out below

- (i) An impairment may be either physical or mental, or a combination of both.
- (ii) "Physical" impairment means a partial or total loss of a bodily function or part of the body. It includes sensory impairments such as being deaf, hearing impaired, or visually impaired.
- (iii) "Mental" impairment means a clinically recognised condition or illness that affects a person's thought processes, judgement or emotions.

#### **Long-term**

- (i) "Long-term" means the impairment has lasted or is likely to persist for at least 12 months.
- (ii) "Recurring impairment" is one that is likely to happen again and to be substantially limiting (see below). It includes a constant chronic condition, even if its effects on a person fluctuate.

- (iii) "Progressive conditions" are those that are likely to develop or change or recur. People living with progressive conditions or illnesses are considered as people with disabilities once the impairment starts to be substantially limiting. Progressive or recurring conditions which have no overt symptoms or which do not substantially limit a person are not disabilities.

### **Substantially Limiting**

- (i) Impairment is substantially limiting if, in its nature, duration or effects, it substantially limits the person's ability to perform the essential functions of the job for which they are being considered.
- (ii) Other impairments are so easily controlled, corrected or lessened, that they have no limiting effects. For example, a person who wears spectacles or contact lenses does not have a disability unless even with spectacles or contact lenses the person's vision is substantially impaired.
- (iii) An assessment to determine whether the effects of impairment are substantially limiting must consider if medical treatment or other devices would control or correct the impairment so that its adverse effects are prevented or removed.
- (iv) For reasons of public policy certain conditions or impairments may not be considered disabilities. These include but are not limited to:
  - a) Sexual behaviour disorders that are against public policy;
  - b) Self-imposed body adornments such as tattoos and body piercing;
  - c) Compulsive gambling, tendency to steal or light fires;
  - d) Disorders that affect a person's mental or physical state if they are caused by current use of illegal drugs or alcohol, unless the person is participating in a recognised programme of treatment;
  - e) Normal deviations in height, weight and strength; and conventional physical and mental characteristics and common personality traits.

- (f) An assessment may be done by a suitably qualified person if there is uncertainty as to whether the impairment may be substantially limiting or not.

According to a paper written by Clark and Baron (2000) and distributed by the British company "SHL2000 UK", a disability can be a "physical or mental impairment which has substantial and long term adverse effects on the ability to carry out normal day to day activities".

Clark and Baron (2000) discuss a variety of aspects covering problem situations when testing the disabled. Advice is also offered on items such as reference and terminologies to be used when discussing matters with disabled people covering the area of "political correctness".

An interesting point raised by the authors is that employers, where hiring disabled people, should carefully consider abilities and attributes required for the job – employers should differentiate between essential and merely desirable attributes. Their position is that people with disabilities may need to do tasks differently from the main stream – but do them just as effectively.

Clark and Baron (2000) furthermore discuss the question of blind, deaf and dyslexic candidates. They raise the controversial matter of making changes to the administration process and the degree of flexibility that can be allowed. Of course problems can arise should the interpretation of the result be challenged. The authors do not give a direct answer to this point; however helpful checklists are given to assist professionals in this field when doing this type of test.

Disabled people are not the only new factor on the horizon that assessment centres might have to assess.

Research discussed in the Journal of Applied Psychology (Vol. 86, No.2:265 – 278:2001), takes a different angle on personality. Unfortunately no comparison can be found against the Discus Behaviour Profiling System. Nevertheless profile comparisons would make for interesting analyses on the dominance, influence, steadiness and compliance scales. Schaibroeck, Jones and Lin Xie, (2001) maintain that there are very definite interactive effects of demand and control on staff members' health when individual characteristics are matched to factors such as self blame, control factors in their work and the Jungian explanation of extrovert and introvert characteristics.

According to the three authors, the movement world-wide to flatter structures has a link towards giving staff more responsibility and larger workloads. These demands are now showing a different creation of physical and health problems not seen before. According to this article many people, respond favourably to control. However, for some people control can exacerbate the unhealthy effects of this kind of stress. Various stress theories such as Lazarus and Folkman (1984) and Karasek (1979) are mentioned reporting their hypothesis.

The model that is put forward by the authors states that: control buffers workers from the unhealthy effects of a demanding job. It postulates that jobs combining high demands and high control enhance the opportunities for problem-focused coping factors. As a result, incumbents of these jobs are predicted to have fewer health consequences than those who have high job demands and little control – and in turn should spend less time away from work.

The suggestion that this hypothesis makes, raises further questions such as, when testing is done by professionals, what other satellite factors i.e health, needs to be considered when a final recommendation is made to the employer about the suitability of an individual sent for assessment. Again this raises problems related to matters of confidentiality, allowing even greater margin for bias and errors in the final analysis.

In a further article released by Apapress ([www.apa.org](http://www.apa.org)), research material was discussed on a study done relating to loud noise and blood pressure to personality and job complexity. The study which was conducted over a period of four years indicated that in contradiction to the previous study mentioned, greater job challenges do not always result in stimulation – in this case staff with more complex jobs were found to be stressed due to the high noise level. On a further interesting point, the study found that workers with simple jobs exposed to moderate noise levels, when offset against the boredom and monotony of the job, caused less stress than the staff with complex jobs.

In the same article work injustices were looked at in male and female fire fighters. Introversion was also factored into the study. In introverts it was found that there were higher rates of injury. The explanation was that introverts are less likely to ask for help.

Females, though, tended to have 33 percent more injuries than males – the theory was put forward that females may not feel that they would be seen as weak if they reported injuries.

Introverts were more likely to tackle a situation on their own – extroverts would do it in a group which would probably result in fewer injuries in a dangerous situation.

Balancing the above statements against arguments raised, for or against testing, one needs to consider the complexities related to personality and jobs, cost, insurance, and recovery from injury time, all which now make assessment centres seem very necessary and worth the costs involved.

### 3.4 PERCEPTION OF TESTING

While reading through many papers which have been written on testing in this country, the researcher has continually found a trace in the reports of some form of inconsistency which revolves around perception of the test and the effect this has on results. Many of the papers were written in the late eighties and early nineties. If one takes into consideration the "mood" of South Africa in those days and the socio-economic position of African people who were used in these tests, one could become concerned as to the arguments presented after the results were published. This may be due to lack of understanding of what the person thinks the test is about and the need to project a good impression (please the examiner). There may also be a "don't give a damn attitude" due to some form of mistrust. Another reason may be illness in some form; people from underprivileged backgrounds are often sickly. Drug usage would not be uncommon in this environment, affecting alertness and cognitive processing.

Personality factors such as poor self awareness, a degree of self deception or an inclination to agree or disagree with statements in the test and a careless or negligent approach will also distort this process. Situational factors such as the condition of a school and the built environment that many of these tests were written in and the related physical discomfort, will all have played some role in this misunderstood situation. Long walking distances to school and fatigue need to be factored into the results as well.

With the cultural, social, political and financial distortion in the African group during this period, the researcher will highlight what may have been contributing factors to the situation throughout this term.



### **3.5 DISCRIMINATION AND THE NEW SOUTH AFRICA**

Mphelo (1990:22) quotes international Human Rights law at length and makes many points on the subject of discrimination in testing and selection techniques.

Unfortunately, considering the time in which this article was published, many of the arguments have dated themselves. However, the article does still make some interesting points. The author quotes from a United States Congress report in which clear indication is given even in the 1990's that only relevant questions may be used. "Any test used must measure the person for the job and not the person in abstract". This is still one of the main points in contention today in South Africa. Objective criteria are vital when looking at an assessment tool's purpose.

Mphelo (1990:23) quotes from an American case in which the objectivity of criteria used in a test was questioned. The finding was as follows:

In essence a preponderance of the evidence must demonstrate that the objective criteria does not impact on members of the protected group at a substantial and disproportionately higher rate from the favoured group. The onus then shifts to the defendant to show evidence demonstratively that the objective criteria are sufficiently related to successful job performance or otherwise constitute "business necessity".

### **3.6 ADAPTATION OF A MEASURING INSTRUMENT**

In an article written by Van Ede (1996:153), she sets out a whole range of step by step guides to dealing with adaptation of measuring instruments when cross-cultural groups are involved.

The author's point is that looking at attributes and behaviours under different cultural conditions and comparing them, allows social scientists to confirm uniformity and at the same time makes us aware of differences; these variations then permit further insight into human theory and behaviour. The author is careful to bring to the attention of the reader the difference between the word "adapt" and translation of an instrument; she sees translation as only one part of adapting a measuring instrument.

### **3.7 STEPS IN THE ADAPTATION PROCESS**

Van Ede (1996:54) points out the importance of selecting a source instrument which is appropriate for cross-cultural assessment. Factors such as purpose of the instrument, age group, educational level of the group, gender and socio-economic standing are considered. Transportability of constructs is of vital importance according to the autonomy. Meaning of the test needs to be the same in the two cultures, clear distinction is made that the subject in the instrument will be interpreted in the same way and that something other will not be construed by subject from the target culture.

### **3.8 LANGUAGE EVALUATION**

It is very important to make sure that terms and concepts used will have an equivalent form; something often overlooked is that differences found in tests between cultures are not necessarily the result of different abilities, but different interpretations coloured by language.

Van Ede (1996:54) feels that if the difficulty level of language from the source instrument is too complex for the target culture to handle, then a new instrument needs to be found. She mentions the following when evaluating language:

Sentences should be simple and short. An active voice should be used when writing. Avoid subjunctives – words such as could, should and would. Do not use concepts that may have different meanings cross-culturally – possessive forms should have been avoided as they have different connotations in other cultures. Van Ede (1996:54) is also specific on terminology, so as not to confuse cultures that may not have such a general term (such as livestock – use the word cow). Does not use vague language like probably, maybe or perhaps; use one verb and one action: this makes it easier for translators.

### **3.9 PSYCHOMETRIC CHARACTERISTICS**

Van Ede (1996:154) describes these characteristics as test reliability and validity. Mentioned particularly are internal consistency and test retest. Van Ede refers to internal consistency as the extent that items of a test inter-correlate, and follows on that if co-efficient alpha is low for a test, a relatively high correlation between test - retest should not be taken as an indication of high reliability.

According to the Van Ede (1996:154) test retest reliability is used to determine the temporal stability of a construct. It is measured by administering the same form of the instrument to the same group of individuals on two consecutive occasions. The correlation between the scores obtained on the two occasions is used as the co-efficient of stability.

### **3.10 TEST VALIDITY**

Van Ede (1996:154) states that various forms of validity should be considered when selecting an instrument. As short summary follows on some of these forms of validity. The author defines content validity as relevance of the test and how well it covers the content of the traits to be assessed.

Face validity is described by Van Ede (1996:153) as the extent to which the test items appear to measure what they are supposed to measure. Construct validity is defined by Van Ede (1996:154) as the extent to which the test is measuring the theoretical construct it is supposed to be measuring. Van Ede (1996:154) also quotes Huysamen (1980:193) as using the term factorial validity in place of the term construct validity. The researcher has also at times found this term used as an alternative.

Factor structure is also discussed in Van Ede's (1996:154) definition of construct validity from the point that exploratory and confirmatory factor analysis should have been used to determine the factor structure. The author's opinion is that, if the same factor structure merges consistently when different samples were used, the instrument has construct validity. The author uses the examples of "samples" as age, gender or cultural groups. The author goes on to describe criterion-related validity as including predictive and concurrent validity; predictive validity referring to how accurately the test predicts future behaviour. Concurrent validity is explained as the extent to which a new assessment instrument correlates with an immediately available criteria or earlier instrument that measures the same or similar construct.

As has been discussed in this research, the South African Employment Equity Act 1990 (Act No. 55 of 1998) insists on proof of any assessment instrument reliability and validity before the instrument may be used. In support of what has previously been written on this topic the researcher quotes a South African paper by Wallis (2004:102) in which it is indicated that construct validity relies on ensuring that a test correlates positively with others that focus on same or related constructs and negatively with tests that focus on different unrelated constructs. Wallis (2004:103) does question some of the assumptions on which empirical studies on this topic are founded – however his research is still ongoing.

### **3.11 TRANSLATION OF THE SOURCE INSTRUMENT**

Van Ede (1996:155) points out a very important factor in the view of the researcher: that accurate translation is vital. Further more she points out that simply being bilingual is not enough as literal translation can cause misunderstanding in the target population and can interfere with the validity of the measuring instrument.

Translators must have technical knowledge as well as subtleties and nuance understanding. The author mentions that if this type of skill is not available, a team approach is an option; comparison and discussion give a broader and more reliable approach.

### **3.12 TRANSLATION PROCEDURES**

Linguistic equivalence does not imply psychometric equivalence. Van Ede (1996:154) suggests that when using a team approach, after translation it should be given to a monolingual translator to rewrite. A monolingual translator is able to rewrite the instrument using language that is clear to the native speaker.

An additional technique that can be used is "back translation". This is when a bilingual person translates the service instrument into the group's language. Another translator who has no prior knowledge of the original test, translates the instrument back to the source. The instrument is then checked. An advantage with this method is that researchers need not be bilingual instead they can check the "back translation". This type of instrument is useful in a country like South Africa. By moving back and forth checking and rechecking, clear translation is achieved. Emic phrases (phrases that can only be said in one language) will be excluded.

The opposite to the above technique is "forward translation". A group of translators translate the instrument from the source language into the language of the target culture. Another group of translators then evaluate the equivalence of the two versions, then changes are made.

Van Ede (1996:157) also discusses a process that, after the source instrument has been translated satisfactorily, a bilingual review committee consisting of multinationals and bilinguals make a final decision. The author also indicates that the Fax Index can be used to interpret such linguistic difficulty level. Pilot testing is a must according to Van Ede and factor analysis should be performed using a factor loading  $\leq \pm 0.31$ .

### **3.13 ADMINISTRATION OF THE ADAPTED INSTRUMENT**

Van Ede (1996:156) draws attention to preparation of candidates before a test and the over or under motivation of these groups and the outcome it can have. Van Ede stresses that all subjects should receive the same treatments before administering the adapted instrument.

Nuisance variables in these adapted tests, such as factors which are not the main focus of the investigation, is to gather data about them and control them statistically by using analysis of covariance so that the effect due to the main factor can be considered together with the covariates and controlled.

### **3.14 ELIMINATING BIAS IN INSTRUMENT ADMINISTRATION**

In this section the author discusses several factors that can jeopardise a research project. "Rudeness bias" is defined as researchers not being sensitive to the norms of the target culture and offending the subjects. "I can answer any question bias" : with this bias in mind the respondent feels that they must answer all questions even if they don't have an answer.

"Courtesy bias" according to Van Ede, is when respondents try to find out what the researcher wants – and then supply the answer accordingly. With the "Hidden Premises" bias the subject employs the strategy of finding out what the researcher represents and what they are trying to learn.

As solutions to these problems, Van Ede (1996:155) suggests comprehensive reading on ethnographics of cultural norms and customs. This knowledge will help not to offend subjects and distort the results. The last solution mentioned is that the researcher needs to be aware of the range of potential answers that may be given; by doing this it would be possible to distinguish between honest answers and lies.

Van Ede (1996:155) also raises the important aspect of allowing subjects who are not familiar with testing, to be allowed time to "practice" if it is necessary before major research is done with them, so that familiarity with various testing techniques can be developed.

### **3.15 INFLUENCE OF THE TEST ADMINISTRATOR**

Van Ede (1996:157) indicates that characteristics of the test administrator can have a negative effect on the subject if there are dissimilar backgrounds. This can be neutralised to some extent through discussion with the target group, and

identifying characteristics that are understandable, and then avoiding that kind of administration. In addition, the administrator must take care to develop a good relationship with the subjects, but within limits that will not contribute to response bias (as already discussed).

### **3.16 PILOT TESTING**

Van Ede (1996:157) strongly recommends pilot testing after translation and adaptation of an instrument. This, according to Van Ede, indicates factor structure in the target culture and establishes measurement equivalence. Measurement equivalence is defined by the author as: "when individuals who are equal in the trait measured by the test, but who come from different cultural and linguistic groups have the same observed score. Van Ede also indicates that factor structure is confirmed by factor analysis.

### **3.17 DETERMINING EQUIVALENCE**

Van Ede (1996:158) states that to establish whether the adapted instrument is equivalent to the original, item equivalence of the factor structure needs to be established.

This means that item equivalence – if an item on the source instrument is equivalent to an item on the adapted measuring instrument, the equal abilities/ attributes should perform the same on a particular item. If this does not occur then there is item bias and the item should be discarded. Van Ede (1996:156) additionally suggests looking at Differential Item Functioning (D.I.F.) or item bias; this is used to match subjects according to their performance on a construct measured with the instrument. If subjects have the same construct score they should have the item score; if an item shows D.I.F. or item bias then the item needs to be examined or the reasons identified. There may be translation errors or expressions used that are not familiar to one group.



### 3.18 FACTOR STRUCTURE EQUIVALENCE

Van Ede (1996:158) states that in validating the factor structure of the adapted measuring instrument one should use confirmation factor analysis (C.F.A.). This Van Ede states is best done by employing the Linear Structural Relations software programme, or the E.Q.S. programmes.

Van Ede's paper suggests factors very relevant to this research. Noting Van Ede's comments on the complex problems of this country's situation, compounded by eleven languages, the researcher finds worth noting again the emergence once again of factors surrounding the pre-testing – attitude approaches of the tester or facilitator of these test instruments.

### 3.19 TESTING

Looking more closely at the history of tests Gregory (2000:2) states that testing in its most basic form came into being around 1900, developed by Francis Galton, a British biologist (Anastasi, 1982:7).

Guy Hiddall of [recruit@m/select.co.uk](mailto:recruit@m/select.co.uk) further indicates that the French also made a contribution to the system to control entrance to their schools with intelligence tests, and devised other tests for use during the Second World War. The famous American psychologist, Cattell, in the late 1800's wrote the now well-known foundation document on testing called "Mental Tests and Measurement"; his work was discussed in chapter one.

Raising a controversial issue, we could also claim that the Chinese had some form of psychometric testing in 2200 BC. However, argument could be raised as to how one could draw similarities between their tradition and current practices. Gregory (2000:4) does draw attention to this fact.

Edenborough (1994:20) also mentions the role that people like Yoakum and Yerkes played during the Second World War in helping government to identify abilities of suitable men for different roles in the war. Problems could arise if one questioned their techniques by today's standards and in comparison to the number of men who died in relation to what may have been seen as strong coloration in those days to validation factors accepted. This of course can raise the question about methods used today to make judgments in relation to what scientists may say in fifty years from now.

### **3.20 TYPES OF TESTS**

Gregory (2000:34) briefly looks at different types of tests such as Intelligence tests, Aptitude Tests, Achievement Tests, Creativity Tests, Personality Tests, Interest Inventories, Behavioural Procedures and Neuropsychological Tests.

He describes Intelligence Tests as tests that were designed to sample a broad assortment of abilities such as comprehension and reasoning, amongst others. Anastasie and Urbina (1997:36) also mention one of the early reasons why testing received so much attention - the grey area of retarded children and the possibilities of measuring and labelling this problem. Regardless of the fact that measurement in the early days was crude, it did, according to the literature, provide a basis for today's success.

Aptitude testing is described by Gregory (2000:34) as the capability for a relatively specific task or skill. He sees them as tests that look at a narrow margin of ability. Edenborough (1994:39) draws similarities between intelligence tests and aptitude tests, his point is that some tests of "general intelligence" can be seen as mental horse power and others for particular ability eg. verbal reasoning. Edenborough (1996:39) states that aptitude is usually reserved for tests that can predict whether skills in a particular area can be acquired. Arnold and Feldman (1986:34) also draws attention to the similarities between intelligence and

aptitude tests; they give examples in mental aptitude such as verbal comprehension and in physical aptitudes such as manual dexterity. On a more controversial note though, Arnold and Feldman (1986:31) report that no matter how motivated a person is, if they do not have the ability to do a task they will not succeed no matter how hard they try. This statement raises the question of how Arnold & Feldman come to this decision and how they interpret ability.

**Achievement tests** are described as success and / or accomplishment in a task.

**Creativity tests** are described as original thinking and capacity to find unusual or unexpected solutions.

**Personality tests**, as reported by Gregory (2000:34), measure traits, qualities or behaviour.

**Interest Inventories** measure preference of certain activities and are good ways of determining occupations.

**Behavioural Procedure tests** are tests that describe behaviour, identifying the antecedents and consequences of the behaviour. From the literature it seems as if check lists scales and interviews are the norm. Gregory (2000:37) indicates that this type of test is used in conjunction with therapy. Further questions raised on this issue are how relevant Behavioural Procedure tests are in the workplace; however, as therapy is often the result of workplace problems, it can be assumed that these tests are relevant.

**Neuropsychological tests:** amongst others Gregory (2000:34) mentions sensory, motor performance and brain damage. Neurological tests are necessary at work should some form of head injury or brain trauma occur. Usually in this case the "Halstead Reitan Battery of Neuropsychological test"

would be used. Further description of this test can be found in Kaplan and Sadock (1994:236).

One interesting factor mentioned by Liam Healy & Associates ([www.psychometrics.co.uk](http://www.psychometrics.co.uk)) was that scoring in ability tests and attainment type tests is different in that they are retrospective in that they focus on what has been learned and what the test taker knows and can do now. They state that ability tests are prospective – they focus on what the test taker is capable of achieving.

### **3.21 TEST CONSTRUCTION**

Gregory (2000:117) states in his work that there are six basic factors that must be taken into consideration when developing an assessment instrument:

#### **Defining the Test**

In his opinion this means having a clear idea of what the test will entail, Gregory (2000:118) is also of the opinion that the burden of proof rests clearly with the test developer.

#### **Selecting a Scaling Method**

Depending on the type of test being developed, the choice of scaling method will be defined. Gregory (2000:118) declares that no scaling method is better than another.

#### **Constructing the Items**

Franz (1995.10.00) [www.ericfacility.net/databases/ERIC](http://www.ericfacility.net/databases/ERIC) discusses several options when constructing items for a test. Gregory (2000:126) covers many of the same points in his book, some of which are:

- Choose words that have precise meanings.

- Include all information needed for response selection.
- Do not take stems verbatim from textbook.
- Avoid the use of non-functional words.
- Avoid unnecessary clues to the correct response.
- Submit items to others for scrutiny.

Contradicting one another over the issue of using the phrase "None of the above", Franz (1995.10.00) does recommend the use of this phrase as an option. Gregory (2000:126) discourages the use of this phrase. Neither author gives reasons to explain their position. However Frary (1995.10.00) does mention in one part of the literature that the phrase "none of the above" works best if there is some form of computation involved in the answers.

### 3.22 TESTING THE ITEMS

Gregory (2000:127) discusses several methods of statistically testing items to find the best combination to develop a final instrument. Methods such as the item, difficulty index, item validity index, item characteristics curve and the discrimination index are all used to make a final decision.

Looking at literature published by [www.psychometrics.co.uk/test.htm](http://www.psychometrics.co.uk/test.htm) we are informed that in the context of psychometric testing the word 'test' does not mean literally what it means to the lay person. These "items" are more to describe, rather than judge a person's abilities. The literature states that personality assessment in particular can be misinterpreted by lay people as test takers often view the results as a good or bad personality or a pass/ fail assessment.

Accepting the common sense of this statement one needs to ask why one sees the word "test" used as often as it is by people in psychometrics.

An interesting point raised by this paper is that psychological tests measure issues that cannot be directly observed and therefore cannot be directly measured i.e. numerical abilities or personality – these items can only be inferred from behaviour of a person and therefore are a hypothetical construct.

Once again there is a need to return to issues of validity and construct reliability, as is the focus of this thesis.

### **3.23 REVISING THE TEST**

Gregory (2000:132) states that very few tests emerge from the process of revision and refinement unscathed. This statement is supported by many of the authors who discuss the literature. It would seem that the birthing process of these instruments is not an easy and many items are therefore dropped, added or changed. The importance of several try-outs and fine-tuning before validation / cross validation is completed is vital. (Cross validation is the use of the original reaction equation in a new sample, to determine if the test predicts criterion as well as it did in the original samples (Gregory, 2000:133) or as indicated by Muchinsky (1993:123)). Analytic procedures are used to evaluate the stability of a valid prediction.

Moving on from the test construction, research indicates an issue which seems to be at the heart of many tests including this study, namely, the standardization of tests. In an article entitled Focus on Assessment, Roweton ( 2002) reports that a standardized test is one that is administered and scored under uniform conditions, or that the same tests and alternative versions of the test have been designed to yield comparable scores.

Van der Vyver (1997:88) goes one step further in his definition and gives a formula. In this instance he is discussing cultural differences. He states that standardization is usually defined as the computation of Z scores ( $Z = \frac{X - M}{s}$ ), in which X is the score to be standardized.

Roweton (2002) goes on to mention that standardization can reduce measurement error and more likely to result in true scores. He is also of the opinion that standardizing a test creates a more reliable norm base for comparison.

In a document issued by the U.S. Department of Labour 1999. ([www.hr-guide.com.data](http://www.hr-guide.com/data)) some guidelines are given when looking at test standards. This type of information is relevant to the South African situation as well. Some of the following are reported on:

- Test manual: this manual should give clear and complete information about how the test was developed, how to use the test, possible misuse, relativity, validity and administration.

A checklist for evaluating a test includes:

**Test characteristics:** such as test name, version of the test, scoring method i.e (hand or computer scored).

**Technical considerations:** i.e. reliability factor / validity factor, norm group, test fairness evidence, adverse impact, applicability to a special group.

**Administration considerations** are: admin time, materials needed, costs, facilities needed, staffing requirements, training requirements, test manuals.

## **Supporting documents from the publisher**

### **Review and evaluation:**

Walley and Smith (1998:107) bring together many of the factors discussed above, relating to standardization. Their approach indicates that:

All participants of a test should be treated equally in respect of the following:

- All test takers are given identical tasks of equivalent difficulty.
- Everyone is given identical instructions.
- Everyone is given the same time limits (if time is a factor).
- Everyone answers one test scored identically.
- Everyone completes the test in a similar setting equivalent to a quiet office or examination room that has few distractions.
- Tables from the norm group must be representative.

One can find that matters of description will become an issue when: Breaches in one or more aspects of standardization are broken; there is poorly written administration (instructions may be misleading or confusing); the approach of the administrator of the test differs from group to group; inappropriate norm group may mislead the final analysis; there is often criticism of American norms (as is part of the focus of this study for SA norms); there is lack of feedback to candidates.

Evaluating Tests: If done correctly from the first decision to do testing, this process can smooth out many frustrations in the process that lies ahead.

How to select test standards for evaluating tests: An article dated 2001-11-01 at [www.hr.guide.com/data/g364.htm](http://www.hr.guide.com/data/g364.htm) briefly sets out the following checklist to help one in this activity:

- Characteristics to be measured, such as skills, ability, personality.



- Job or training to be assessed.
- Candidate population (experience levels or other background).
- Test characteristics, test name "version" type (paper, pencil, and computer).
- Scoring method.
- Technical conditions, such as reliability (r) validity (r) norm group, test fairness evidence, applicability (special group).
- Administrative considerations; time, materials needed, scoring cost, general cost, facilities needed, staffing, training requirements, manuals, supporting documents, publishing, review.

Anastasi (1961:666) while following the general format as discussed above, discusses further the need to investigate matters such as standardization of sample factors such as the size and representativeness of the group before, and special needs of each test before simply accepting checklists as a comprehensive starting point to test evaluation and preparations. In contrast while this study does not aim to produce checklists a comprehensive analyses of tested data will be available in chapter four.

### **3.24 THE MULTI CULTURE OF SOUTH AFRICA**

The Penguin dictionary of Sociology (1986) describes "Culture" as a collective noun for symbolic and learned aspects of human society which includes language and customs from which human behaviour can be distinguished from that of other primates.

The literature goes on to fragment culture into different groups such as the Anglo-French, Anglo-American – one can only guess at how a Saxon-African could be described? – in the ongoing argument of dominant culture/dominant ideology for this country.

According to [www.wsu.edu.8001](http://www.wsu.edu.8001) in what is termed a baseline definition of culture and that it is not transmitted genetically. Jung might disagree with that statement (Jungian Archetype 1995:163). However the article continues to state that culture resides in all learned behaviours. The literature further states that learning is vital to characteristics of culture linking the outcome of learning to the reproduced behaviour of how the learning is understood.

The article then goes on to further state that culture is in a constant state of change; this is a vital phrase linking to the final outcome of the research on the Discus Behavioural Profiling System validation. This asks the question: Has there been sufficient change in African culture to allow what is a Eurocentric assessment, and that is clear interpretation in an African language.

In a needs analysis done by Foxcroft, Paterson, Le Roux & Herbst (2004:20), one finds statistics which confirm the challenges faced by many practitioners today – according to the need analysis:

- 16% of practitioners felt that tests used today are cross-culturally valid.
- 65% felt that tests are sometimes appropriate for cross-cultural purposes.
- 11% did not feel that any of the tests were suitable.
- 58% felt that a great deal more research needed to be done on the matter.

These statistics once again show support for the present study with Discus Behavioural Profiling System.

Contrasting each group, Meyer Moore & Viljoen (1997:619) show in the following diagram how they see difference in culture and personality of Western and African people. They do however point to literature by Sogolo (1993) who is of the opinion that Africans are in a state of transition. Sogolo points out that this should not be seen as development from a lower order to a higher order, but movement from one point on a continuum to another.

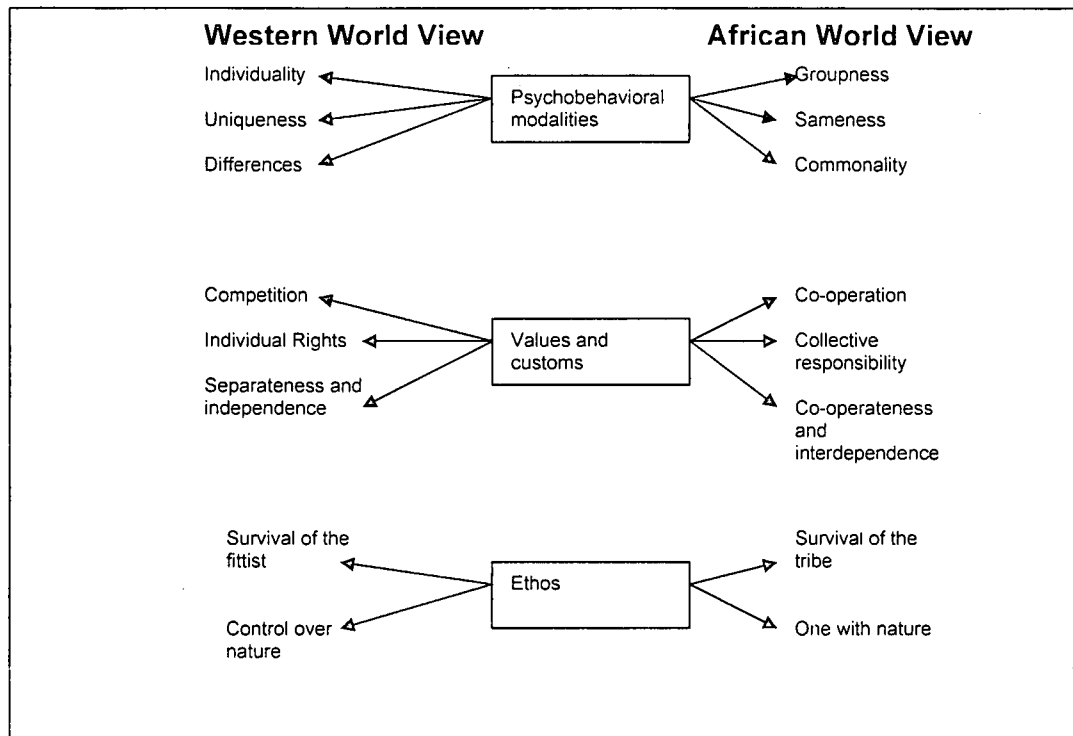


FIGURE 3.1

SOURCE : MEYER, MOORE & VILJOEN : WORLD VIEW : 1997

It is for this reason that many social psychologists now turn to cross-cultural psychology to find answers.

In looking at the Discus Behavioural Profiling System one needs to confront the question – are the two poles too far apart to find synthesis or can these two cultures be seen in a form or expression of equifinality and equipotentiality?

Meyer, Moore and Viljoen (1997:567) refer to Stierlin & Wynne (1985) for a definition of the above – in the case of equifinality, and that being the final position or result is the same or equivalent although the initial position may be different. In the case of equipotentiality the original position is the same, while different final conditions effects may be obtained. Equifinality and equipotentiality

imply a dynamic process in which different paths can lead to similar destinations and similar starting points can culminate in entirely different final conditions.

Taking the above into consideration, Brislin, Conner & Thorndike (1973:5) define cross cultural psychology as: the empirical study of members of various culture groups who have had different experiences that lead to predictable and significant differences in behaviour. In the majority of these studies the groups under study speak different languages and are governed by different political units.

According to opinions by Berry, Poortinga, Segall and Dasen (1992:3) – one of the many goals of cross cultural studies is to discover psychological variations that are not present in one's own cultural experience and also to find similarities.

The same authors (1992:17) go on to raise the issue of cultural transmission: according to their conjecture, there are three forms of transmissions when dealing with cultural transmissions – vertical descent or biological transmission, horizontal transmission and oblique transmission. Vertical transmission results from general enculturation from parents and specific socialization in child rearing. Oblique transmission comes from other adults, general and specific socialization as well as from acculturation. Horizontal transmission results from enculturation from peers.

According to literature "enculturation" refers to the "encompassing" or "surrounding" of oneself by your culture.

Acculturation refers to resocialization resulting from contact with and influence by social structures, institutions and other cultures and behaviour patterns of surrounding cultures. The above concepts are vital to how the Discus will be interpreted in the research presented in this paper and how factors might change in the future relating to this assessment. It is reasonable to assume that culture

changes over a period of time; different studies need to be done at different points in the change cycle – it is not unreasonable to consider that this study and the results from it will be in the long term one point on this continuum.

One factor that might perturbate the process is that the dominant group will need to move to or closer to the position of, the minority group, considering that at present the dominant group are protected by legislation. On some factors in this field true results may be difficult to find.

According to Anastasi and Urbina (1997:342) hereditary and environmental factors operate jointly at all stages of a human's development. The cultural milieu in which the person is reared is reflected in a test performance. The authors then state that it is futile to try and devise tests which are cultural free from the influence of the core tests. However, the authors are also of the opinion that no culture should be isolated, and that interchanges between cultures stimulate the advancement of civilization.

If one evaluates this statement, it raises the question – considering the ongoing change taking place in South African culture, from both the white or western perspective and the African point, and the rapid pace at which this change is taking place in both the youth and old generation ("Acculturation",) how relevant are the norms of the Discus Behavioural Profiling System assessment or other assessments for that matter in our society today. Possibly one can only say that norms produced by this investigation can only be seen as a starting point for the years of investigation that lie ahead.

Anastasi and Urbina (1997:344) also look at other aspects of culture/custom fairness in testing and assessment such as language and non language in assessment. They raise questions on culture that are not accustomed to two dimensional drawings object that may be abstract in some way and not an exact replica of the objects. They go on to discuss how different groups place different

values on contexts and situations and answers may differ widely from this kind of perception. In matters of translation they tend to concur with the paper written by van Ede (1996) discussed on page 52.

Elaine Sanders, in her book *Assessing Human Competence*, (2002:119) takes issue on non-verbal behaviour of assessors and candidates when looking at cultural fairness in assessment and interviews. She is of the belief that judgements based on non-verbal behaviour in cross-cultural situations need to be carefully evaluated or probed before being accepted and substantiated.

Sanders (2002:39) supports Anastasi & Urbina in their point of view that there is no such thing as culture-free assessment. Sanders (2002:33) takes a bold step and formulates the view that there must be a difference in scores reached by black and white South Africans – she advances the theory that one needs to decide between cultural bias or simply a reflection of difference in ability or behaviour between two groups. The author's perspective is that any test that does not show differences cannot be valid – it is clearly documented in our history that difference and disadvantage have and do exist; she believes this is simply reflected in the assessment. Furthermore, Sanders feels that these differences in the result should be used to assist further bridging and development.

Problems arise from this viewpoint of how to make fair choices from individual results. However Sanders (2002:40) opinion is that she would rather acknowledge culture bias and use it for advancement of the situation, than try to find reason to hide or camouflage it. Her point is well taken as masking differences can lead to lowering of standards for the wrong reasons. In a particular assessment, over time this then leads to loss of integrity in the instrument and its abandonment.

In an article written by Schmidt (1988:272) in the Journal and Vocational Behaviour the author contradicts most of the literature on assessments and is adamant that employment assessments are fair for all groups in South Africa and that the only loser who is not accepting these tests as fair is the employer. His argument quotes several other researchers and seems to revolve mainly around his opinion that differences arise as a result of lack of exposure by some groups to testing and assessment.

Huysamen in his book *Psychological Measurement* (1996:53) makes a suggestion that raises a similar point to Sanders (2002:33), namely, that trying to unify or camouflage differences is not the answer – he feels that one answer would be to have a national norm for South Africa. This could be through a combination of group norms to form one acceptable norm or simply to accept differences and to have group/culture or subgroup norms. This approach does raise questions on how these norms will be administered, but one cannot rule out that provided consistent in its approach, this idea is not unworkable.

Moving on from the technical argument of cultural fairness, one needs to look at some of the more fundamental aspects such as ensuring that assessments do conform to the legal framework set out in the LRA No. 55 of 1995 as well as the Health Profession Act 56, of 1974, along with a large amount of recently published literature in South Africa on the subject, some of which are:

Gregory (2000:44-45 ) is also of a similar opinion on this matter - that only registered psychologists may perform assessments which have as the core the following assessment factor personality items:

- Evaluation of mental process on personality adjustment.
- Aiding or adjusting emotional behaviour.
- Control of prescribed questionnaires, techniques, apparatus or instruments

- Appraisals or evaluation of emotional behaviour.
- Development of questionnaires and assessment techniques.
- All forms of cognitive testing and assessment.
- Interpretation of matters related to the DSM – IV and the multi-axial classification : Axis I, II, III, IV and V.

This strict control over assessment testing or psychometric testing - in general raises questions on how functional and user-friendly many of these instruments are and whether through over-legislation on the subject by zealous uninformed legislators with other agendas in mind, might have at the change of Government in South Africa, legislated themselves into a corner.

As discussed earlier on regarding this topic possibly the issue of "equifinality" and "equipotentiality", may need to be superimposed on our unlucky cultural system and accepted in Psychotomatrix that there can be many starting points and end points, that there are similarities, that there are gaps and differences and that within the newly developing acculturation of our country a start needs to be made on new National Norms.

### **3.25 LEGAL ISSUES**

Being informed about legal issues surrounding assessment is important. The Professional Board of Psychology Form 207, released by the Health Professional Council of South Africa, discusses in detail a number of relevant matters surrounding any form of measuring testing, questionnaire or assessing techniques. In particular they draw attention to the Health Professions Act, Act



56 of 1974, Section 37 (2) (a), (b), (c), (d) and (e). This section amongst others is also discussed in Allan (2001:191).

Allan (2001:191) reviews reasons why such comprehensive bodies of rules have evolved around Psychometrics (Psychometrics being literally translated as the "mind" or "human behaviour", metric means to "measure") (Saunders 2002:95). Allan (2001:192) goes on to detail concerns regarding infringements of personal rights, misconceptions about nature and purpose of tests and misuse of tests.

It is also interesting to note that the American Psychology Association (APA) has an almost identical code of conduct for practitioners as the South African Code set out by the Professional Board for Psychology, - Health Professions Council of South Africa (HPCSA). Comparing the two documents, one can assume from the tone of the presentation that similar problems and circumstances prevail in both countries. However, one does notice that our requirements to practice are more rigid and penalties more punitive for unauthorized use or other irregularities.

Mauer, in a paper titled Psychological Test and Other Similar Assessment Devices - classification and use in South Africa April 2000 – Department of Industrial Psychology UNISA – gives an in-depth explanation of the new laws surrounding this matter. In this article he refers to the Employment Equity Act No. 55 of 1998, Labour Relations Act No.66 of 1995 as well as the Mental Health Act 56 of 1974 and discusses the need to support this legislation.

Clearly from the literature one notes that there needs to be stable ethics in any society on this subject. One needs to consider the obvious necessity of formal policy on this issue in organizations. The Discus Behavioural Profiling System, being a management personality tool, would fall well within the ambit of potentially controversial material. From the readings and many publications

available on this topic, one concludes that policy should at least include discussions on the following:

- Mission statement on the subject
- Test standards
- Professional standards
- How administration will be managed
- Special needs for personality measurements
- Test type and organizational needs
- Ethic – gender linguistic fairness
- Feedback or interpretation of scores
- Confidentiality
- Responsibility of test giver and taker
- Appeal process
- Testing staff with known disabilities.

Policy used in the correct context brings clarity on heavily legislated topics as set out by the Professional Board of Psychology, and not only protects all members involved but wilful malpractice issues tend to be neutralised. One needs to be aware that test takers are rarely familiar with this type of legislation. Policy

further ensures adequate training and feedback. Ultimately a good policy can legally justify tests used and explain their relevance and linked actions.

From a legal perspective, a clear policy does protect employers/organizations from unnecessary litigation, and union participation in development of this document is advisable.

One cannot leave this discussion without once more mentioning the explicit guideline on, when and how to use assessments as set out in the Employment Equity Act, Act 55 of 1998 Chapter 11.

While it is evident from the literature that there are exclusive rules and regulations on testing and assessments, we need to concede that this country is only at the starting point of many new elements in an ever-emerging new social order and that changes will occur in the period ahead of us.

### **3.26 DISCUS BEHAVIOUR PROFILING SYSTEM**

The original thinking behind the Discus Behavioural Profiling System was first developed by Marston in the 1920's ([www.discinterconsult.com](http://www.discinterconsult.com)).

His work was published in a book titled "The Emotions of Normal People". In this book he also briefly explained the beginning of the Discus as we understand it today.

Taking a step further back in history, a paper published by du Plessis & Associates (2006) suggests that some inspiration for the four principles in the Discus may have been influenced by the Greek theory of personality. This theory was based on the four elements of fire, air, water and earth, also in some literature explained as blood, yellow bile, phlegm and black bile.

Furthermore we need to remember that the four factors in the Discus profile hold strong correlations to the Jungian factors of personality namely, sensing, intuitive, feeling and thinking types.

Looking at the four principles, some interesting issues arise around the element of projection and how the different types see each other.

Buttendach, Rothmann and Witte provide some thought-provoking statistics in their paper written in the SA Journal of Industrial Psychology (Vol. 31.4:7). The study looks at job insecurity through comparison of age, race and gender. Not surprisingly one finds that white South Africans over the age of 46 show a high insecurity in their jobs. One now needs to ask – could personality issues become so sensitive that groups who feel at a disadvantage due to age or race try to distort their answers in the clumsiest way to make themselves more employable?

According to the Discus Behavioural Profiling System manual, should this occur, a "Crushed Profile" will result, thereby building in an indicator to the controller for further investigation.

The following grids show how some of these types see each other, in Discus terms. By correlating one can avoid considerable discord in an organization – and on a more positive note create excellent working teams and increased productivity.

The researchers purpose in juxtaposing the items below is to emphasis the high esteem in which the Discus Behavioural Profiling System is obviously held. Throughout this study there have been frequent referrals to the Discus Behavioural Profiling System instrument by a wide variety of authors - some where close correlations are found, others not – however, the Discus profile is noted and acknowledged.

### 3.26.1 SUMMARIZING THE FOUR TYPES

Summarizing the four types we see:

D	I	S	C
Forceful	Optimistic	Steady	Precise
Direct	Friendly	Patient	Sensitive
Strong willed	Talkative	Loyal	Analytical
Impatient	Charismatic	Practical	Idealistic

TABLE 3.1

SOURCE : SELF GENERATED : INScape PUBLISHERS 0 – 232 : 1996 : DISCUS INTER CONSULT : 2004 : DISCUS INDIA [WWW.ONLINEDISC.COM](http://WWW.ONLINEDISC.COM) : [WWW.STEFDUPLESSIS.COM](http://WWW.STEFDUPLESSIS.COM) : 2003 : DISC USER GUIDE : DISCUS TYPES

It then further appears from the literature - in this case Stef du Plessis and Associates ([www.StefduPlessis.com](http://www.StefduPlessis.com)) that one can make the following assumptions:

<p><b>(D) DOMINANT TYPES</b></p> <ul style="list-style-type: none"> <li>✓ Independent persistent and direct</li> <li>✓ Energetic, busy, fearless</li> <li>✓ Tend to focus on their own goals rather than people.</li> <li>✓ Tell rather than ask</li> <li>✓ Often use "what" when questioning</li> <li>✓ Tend to take command</li> <li>✓ Dominance is the factor of motivation and drive</li> </ul>	<p>Other (D) see you as "argumentative, arrogant, controlling and aggressive".</p> <p>(I) See you as: live and work in the "here and now", don't do well with ideas, overbearing, poor planner and arrogant.</p> <p>(S) See you as: self involved, not trusting others, dominating, arrogant, thoughtless, nervous and confrontational.</p> <p>(C) See you as: impulsive, poor planner, superficial, argumentative domineering and nervous.</p> <p>In all these areas the issue of projections is a major factor</p>
<p>Their working environment should be:</p> <p>Power and authority Prestige and challenge Opportunity / advancement Wide scope of operations Direct answers Freedom from control Varied activities</p>	<p>Work best with people who:</p> <p>Weigh pros and cons Calculate risks Cautious Predictable and structured Research facts Deliberate Consider others</p>

<b>(I) INFLUENCE TYPES</b> ✓ Social, persuasive and friendly ✓ Energetic, busy and optimistic ✓ Tends to be distracted easily ✓ Imaginative and future focused ✓ Lack time management skills ✓ Tell rather than asks ✓ Tends to ask "who" in questioning ✓ Likes to be centre of attention ✓ Live by their "feelings"	Other (I) see you as: a stimulating and optimistic person.  <b>(D)</b> See you as: impractical, non-doer, egotistical and too optimistic. <b>(S)</b> See you as: cold, condescending, self involved, egotistical, inattentive and too optimistic. <b>(C)</b> See you as: you do not take time to think things through, unrealistic, superficial, too sure of yourself.
Their working environment should be:  Social Recognition of ability Freedom of expression Group work or activities Democratic Low levels of control and detail Coaching and counselling skills	Works best with people who:  Concentrate on the task Use facts Speak directly Respect sincerity Deal with things not people Have a logical approach Follow through on tasks.
<b>(S) STEADY TYPES</b> ✓ Consistent / stable ✓ Accommodating and peace seeking ✓ Support and help others ✓ A few close friends ✓ Ask rather than tell ✓ Ask – how and when	Other (S) see you as: dependable and self controlled, patient and a good listener.  <b>(D)</b> See you as: manipulative, sentimental, slow and laidback <b>(I)</b> See you as: stirring up conflict, sentimental, manipulative and possessive.  <b>(C)</b> See you as: over reactive, too casual, subjective, vague and apathetic.
Their working environment should be:  Security in their working position Not much change No work influence with their private life Acknowledge of work completed Sincere appreciation Group work Tradition procedures	Work best with people who:  React quickly to change Take on challenges Take on many tasks Are self prompting Apply pressure to others Delegate Flexible
<b>(C) CONTROL TYPE</b> ✓ Cautious, slow critical thinker ✓ Tending to be a perfectionist	Other (C) see you as: a perfectionist, accurate, follow rules and proper  <b>(D)</b> As indecisive, rigid to cautious, slow,

<ul style="list-style-type: none"> <li>✓ Logical fact based</li> <li>✓ Don't show feeling – private</li> <li>✓ Looks at the big picture</li> <li>✓ Careful</li> <li>✓ Asks why and how</li> <li>✓ Don't like to take risks.</li> </ul>	<p>too dependent and evasive</p> <p>(I) Nit-picking, overly cautious, serious defensive, worry too much</p> <p>(S) Cold insensitive, overly reliant on facts, evasive</p>
<p>Their working environment should be:</p> <p>Security and assurance</p> <p>Set operating procedures</p> <p>Sheltered environment</p> <p>Not much change</p> <p>Group or team orientated</p> <p>Personal attention</p>	<p>Work best with people who are:</p> <p>Supportive in change circumstances</p> <p>Validation of self worth</p> <p>Informative / appreciative of their contribution</p> <p>Give guidelines to accomplish tasks</p> <p>Have confidence in the ability of others</p>

TABLE 3.2

SOURCE : SELF GENERATED : INSCAPE PUBLISHERS 0 – 232 : 1996 : DISCUS INTER CONSULT : 2004 : DISCUS INDIA [WWW.ONLINEDISC.COM](http://WWW.ONLINEDISC.COM) : [WWW.STEFDUPLESSIS.COM](http://WWW.STEFDUPLESSIS.COM) : 2003 : DISC USER GUIDE : DISCUS TYPES

### 3.26.2 PREFERENCES

Just by looking closely at this, a number of preferences can be seen within the Discus types, including:

Preference	Dominant	Influential	Steady	Cautious
Focus on other people		X	X	
Independent, internal	X			X
Energetic and busy	X	X		
Tell rather than ask (vs. opposite)	X	X		
Imaginative, big-picture, future focused		X		X
Like stability and predictability			X	X
Like change (vs. stability)	X	X		
Task oriented (vs. people)	X			X
Flexible to changing world		X	X	

TABLE 3.3

SOURCE : SELF GENERATED : INSCAPE PUBLISHERS 0 – 232 : 1996 : DISCUS INTER CONSULT : 2004 : DISCUS INDIA [WWW.ONLINEDISC.COM](http://WWW.ONLINEDISC.COM) : [WWW.STEFDUPLESSIS.COM](http://WWW.STEFDUPLESSIS.COM) : 2003 : DISC USER GUIDE : DISCUS TYPES

Looking at a more critical approach to investigating the Discus Behaviour Profiling System, one should not lose sight of comparisons between the Discus Behaviour Profiling System and other personality tests.

One such test which bears some uniformity is the "Big Five" according to a paper published by "Inscape Publishing Inc" (1996). Factor 1 of the Big Five take the following position – the Discus Behaviour Profiling System clearly shows some similarities and some overlap.

BIG FIVE FACTOR 1	DISC FACTORS D, 1
Surgency	Talkative (I)
Extraversion	Outgoing (I)
Activity	Enthusiastic (I)
Assertiveness	Sociable (I)
Gregariousness	Assertive (D)
Excitement seeking	Outspoken (D)
Positive emotions	Dominant (D)
Power	Forceful (D)
	Adventurous (D)

TABLE 3.4

Strong tendency to align with the Dominance and Influence factors.

BIG FIVE FACTOR II	DISC S, I
Agreeableness	Sympathetic (S)
Social adaptability	Kind (S)
Likeability	Generous (S)
Friendly	Good natured (S)
Compliance	Friendly (I)
	Co-operative (I)

TABLE 3.5

Tendencies in the Steadiness and Influence factors.

BIG FIVE FACTOR III	DISC C
Conscientiousness	Thorough (C)
Orientation towards work	Conscientious (C)



Responsible Reliable	Cautious (C) Precise (C)
-------------------------	-----------------------------

TABLE 3.6

Tendencies in this factor are not really measuring the same things as the approach in Factor III and the scales on the Discus Behaviour Profiling System do not in reality assess the same characters in meaning.

<b>BIG FIVE FACTOR IV</b>	<b>DISC S</b>
Stable (Emotional)	Calm (S) Contented (S)

TABLE 3.7

Again words in this factor measure from a different meaning. The intention in the Big Five was to look at possible neurosis – in the Discus Behaviour Profiling System this factor is not measured at all.

<b>BIG FIVE FACTOR V</b>	<b>DISC D, C</b>
Culture Intellect Flexibility Openness to experience	Original (D) Insightful (C) Logical (C)

TABLE 3.8

SOURCE : SELF GENERATED : INScape PUBLISHING INCORPORATED : BIG FIVE : 1996

The intention of Factor V was to look at a measure of a person's readiness to learn – the Discus Behaviour Profiling System in this factor does not, except in the broadest term, match the original intention of Factor V.

From the literature it then indicates that there are strong overlaps in thinking between the two instruments particularly in the first three factors.

One matter which needs to be emphasized is that the Discus Behaviour Profiling System does not look at bi-polar scales – it is a uni-polar scale “Inscape”

(1996:13) which means that it looks only at the healthy features of a personality, which was Marston's original intention.

Progressing further with comparisons one must look at the 16PF (Cattell) mentioned in Chapter one. The paper published by Inscapes Publishing (1996:13) goes on to draw comparisons between "D" and "I" factors and relates them to the "Exvia" or extraversion scale on the 16PF.

"S" is related to the Pathemia or feeling scale on the 16PF and "C" in some respects is compared to the Superego strength. Inscapes Publishing (1996)

Taking a more critical stance, the article states that the 16PF is not user-friendly in a business setting, due to its complexity, and indicates this may be a reason why it is not as marketable as the Discus Behaviour Profiling System. (A strong statement to make.) However, if one reads the literature on the 16PF the same sentiments are not expressed by the proprietors of the 16PF instrument.

Views are also expressed in the same article that the Myers Briggs Type Indicator measures some aspects that are similar to the Discus Behavioural Profiling System mention is made that the Myers Briggs measures thinking and behaviour while the Discus Behaviour Profiling System looks mainly at behaviour. The authors of this article do mention that direct comparison is not possible.

### 3.26.3 BENZIGER THINKING STYLES ASSESSMENT

Before leaving this topic one needs to look at a more recent scientist in the field of personality assessing. Dr. Katherine Benziger has published a paper on her web site [www.businessballs.com](http://www.businessballs.com): a study on the measurement of brain function and energy consumption in the brain. Her instrument is called the BTSA (Benziger Thinking Styles Assessment). In short Dr. Benziger has the

hypothesis that we have "brain dominance" (preferences and tendencies). Through her instrument she claims to plot the "bias" of a person's brain and the parts which are used more than others.

Dr. Benziger draws comparison with the Discus Behavioural Profiling System in the following diagrams:

(Dr. Benziger uses four patterns to make distinctions.)

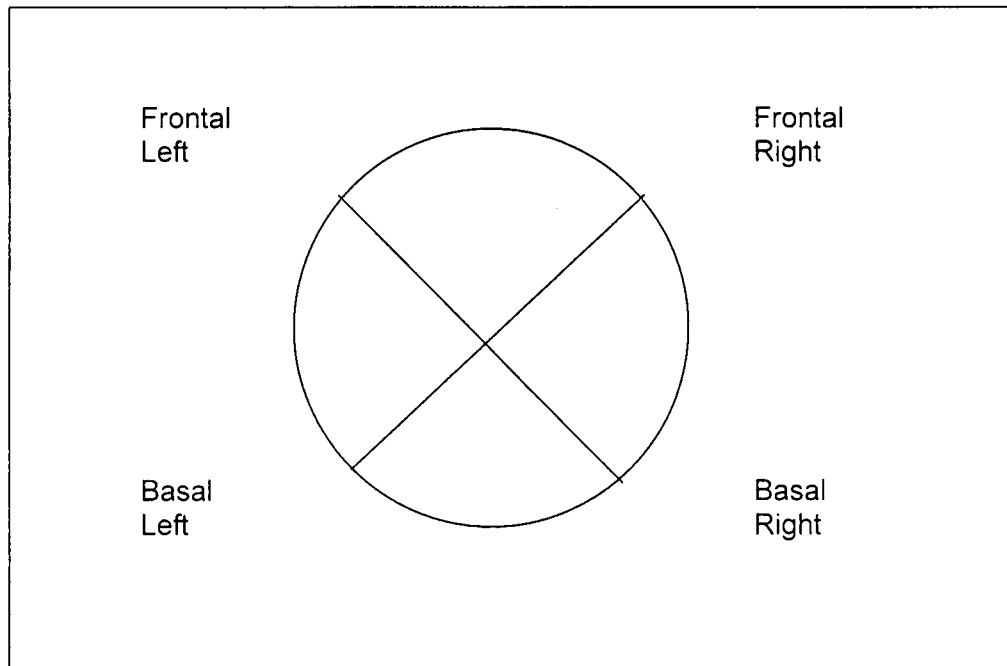


FIGURE 3.2

SOURCE : SELF GENERATED : [WWW.BUSINESSBALLS.COM](http://WWW.BUSINESSBALLS.COM) : BENZIGER THINKING STYLES

Dr. Benziger's "brain types" are briefly explained as follows:

BASAL LEFT	BASAL RIGHT
Routine Processing skills Detail Structure, order Efficient Dependable Follows instructions Details Laboured Bureaucratic Obstinate	Intuition Feeling Empathy Relationships Listening skills Compassionate Harmonise Soft touch Personal sacrifices Can't say no

TABLE 3.9

SOURCE : SELF GENERATED : [WWW.BUSINESSBALLS.COM](http://WWW.BUSINESSBALLS.COM) : BENZIGER THINKING STYLES

Using the above Dr. Benziger has found that:

DISC	OVERLAP	BTSA
Dominance	Authoritative, decision-making results-driven	Frontal extraverted
Influence	Motivates, inspires, enthuses, leads, persuades	Right extraverted
Steadiness	Reliable, listens, follows routines, rules	Basal introverted
Compliance	Detailed, critical thinking, accurate	Left introverted

TABLE 3.10

SOURCE : SELF GENERATED : [WWW.BUSINESSBALLS.COM](http://WWW.BUSINESSBALLS.COM) : BENZIGER THINKING STYLES

Further comparisons are also discussed with the Irwin Thompson Archetypes and the Carl Jung Four Personality types.

### 3.27 CONCLUSION

In this chapter various personality theories and their unique approaches to a complex psychological process have been reviewed. Comparative approaches have been highlighted. According to much of the literature, even psychosomatic issues can now be interrupted with personality factors. Perception of testing, administration processes, legality, validity and multicultural aspects are all vital

aspects of assessment instruments. The Discus Behavioral Profiling System as shown in the comparisons made in this chapter finds itself being compared and juxtaposed to some well-respected instruments in the psychometric field.

## CHAPTER FOUR

### RESEARCH METHODOLOGY AND DESIGN

#### 4.1 INTRODUCTION

The Equity Act No. 55 of 1998 requires that:

Psychological testing and other similar assessments of an employee are prohibited unless the test or assessment is being used:

- Has been scientifically shown to be valid and reliable.
- Can be applied fairly to all employees
- Is not biased against any employee or group.

Taking this issue further, the Society for Industrial and Organizational Psychology of South Africa, in their 'Guideline for Validation and Use of Assessment Procedures for the Workplace 2005' states that issues such as language proficiency, test sophistication, educational and socio-economic background of test takers should be considered.

It is against this backdrop that this study was conducted to determine whether the Zulu Discus Behavioural profiling system is valid and reliable in terms of the criteria stipulated above.

Having identified the importance and reasons for this research and having also described a background of research in the area of psychological testing and more specifically discuss in chapter two, this chapter outlines in detail the methodology applied in conducting this study.

## **4.2 THE PROBLEM STATEMENT**

The purpose of this study is to determine whether the Discus Behaviour Profiling System instrument, when translated into Zulu, may be considered a reliable and valid measuring instrument.

## **4.3 THE OBJECTIVES OF THE STUDY**

### **4.3.1 Objective 1**

To adopt the appropriate metric scale to measure each respondent's personality profile.

### **4.3.2 OBJECTIVE 2**

To determine the reliability of the measuring instrument.

### **4.3.3 OBJECTIVE 3**

To determine the validity of the measuring instrument.

## **4.4 SAMPLE SIZE AND SAMPLING TECHNIQUE**

The sample size will be approximately 400 respondents. Depending which respondents are available on the day of the survey, respondents will be chosen from second year Zulu speaking business management students at the Durban

University of Technology (DUT). The reason for this is that the researcher had full cooperation from this department and was able to conduct this complex study under the necessary controlled conditions. The sampling technique is a combination of sorts. The days chosen will be done randomly within set periods of time ensuring sufficient time to elapse between surveys. Whichever Zulu speaking students are available on the day of the survey will be chosen to fill in the questionnaire. Therefore a form of convenience sampling will be applied here.

Students will also be given sufficient time to fill in the questionnaire properly.

#### **4.5 DELIMITATIONS**

The study is delimited to students 19- 23 years of age based at the Durban University of Technology.

While the Discus Behaviour Profiling System is available in English in both the phrase-based version and the adjectival version, it was found that the phrase-based version was most suited to Zulu interpretation and therefore the study was delimited to the latter version. Also, the English phrase based version was validated by Roodt (1999) which is used as a correlation in this study.

#### **4.6 ASSUMPTIONS**

We also need to assume that the interviewer is well trained, and that the respondents respond truthfully.



#### ***4.7 The Research Design and Methodology***

This form of research design includes primary data which is mostly quantitative in the form of a cross sectional analytical intercept survey. The survey itself is conducted in a group-administered environment to improve response levels and control. This research uses a quantitative approach as it enables the appropriate statistical analyses of validity and reliability to be conducted. The concepts of validity and reliability of the measuring instrument will also be tested using Pearson's product moment correlation coefficient. Validity (does the construct measure what it is supposed to measure?) will be checked by running Pearsons correlational tests between the first and second Zulu groups (criterion related validity) Reliability will be tested by running Pearsons correlation tests between the first English group and first Zulu group (test retest reliability). The internal validity of the measuring instrument will be assisted by delimiting the study to Zulu speaking students, by encouraging the students, by providing free sweets to those who co-operated and by giving the students sufficient time to fill in the survey and ensuring that the interviewers administrating the process are well trained. Choosing as representative a sample as possible will ensure non-biases and will increase the external validity of the study.

It should be noted that the template on which this questionnaire is based, namely Discus Behaviour Profiling System has proven in numerous studies to be both reliable and valid, Roodt (1999). This particular instrument will be adapted to the Zulu translation.

The Discus Behavioural Profiling Instrument looks at four basic traits in personality

Dominance, Influence, Steadiness and Compliance.

The profile has 24 questions. Each question has four options to choose from, on a "most liked" and "least liked" alternative.

The Discus Behaviour Profiling System was developed to look at personality and the work profile. This study is using the phrase-based format. The English version has already been found to be reliable and valid (Roodt 1999).

In this study the independent variable – that is factor which is being investigated is the English Discus Behavioural Profile (the X factor).

The dependent variable (only one in this study), Zulu Discus Behavioural Profiling System is the factor being observed and measured to find the effect on the independent variable. The value of the dependent variable is dependent as it depends on the values and levels of the independent variable to reflect its worth.

The data therefore, will mostly be primary data and the authenticity of such data will be assured through using a well trained interviewer and also by obtaining "buy in " from the respondents by enforcing the point that honest answers may benefit the Zulu assessment culture in South Africa .

All statistical analysis will be conducted using the SPSS (version 11.5) software suite. This statistical software program is manufactured by SPSS Inc, 444N. Michigan Avenue, Chicago, Illinois, USA.

The statistical analysis will include various descriptive statistics such as frequency tables and the appropriate graphical illustrations such as bar and pie charts and histograms. To measure the levels of validity and reliability the study will apply the appropriate inferential testing techniques.

#### 4.8 THE DATA DESIGN AND COLLECTION

The questionnaires were administered in a group-administered classroom setting four times: on 13 February in English and then again on 6 March in Zulu (Questions were also reshuffled – Appendix A and again on 29 March in English a second time and finally on 18 April in Zulu a final time.

The interview leader (the researcher) was assisted by Mrs Young and two other Masters students from the Chiropractic department of the Durban University of Technology. Second year business management students whose home language was Zulu were used in this study. The students' ages ranged from 19 to 23 years of age.

In order to validate the Zulu instrument, each respondent was given a Zulu instrument to complete as well as an English instrument. The English version of the instrument has been validated (Roodt 1999). The English instrument has been translated into Zulu (Ndlovu & Langa 2002). Each questionnaire will be allocated a serial number and kept by the researcher in a register. The instruments will not be interpreted in terms of personality type.

#### TEST ADMINISTRATION – PROCEDURE

Assessment in most forms has a tendency to cause a degree of stress. Good practice in the formalities of such procedures has the effect of reassuring the test taker in his / her task and the results are more reliable.

Methodology used in all four assessments is set out below for the purpose of clarity on the process.

Advanced preparation took place in the form of:

- Photocopying
- Check on the numbers expected
- Familiarisation of the venue
- Extra writing material
- Time arrangement with colleagues

Introduction to the Assessment:

To assist with rapport the background and purpose of the research was explained by discussing the following:

- Their right to assist in the research or not was explained.
- The procedures that the researcher would follow with them in the assessment process.
- The confidentially aspect.
- The cross-cultural importance.
- Clarification on any member who had a disability / special circumstances (there were none).
- Basic discipline while the assessment was in progress.
- The availability of the thesis when completed.
- Anxiety on right and wrong answer expectations.

Instruction was given on:

- The basic time limits.
- Control by the researcher and colleagues while the assessment was in progress.
- Cell phone etiquette.
- Assistance with writing items if necessary.
- Student number to assist with the data processing.
- Example done on the white board explaining the choices to be made.

- Questions and answers on the instrument
- Profile of the assessment instrument
- Starting instructions
- Ending instructions.
- Thanks and appreciation.

#### **4.8.1 THE QUESTIONNAIRE**

##### **The Ipsative Questionnaire :**

The Ipsative form of questionnaire has been used in this research. The Ipsative method could be said to compare the individual against him/herself – therefore the Ipsative method allows each person's own frame of reference to be used.

Reber (1986:375) gives his definition in Chapter one. Robert Edinborough (1994:215) simply describes Ipsative as a test item in which comparisons are made between two different attributes and also applied to a test comprising such items.

#### **4.9 STATISTICAL ANALYSIS**

The analysis will run various descriptive statistics such as frequency tables and will also draft the appropriate graphical illustrations where necessary such as bar and pie charts and histograms.

To measure the levels of validity and reliability, correlation /coefficients will be used across various groups of English and Zulu. This analysis will be done on the various constructs of dominance, influence, steadiness and compliance. Each respondent will be scored on these four factors. Based on the "scoring scheme" as provided by Discuss Behaviour Profiling System and outlined on

page 113 if an individual respondent scored a high dominance question then dominance as a construct received a score of "plus one" for that particular respondent. Again if that respondent scored a low dominance question then that particular respondent received a score of "negative one" for the dominance construct. This process was repeated across the other three constructs and finally each respondent was given an overall score per construct based on adding up all the individual question outcomes and hence all the individual respondents construct scores to yield an overall construct score. These are the final construct scores that the study focused on for further statistical analysis. Appendix Multiple regression techniques may also be applied if the correlations between constructs are significant.

The various statistical techniques described are elaborated on below:

Data will be analysed using the SPSS package. The level of significance will be set at 5 % and p-values will be used for decision making.

#### **4.9.1 PRODUCT MOMENT CORRELATION COEFFICIENT**

This test calculates the relationship between two sets of continuous variables. It calculates both the correlation coefficient and performs a hypothesis test to see if the correlation coefficient is significantly different from zero (i.e : that there is no relationship)

For the above test the population correlation coefficient is identified by  $\rho$  and the sample correlation coefficient is identified by  $r$ .

The hypothesis test takes the following structure:

$H_0: \rho = 0$

$H_1: \rho \neq 0$

$\alpha = 0.05$

Note:  $\alpha$  = probability of rejecting  $H_0$  when is true (Type 1: error)

We calculate our test statistic :

If the p-value is  $< \alpha = 0.05$  we reject  $H_0$

#### 4.9.2 MULTIPLE REGRESSION

The Methodology of multiple regression . (Provided by SPSS Ver 9 . Help Section)

Multiple Linear Regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable. For example, you can try to predict a salesperson's total yearly sales (the dependent variable) from independent variables such as age, education, and years of experience.

##### **Example.**

Is the number of games won by a basketball team in a season related to the average number of points the team scores per game? A scatter plot indicates that these variables are linearly related. The number of games won and the average number of points scored by the opponent are also linearly related. These variables have a negative relationship. As the number of games won

increases, the average number of points scored by the opponent decreases. With linear regression, you can model the relationship of these variables. A good model can be used to predict how many games teams will win.

#### 4.10 CONCLUSION

Clearly to test for reliability and validity of a measuring instrument requires specific methodology as is outlined in Chapter three. This methodology, once applied, yields information which is then statistically analysed, the results and findings of which will be portrayed in Chapter five which follows.



## CHAPTER FIVE

### RESULTS OF STATISTICAL ANALYSIS

#### 5.1 INTRODUCTION

Following on from the methodology outlined in chapter four, this chapter outlines the statistical results of the study from the descriptive findings through to the reliability and validity analysis. The results are portrayed in tabular and graphical form and interpreted in statistical language.

#### 5.2 DATA COLLECTION

##### 5.2.1 SAMPLE SIZE AND TECHNIQUE.

The sample sizes from each survey are outlined in the graphic below:

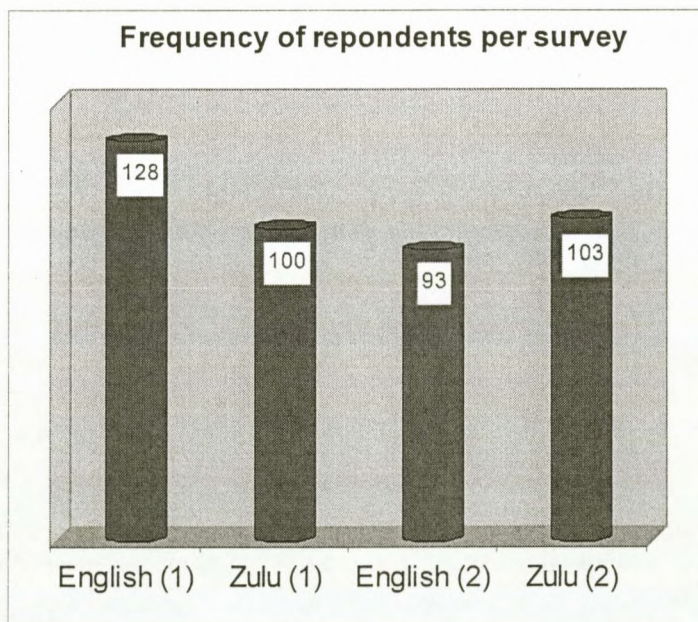


FIGURE 5.1

SOURCE : SELF GENERATED : FREQUENCY OF RESPONDENTS PER SURVEY : 2006

### Frequency of respondents by survey

In all surveys, although the respondents were generally from the same group of students, not all the students were available on the day of the survey and hence the different numbers per day as well as different degrees of overlap. This evidence or degree of overlap is outlined in the various tables .

The sampling technique used was a combination of random and convenience sampling. The days were chosen randomly within set periods of time ensuring sufficient time to elapse between surveys. Only Zulu speaking students available on the day of the survey were chosen to take part in the study and only those who were prepared to co-operate filled in the survey. Fortunately for the researcher cooperation was at 100%.

## 5.3 STATEMENT OF RESULTS

### 5.3.1 RELIABILITY AND VALIDITY STUDY ON THE DISCUS PERSONALITY PROFILING SYSTEM

#### 5.3.1.1 Initial Data

The initial analysis generated the following tables of Pearson's co-relational coefficients. Each table is portrayed by construct.

		Dominance (English1)	Dominance (English2)	Dominan ce(Zulu1)	Dominan ce(Zulu2)
Dominance(English1)	Pearson Correlation	1	.278*	.283*	.146
	Sig. (2-tailed)	.	.017	.013	.223
	N	126	73	76	72
Dominance(English2)	Pearson Correlation	.278*	1	.313**	.353**
	Sig. (2-tailed)	.017	.	.008	.002
	N	73	100	71	75
Dominance(Zulu1)	Pearson Correlation	.283*	.313**	1	.295**
	Sig. (2-tailed)	.013	.008	.	.009
	N	76	71	93	77
Dominance(Zulu2)	Pearson Correlation	.146	.353**	.295**	1
	Sig. (2-tailed)	.223	.002	.009	.
	N	72	75	77	103

**TABLE 5.1**

Pearson's Correlation Coefficients for the Dominance Construct across all Groups

		Influence (English1)	Influence (English2)	Influence (Zulu1)	Influence (Zulu2)
Influence(English1)	Pearson Correlation	1	.188	.255*	.049
	Sig. (2-tailed)	.	.110	.026	.685
	N	126	73	76	72
Influence(English2)	Pearson Correlation	.188	1	.260*	.470**
	Sig. (2-tailed)	.110	.	.028	.000
	N	73	100	71	75
Influence(Zulu1)	Pearson Correlation	.255*	.260*	1	.387**
	Sig. (2-tailed)	.026	.028	.	.001
	N	76	71	93	77
Influence(Zulu2)	Pearson Correlation	.049	.470**	.387**	1
	Sig. (2-tailed)	.685	.000	.001	.
	N	72	75	77	103

**TABLE 5.2**

Pearson's Correlation Coefficients for the Influence Construct across all Groups

### Correlations

		Steadiness (English1)	Steadiness (English2)	Steadiness (Zulu1)	Steadiness (Zulu2)
Steadiness(English1)	Pearson Correlation	1	.390**	.347**	.254*
	Sig. (2-tailed)		.001	.002	.031
	N	126	73	76	72
Steadiness(English2)	Pearson Correlation	.390**	1	.320**	.405**
	Sig. (2-tailed)	.001		.007	.000
	N	73	100	71	75
Steadiness(Zulu1)	Pearson Correlation	.347**	.320**	1	.381**
	Sig. (2-tailed)	.002	.007		.001
	N	76	71	93	77
Steadiness(Zulu2)	Pearson Correlation	.254*	.405**	.381**	1
	Sig. (2-tailed)	.031	.000	.001	
	N	72	75	77	103

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

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

**TABLE 5.3**

Pearson's Correlation Coefficients for the Steadiness Construct across all Groups

### Correlations

		Compliance (English1)	Compliance (English2)	Compliance (Zulu1)	Compliance (Zulu2)
Compliance(English1)	Pearson Correlation	1	-.097	.092	.041
	Sig. (2-tailed)		.412	.427	.734
	N	126	73	76	72
Compliance(English2)	Pearson Correlation	-.097	1	.176	.070
	Sig. (2-tailed)	.412		.143	.548
	N	73	100	71	75
Compliance(Zulu1)	Pearson Correlation	.092	.176	1	.237*
	Sig. (2-tailed)	.427	.143		.038
	N	76	71	93	77
Compliance(Zulu2)	Pearson Correlation	.041	.070	.237*	1
	Sig. (2-tailed)	.734	.548	.038	
	N	72	75	77	103

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

**TABLE 5.4**

Pearson's Correlation Coefficients for the Compliance Construct across all Groups

The above results will now be discussed specifically with reference to validity and reliability. It should be noted that Pearson's correlation varies between -1 and 1 and the first row of each sector in the above tables references the Pearson's correlation value and as can be seen most of these values are in the positive domain. The value immediately below each of these values, although labelled "Sig. (2-Tailed)" is the p value i.e. the probability that the Pearson's correlation is equal to zero.

#### 5.3.1.2 Reliability

The reliability analysis employed - product moment correlation coefficient throughout, the results of which are displayed below:

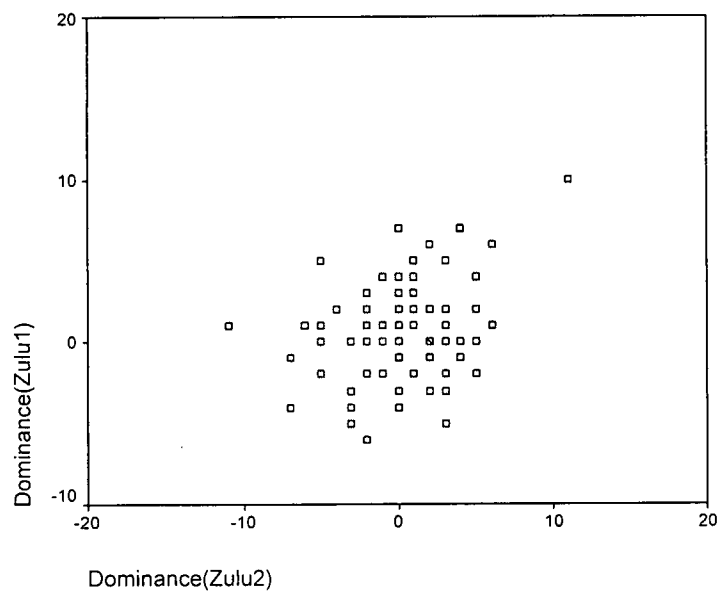
The information of interest here is the correlations between the first and second Zulu2 group. The summarized table of correlations together with scatter plots per construct are outlined below:

	Dominance (Zulu2)	Influence (Zulu2)	Steadiness (Zulu2)	Compliance (Zulu2)
Dominance (Zulu1)	0.295 0.009			
Influence (Zulu1)		0.387 0.001		
Steadiness (Zulu1)			0.381 0.001	
Compliance (Zulu1)				0.237 0.038

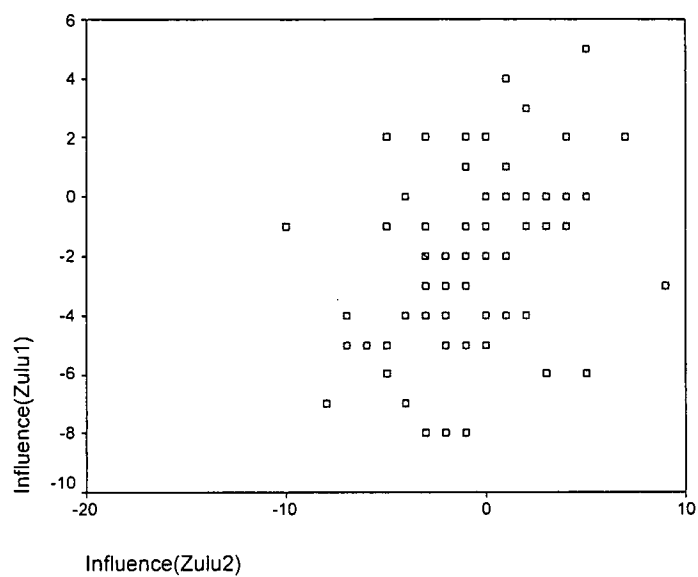
**TABLE 5.5**  
Pearson's Correlation Coefficients and p values for Zulu1 and Zulu2 across all dimensions

As can be seen from the results above the p value in all cases is less than 0.05, the significance level: therefore in all four cases the null hypothesis is rejected and the study concludes that the population correlation coefficient in all four dimensions across both groups of Zulu1 and Zulu2 is significantly different from zero. This implies that the measuring instrument is reliable using the pre post test criteria across all four dimensions.

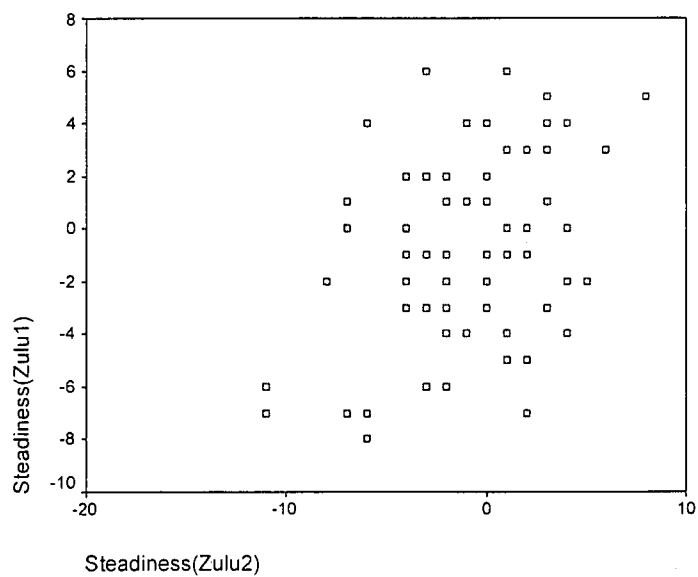
The visual portrayal of each relationship is outlined below in the various scatter plots.



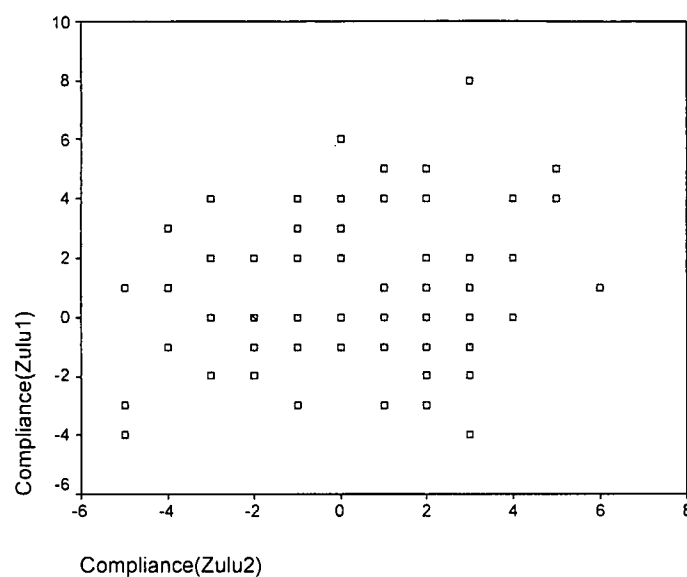
**FIGURE 5.2**  
The scatter plot within the dominance dimension across Zulu1 and Zulu2.



**FIGURE 5.3**  
The scatter plot within the influence dimension across Zulu1 and Zulu2.



**FIGURE 5.4**  
The scatter plot within the steadiness dimension across Zulu1 and Zulu2.



**FIGURE 5.5**

The scatter plot within the compliance dimension across Zulu1 and Zulu2.

#### 5.3.1.3 Validity

The validity analysis employed is the product moment correlation coefficient throughout, the results of which are displayed below in Table 4.6.

The information of interest here is the correlations between the English and Zulu groups. The summarized table of correlations together with scatter plots per construct are outlined below:



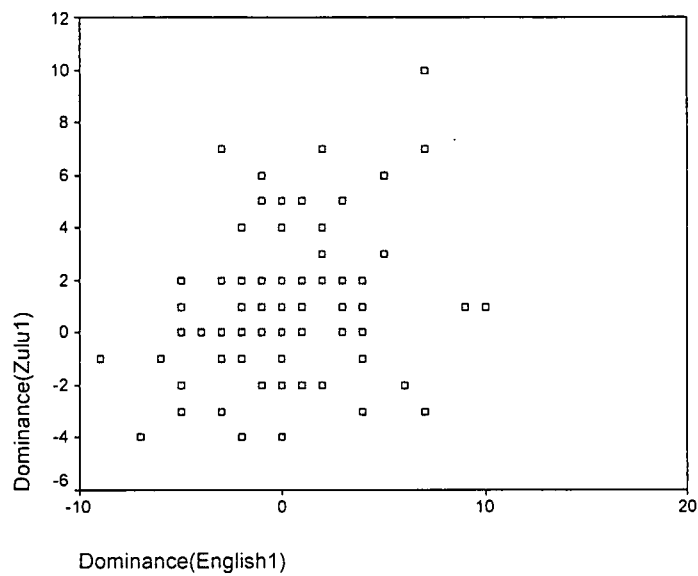
	Dominance (Eng1)	Influence (Eng1)	Steadiness (Eng1)	Compliance (Eng1)
Dominance (Zulu1)	0.283			
	0.013			
Influence (Zulu1)		0.255		
		0.026		
Steadiness (Zulu1)			0.347	
			0.002	
Compliance (Zulu1)				0.092
				0.427

**TABLE 5.6**

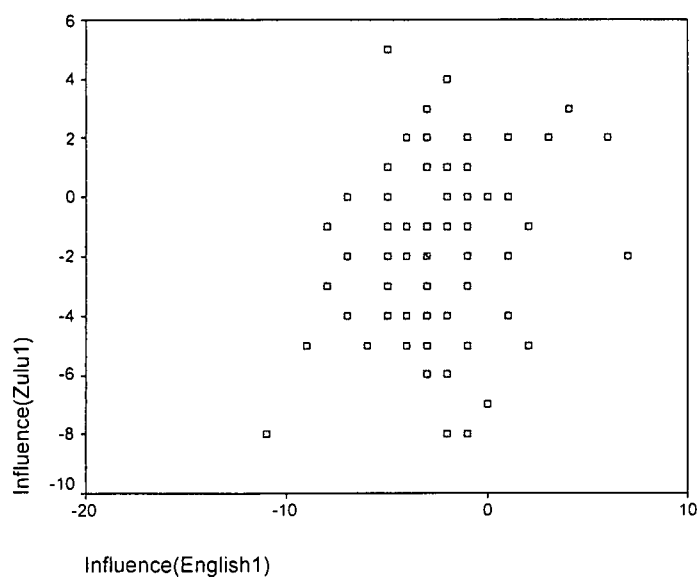
Pearson's Correlation Coefficients and p values for Zulu1 and Eng1 across all dimensions

As can be seen from the results in Table 5.6 the p value in all cases except Compliance is less than 0.05, the significance level. Therefore in three of the four cases the null hypothesis is rejected and the study concludes that the population correlation coefficient in the three dimensions across both groups of Zulu1 and English1 are significantly different from zero. This implies that the measuring instrument is valid across these three dimensions using the criteria based validity test across all four dimensions.

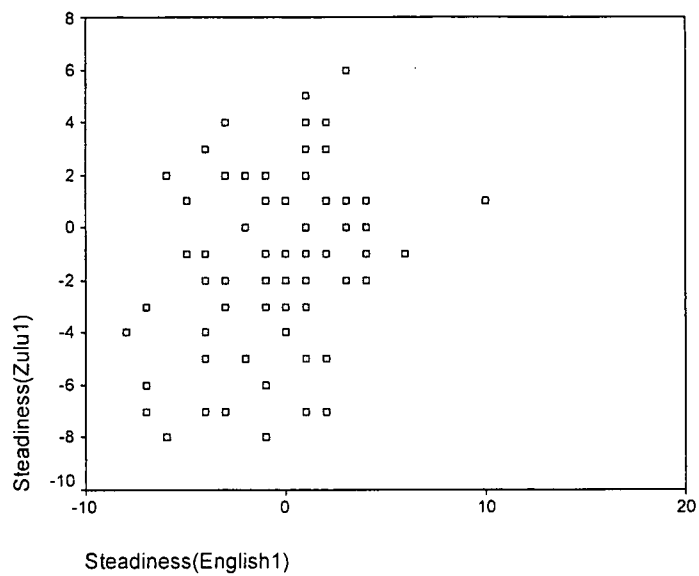
The visual portrayal of each relationship is outlined below in the various scatter plots.



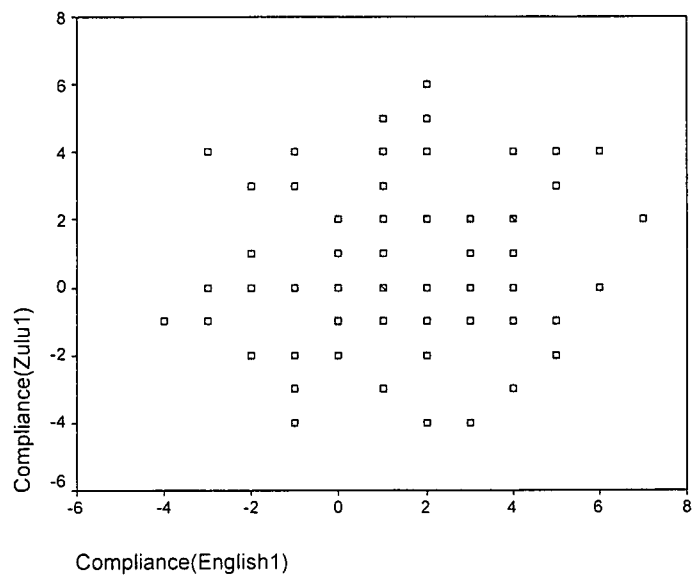
**FIGURE 5.6**  
The scatter plot within the dominance dimension across Zulu1 and English1.



**FIGURE 5.7**  
The scatter plot within the influence dimension across Zulu1 and English1.



**FIGURE 5.8**  
The scatter plot within the steadiness dimension across Zulu1 and English1.



**FIGURE 5.9**  
The scatter plot within the compliance dimension across Zulu1 and English1.

Based on the outcomes of the above results, the only construct which is of specific concern is the "compliance" construct. As to why this may be a problem is further investigated below.

The researcher has outlined the magnitudinal values of all constructs scores across all research groups. The results are outlined in Tables 5.7 through to Table 5.10 below.

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Dominance(Zulu1)	93	-6.00	10.00	1.0108	3.11202
Dominance(English1)	126	-9.00	10.00	.5952	3.56467
Dominance(Zulu2)	103	-11.00	11.00	.5631	3.39455
Dominance(English2)	100	-8.00	10.00	.5500	3.19841
Valid N (listwise)	54				

**TABLE 5.7**  
Descriptive statistics for dominance scores by group.

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Influence(Zulu2)	103	-11.00	9.00	-.9806	3.62719
Influence(Zulu1)	93	-8.00	5.00	-1.7849	2.83936
Influence(English2)	100	-10.00	6.00	-2.3800	3.64534
Influence(English1)	126	-12.00	7.00	-2.4762	3.47957
Valid N (listwise)	54				

**TABLE 5.8**  
Descriptive statistics for Influence scores by group.

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Steadiness(English1)	126	-8.00	10.00	-.5952	3.40160
Steadiness(English2)	100	-10.00	8.00	-.6500	3.42119
Steadiness(Zulu2)	103	-11.00	8.00	-.9320	3.57349
Steadiness(Zulu1)	93	-8.00	6.00	-1.0753	3.37908
Valid N (listwise)	54				

**TABLE 5.9**

Descriptive statistics for Steadiness scores by group.

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Compliance(English1)	126	-4.00	8.00	1.3333	2.30478
ComplianceEnglish2)	100	-7.00	7.00	1.1900	2.79138
Compliance(Zulu1)	93	-4.00	8.00	.4624	2.48718
Compliance(Zulu2)	103	-5.00	6.00	-.0291	2.61015
Valid N (listwise)	54				

**TABLE 5.10**

Descriptive statistics for Compliance scores by group.

As can be seen by the above results across Zulu1 and English1 the biggest gap across constructs is for the compliance construct (i.e:  $1.33 - 0.4624 = 0.8676$ ) As to whether this gap is significant is tested using the paired T-Test below.

**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Compliance(English1)	1.3289	76	2.39103	.27427
	Compliance(Zulu1)	.5789	76	2.38475	.27355

**TABLE 5.11**

Descriptive statistics for compliance scores by Zulu1 and English1.

Note the descriptives above in Table 4.11 are different to Table 4.10 as the latter are based on paired values.

Paired Samples Test									
		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Compliance(English1) - Compliance(Zulu1)	.7500	3.21714	.36903	.0149	1.4851	2.032	75	.046

**TABLE 5.12**  
Paired T-Test results of compliance scores by Zulu1 and English 1.

As can be seen above the p value = 0.046 which is less than 0.05, the significance level. Therefore the study rejects the null hypothesis and concludes that there is a significant difference in the population means of compliance scores across both Zulu1 and English 1 groups. Based on the descriptives it can be seen that the English 1 has a higher score than Zulu1 groups.

As to why Zulu-speaking students score compliance for the English questionnaire significantly higher than compliance for the Zulu questionnaire needs to be qualified.

# English 1 first

## Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Q1AS	67	-1	1	.31	.957
Q1BI	12	-1	1	.83	.577
Q1CC	45	-1	1	-.64	.773
Q1DD	13	-1	-1	-1.00	.000
Q2AI	59	-2	1	-.54	.877
Q2BC	103	-1	1	.77	.645
Q2CD	44	-1	1	-.14	1.002
Q2DS	39	-1	-1	-1.00	.000
Q3AC	41	-1	1	-.95	.312
Q3BD	94	-1	1	.83	.561
Q3CS	20	1	1	1.00	.000
Q3DI	53	-1	1	-.81	.590
Q4AC	60	1	1	1.00	.000
Q4BS	51	-1	1	-.73	.695
Q4CD	12	-1	-1	-1.00	.000
Q4DI	43	-1	1	-.91	.426
Q5AI	33	-1	-1	-1.00	.000
Q5BC	46	-1	1	-.74	.681
Q5CD	21	-1	-1	-1.00	.000
Q5DS	62	-1	1	.06	1.006
Q6AD	67	-1	1	-.25	.975
Q6BS	64	-1	1	-.03	1.007
Q6CI	17	-1	1	-.88	.485
Q6DC	32	-1	1	-.94	.354
Q7AC	16	-1	-1	-1.00	.000
Q7BS	41	1	1	1.00	.000
Q7CD	60	-1	1	.43	.909
Q7DI	52	-1	1	-.81	.595
Q8AD	53	1	1	1.00	.000
Q8BI	53	1	1	1.00	.000
Q8CS	37	-1	-1	-1.00	.000
Q8DC	33	-1	-1	-1.00	.000
Q9AI	57	-1	1	.02	1.009
Q9BS	54	-1	1	-.22	.984
Q9CD	62	-1	1	.71	.710
Q9DC	22	-1	1	.91	.426
Q10AD	87	-1	1	.54	.846
Q10BC	14	1	1	1.00	.000
Q10CI	28	-1	1	-.93	.378
Q10DS	66	-1	1	-.61	.802
Q11AI	74	-1	1	.30	.961

Q11BS	62	-1	1	.06	1.006
Q11CC	40	-1	1	-.95	.316
Q11DD	72	-1	1	.14	.997
Q12AI	13	-1	1	-.69	.751
Q12BD	60	-1	1	-.83	.557
Q12CC	50	1	1	1.00	.000
Q12DS	55	-1	1	.13	1.001
Q13AD	39	1	1	1.00	.000
Q13BI	70	-1	1	-.69	.733
Q13CS	66	-1	1	.64	.777
Q13DC	38	-1	-1	-1.00	.000
Q14AC	82	-1	1	.76	.658
Q14BD	18	1	1	1.00	.000
Q14CI	45	-1	1	.02	1.011
Q14DS	11	1	1	1.00	.000
Q15AS	35	1	1	1.00	.000
Q15BI	1	1	1	1.00	.
Q15CC	49	-1	1	-.39	.931
Q15DD	33	-1	-1	-1.00	.000
Q16AI	28	1	1	1.00	.000
Q16BS	24	-1	-1	-1.00	.000
Q16CC	22	-1	-1	-1.00	.000
Q16DD	55	-1.00	1.00	-.5273	.85753
Q17AC	54	1	1	1.00	.000
Q17BS	69	-1	1	-.36	.939
Q17CI	28	-1	-1	-1.00	.000
Q17DD	48	-1	1	-.50	.875
Q18AI	34	1	1	1.00	.000
Q18BS	72	-1	1	.97	.236
Q18CC	34	-1	-1	-1.00	.000
Q18DD	63	-1	1	-.78	.634
Q19AC	56	1	1	1.00	.000
Q19BD	54	-1	1	.00	1.009
Q19CI	49	-1	1	-.51	.869
Q19DS	76	-1	1	-.24	.978
Q20AD	80	-1	1	-.03	1.006
Q20BC	40	-1	1	.95	.316
Q20CS	22	-1	-1	-1.00	.000
Q20DI	47	-1	1	-.57	.827
Q21AI	79	-1	1	-.59	.809
Q21BS	22	-1	-1	-1.00	.000
Q21CD	42	-1	1	.43	.914
Q21DC	72	-1	1	.25	.975
Q22AI	85	-1	1	-.13	.997
Q22BC	21	-1	1	-.90	.436
Q22CD	31	-1	1	-.55	.850
Q22DS	54	-1	1	-.22	.984



Q23AI	62	-1	1	-.06	1.006
Q23BC	60	1	1	1.00	.000
Q23CD	63	-1	1	-.33	.950
Q23DS	25	-1	-1	-1.00	.000
Q24AD	94	-1	1	.38	.929
Q24BS	33	-1	1	-.45	.905
Q24CI	67	-1	1	-.49	.877
Q24DC	54	-1	1	.15	.998
Valid N (listwise)	0				

TABLE 5.13

SOURCE : DISCUS ASSESSMENT : ENGLISH

Zulu1 Next :

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Q1AC	42	-1	-1	-1.00	.000
Q1BD	57	-1	1	.61	.796
Q1CS	20	1	1	1.00	.000
Q1DI	36	-1	1	-.39	.934
Q2AC	36	1	1	1.00	.000
Q2BS	46	-1	1	-.30	.963
Q2CD	11	-1	-1	-1.00	.000
Q2DI	37	-1	1	-.68	.747
Q3AS	65	-1	1	.51	.868
Q3BI	10	1	1	1.00	.000
Q3CC	36	-1	1	-.44	.909
Q3DD	14	-1	-1	-1.00	.000
Q4AI	40	-1	1	-.60	.810
Q4BC	65	-1	1	.69	.727
Q4CD	37	-1	1	.03	1.013
Q4DS	32	-1	-1	-1.00	.000
Q5AC	18	-1	1	-.89	.471
Q5BS	31	1	1	1.00	.000
Q5CD	33	-1	1	.09	1.011
Q5DI	39	-1	1	-.54	.854
Q6AD	20	1	1	1.00	.000
Q6BI	41	-1	1	.95	.312
Q6CS	32	-1	-1	-1.00	.000
Q6DC	16	-1	-1	-1.00	.000
Q7AI	15	-1	1	-.87	.516
Q7BC	41	-1	1	.22	.988
Q7CD	25	-1	-1	-1.00	.000
Q7DS	59	-1	1	-.22	.984
Q8AD	38	-1	1	.00	1.013
Q8BS	44	-1	1	-.36	.942

Q8CI	14	-1	-1	-1.00	.000
Q8DC	28	-1	-1	-1.00	.000
Q9AD	68	-1	1	.56	.835
Q9BC	17	1	1	1.00	.000
Q9CI	23	-1	-1	-1.00	.000
Q9DS	32	-1	1	-.87	.492
Q10AI	45	-1	1	.33	.953
Q10BS	39	-1	1	-.69	.731
Q10CD	44	-1	1	.32	.959
Q10DC	27	1	1	1.00	.000
Q11AI	10	1	1	1.00	.000
Q11BS	17	-1	1	-.88	.485
Q11CC	19	-1	-1	-1.00	.000
Q11DD	53	-1	1	-.09	1.005
Q12AS	31	1	1	1.00	.000
Q12BI	1	-1	-1	-1.00	.
Q12CC	47	-1	1	-.36	.942
Q12DD	31	-1	-1	-1.00	.000
Q13AC	49	-1	1	.31	.962
Q13BD	40	1	1	1.00	.000
Q13CI	40	-1	1	-.40	.928
Q13DS	7	-1	1	.71	.756
Q14AD	11	1	1	1.00	.000
Q14BI	33	-1	1	-.70	.728
Q14CS	64	-1	1	.31	.957
Q14DC	23	-1	-1	-1.00	.000
Q15AI	13	-1	-1	-1.00	.000
Q15BD	35	-1	1	-.66	.765
Q15CC	26	1	1	1.00	.000
Q15DS	39	-1	1	.03	1.013
Q16AI	42	-1	1	.29	.970
Q16BS	51	-1	1	.37	.937
Q16CC	29	-1	-1	-1.00	.000
Q16DD	49	-1	1	-.10	1.005
Q17AI	47	-1	1	.23	.983
Q17BC	16	-1	-1	-1.00	.000
Q17CD	39	-1	1	.03	1.013
Q17DS	51	-1	1	-.53	.857
Q18AI	51	-1	1	-.69	.735
Q18BS	16	-1	-1	-1.00	.000
Q18CD	59	-1	1	.59	.812
Q18DC	35	-1	1	-.26	.980
Q19AD	68	-1	1	.38	.931
Q19BC	16	1	1	1.00	.000
Q19CS	20	-1	-1	-1.00	.000
Q19DI	36	-1	1	-.39	.934
Q20AC	57	1	1	1.00	.000

Q20BD	37	-1	1	-.14	1.004
Q20CI	35	-1	1	-.37	.942
Q20DS	45	-1	1	-.60	.809
Q21AI	48	1	1	1.00	.000
Q21BS	25	1	1	1.00	.000
Q21CC	37	-1	-1	-1.00	.000
Q21DD	36	-1	1	-.56	.843
Q22AC	30	1	1	1.00	.000
Q22BS	49	-1	1	-.22	.985
Q22CI	25	-1	-1	-1.00	.000
Q22DD	47	-1	1	.15	1.000
Q23AD	54	-1	1	.33	.952
Q23BS	51	-4	1	.39	1.078
Q23CI	46	-1	1	-.87	.499
Q23DC	34	-1	1	-.12	1.008
Q24AI	49	-1	1	.06	1.008
Q24BC	37	1	1	1.00	.000
Q24CD	46	-1	1	-.35	.948
Q24DS	27	-1	-1	-1.00	.000
Valid N (listwise)	0				

TABLE 5.14

SOURCE : DISCUS ASSESSMENT : ZULU

#### 5.4 CONCLUSION

The descriptive and inferential analyses used will be dissected and discussed in the Conclusions and Recommendations section in Chapter five.

Zulu2 and English1 :

	Dominance (Zulu1)	Influence (Zulu1)	Steadiness (Zulu1)	Compliance (Zulu1)
Dominance (Zulu1)	0.146			
	0.223			
Influence (Zulu1)		0.049		
		0.685		
Steadiness (Zulu1)			0.254	
			0.031	
Compliance (Zulu1)				0.041
				0.734

TABLE 5.15

Pearson's Correlation Coefficients and p values for Zulu1 and Zulu 2 across all dimensions

Zulu1 and English2 :

	Dominance (Zulu1)	Influence (Zulu1)	Steadiness (Zulu1)	Compliance (Zulu1)
Dominance (Zulu1)	0.313			
	0.008			
Influence (Zulu1)		0.26		
		0.028		
Steadiness (Zulu1)			0.32	
			0.007	
Compliance (Zulu1)				0.176
				0.143

TABLE 5.16

Pearson's Correlation Coefficients and p values for Zulu1 and English 2 across all dimensions

Zulu2 and English2 :

	Dominance (Zulu1)	Influence (Zulu1)	Steadiness (Zulu1)	Compliance (Zulu1)
Dominance (Zulu1)	0.353			
	0.002			
Influence (Zulu1)		0.47		
		0		
Steadiness (Zulu1)			0.405	
			0	
Compliance (Zulu1)				0.07
				0.548

TABLE 5.17

Pearson's Correlation Coefficients and p values for Zulu 2 and English 2 across all dimensions

## CHAPTER SIX

### CONCLUSION

#### 6.1 PURPOSE

The purpose of this research was to analyse the Zulu version of the Discus Behaviour Profiling System instrument in relation to legislation, in order to establish the validity of the instrument for further use in South Africa. Expanding the motivation for this study was the limited availability of culturally fair assessment tools in this field.

The hypothesis was that the Zulu behaviour profiling system was valid in accordance with the legislation as set out in the Employment Equity Act No. 55 of 1998, and was culturally fair. The phrase-based version was found most suitable for this study and a paper and pencil approach was used. The instrument is based on the ipsative style of questioning, which compares the individual to himself / herself.

Cultural fairness and equivalence is a focal point in this study and considerable interpretation of this aspect is covered in previous chapters.

Ethics in the use of the test as well as interpretation of the instrument have been discussed in the research design.

Personality is a multi-faceted aspect and has been discussed in its broadest context but also from a number of points in departure taking (equifinality – equipotentiality) as possible factors to consider.

Personality testing is continuously being expanded with new boundaries and insight brought about by the globalisation aspect of our lives. Right and wrong

"types" for certain jobs are now challenged by a more dynamic approach to personology. Assessment centres have become professional storehouses of knowledge and are now considered crucial in professional assessment. These establishments have also helped to improve the overall perception of assessments and the ethics and responsibilities that go with the profession. With the past history of South Africa we need to try to avoid unnecessary scepticism on Psychometrics.

As discussed in Chapter two the Discus Behavioral Profiling System finds itself in a revered group of assessment tools and has been used in various comparative studies by a wide group of researchers and has produced positive correlation to many other instruments. In this research all the necessary ethical, legal and professional standards as set out in the Equity Act No. 55 of 1998, The Labour Relations Act No. 55 of 1995 and The Health Profession Act 56, of 1974 have been adhered to when assessments were being done or interpreted.

## **6.2 STATISTICS**

Considering whether the Discus Behavioral Profiling System instrument, translated into Zulu, can be considered a reliable and valid assessment we need to look at the results as presented by the (SPSS).

The total sample size was 424 assessments. ( 24 were not found suitable for analyses.)

As discussed in Chapter one and Chapter three the Pearsons Correlation was used.

The hypothesis accepted is that if  $p < .05$  the null hypothesis is rejected.

In looking at the objectives the research confirms that:

- An appropriate metric scale of measurement for each candidate was used.
- A reliable measuring instrument was used.
- Validity of the measuring instrument has been documented in Chapter four.

Co-operation from the respondents was excellent.

In this research the independent factor or X factor being the English phrase-based Discus and the dependent factor Zulu Discus was measured through the (SPSS).

Summary of results for reliability:

As a comprehensive statement the researcher finds that as the p values are  $< .05$  to a meaningful level in all four cases of Dominance Influence, Steadiness and Compliance, a null hypothesis can be repudiated for the assessments in Zulu 1 and Zulu 2. This indicates that the instrument is reliable.

Result for validity is seen as meaningful in three of the four factors, namely, Dominance, Influence and Steadiness. However Compliance has shown a deviation in the Zulu 1 and English 1.

In view of the results shown in Table 4.5 and 4.6, seven items show that a null hypothesis can be rejected; the p values do imply that the correlation coefficient is significantly different from zero.

If we accept this evidence, the question now arises – what happened to the Compliance factor? According to the literature high compliance indicates the following factors: Strong aversion to risk understand the consequences, strong logical factor, a dispassionate approach to life, interested in facts and detail,



rarely act emotionally, like procedure and structure, obey rules, ambitious, unwilling to become involved in confrontation, tend to be aloof, a bit disorganized. In some literature written on Discus Behaviour Profiling System the factor compliance is changed to the word Conscientiousness. (Inscape Publishing Research report –1996: 232).

### **6.3 ANALYSIS ON THE "COMPLIANCE" FACTOR**

Theories now need to be put forward as to why there is a distortion in the Compliance factor. The first theory which seems logical is:

- i) The interpretation of the language: Is there some form of confusion about the phrases used in this instrument? An aspect which needs mentioning, are comments made by many of the candidates after doing the assessment - which was that the Zulu language use was of a very high level - it was noted that many of the candidates read the phrases in Zulu slowly and with great care.
- ii) Is there a perceptual difference in Zulu culture to issues that relate to compliance, that is in such strong contrast to perception of compliance in English / Western culture that this distortion could be attributed to – could this perception be related directly to an ego or defense mechanism trigger, or possibly to gender factor – a political translation or item bias?
- iii) Could this have roots in what is seen as "Western bravado" – capitalist positive self image and the traditional more humble African approach of the "African World View" as seen on the diagram explanation on page 66
- iv) In an article written by Pietersen (SA Journal of Industrial Psychology Vol. 31.3:56) a set of juxtaposed, "Western approaches" and "African Approach" to work and organizational behaviour are set out. The research includes them as new connections among multiple previously unlinked and developing streams of research on new possible answers to challenges that lie ahead.

<b>WESTERN APPROACH</b> (Argyris, McGregor, Maslow, Bennis, Handy, Blunt & Jones)	<b>AFRICAN APPROACH</b> (Nzelibe, Mbigi, Teffo, Ghosh, Mangaliso, Wariboke, Agbakoba, Gyekyee)
<b>On the INDIVIDUAL</b> Self-actualizing, independence-seeking, aspiring to be superior, self-directed, self-controlled, commitment to rewarding objectives, achievement, seeks responsibility, solving problems creatively [TASK focus – the ACHIEVING INDIVIDUAL]  Individual ambition and distinction is important	<b>On the INDIVIDUAL</b> Respectful, dignity, kindness and good character, generosity, hard work, endurance, discipline, honour, patience, open and available to others, affirming of others, does not feel threatened that others are able and good, loyalty, compassion [HUMAN focus – the SERVING INDIVIDUAL]  Acceptance / support by the group and conformity to group values and norms is important.
<b>On the COLLECTIVE</b> Good teamwork, friendship, good group spirit, good belongingness and group love are valued.  The young better adapted to change than elders and parents, create new customs, solutions (seek change).  Elders not highly valued as wise men.  Time as linear and a valued commodity.	<b>On the COLLECTIVE</b> Group solidarity, conformity, cooperation, living in harmony, recognizing the humanity of others, community spiritedness, involving alms-giving, sympathy, care and sensitivity for the needs of others, hospitality, conviviality, sociability.  Preserve stability and accepted social customs (do not seek change).  Elders valued as leaders/sages. Time as cyclical, time as healer.

TABLE 6.1

SOURCE : PIETERSON : S.A. JOURNAL OF INDUSTRIAL PSYCHOLOGY : VOL. 31.3 : 56 : VALUES IN WESTERN AND AFRICAN THOUGHT

If some issue of bias exists in this factor there is no doubt that further investigation into Discus and in particular into the Compliance factor needs to be done.

#### **6.4 ALTERNATIVE APPROACH**

Possibly a different group of older subjects may reveal more clarity on the reason for the difference between the English and Zulu results on Compliance. As the research has pointed out in Chapter three, South Africa is in a transition stage and there could be many reasons for a group such as the one tested to have ambiguous approaches to opinions that they themselves may only have been exposed to in the last few years and have still not found their identity on some subjects.

#### **6.5 NORMED GROUPS**

On progressing through this study the researcher has reached the opinion that trying to place all racial and ethnic groups in neat normed categories may not be the answer. As globalization becomes a reality we may have to accept that specific norms to link us all and make socialization and education an easy comfort zone are not going to happen. Social and moral tranquilizers are just not going to be that easy in a multi-cultural society

In future, previously unlinked variables in socialization, culture, ethnicity, education and personality, may all have to be factored into a formula before scoring and norms are produced.

## 6.6 FURTHER RESEARCH

The Zulu Discus Behavior Profiling System / instrument has been proven to be valid and reliable in this study. However, further research is recommended on the "compliance" factor , within a multi - cultural setting.

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**STUDENT NUMBER:****DISCUS ZULU PHRASE BASED QUESTIONNAIRE**

<b><u>UMBUZO 1</u></b>	<b>KUVAMILE</b>	<b>KUQABUKELA</b>
A. Ukwazi uma sekumele wamukele ukuthi wehlulekile	A	A
B. Ukuzama ukwenza izinto ngendlela ehlukile	B	B
C. Ukuhlala uthembekile kubangane	C	C
D. Abanye abantu bakubuka njengomuntu onamahlanya othokozisayo	D	D
<b><u>UMBUZO 2</u></b>		
A. Ukulalela imibono emisha ngomqondo ovulekile	A	A
B. Ukuzinikela ngokuzimisela ekusizeni abanye abantu.	B	B
C. Ukuzimisela ngokuphelele ukuze inhloso iphumelele	C	C
D. Ukuhlala uchachambile, usesimweni esikahle	D	D
<b><u>UMBUZO 3</u></b>		
A. Ukuba nozwelo olukhulu kwabanye abantu.	A	A
B. Ukwenza abanye abantu bahambisane nombono wakho	B	B
C. Ukuchaza impumelelo yakho ngale kokuzigqaja ngayo	C	C
D. Ukuqhamuka nemibono emisha	D	D
<b><u>UMBUZO 4</u></b>		
A. Ukuthola ukunakwa ngabanye abantu	A	A
B. Ukusebenzisana nabanye ekuphumeleliseni inhloso ethile	B	B
C. Ukuwasukumela amalungelo akho	C	C
D. Ukubeka imizwa ngokusobala kwabasondelene nawe	D	D
<b><u>UMBUZO 5</u></b>		
A. Ukuchaza izinto ngokusobala uma kudingekile	A	A
B. Ukuyilandela ngaso sonke isikhathi imithetho ebekiwe	B	B
C. Ukukwazi ukuziphathela impilo yakho ngokuphelele	C	C
D. Ukuzithokozela zonke izinto ozenzayo	D	D
<b><u>UMBUZO 6</u></b>		
A. Uzimisela ekwenzeni okubukeka kunobungozi uma nje kunesidingo	A	A
B. Ukhuluma nabantu ngendlela evuselelayo	B	B

C. Uyazamukela izinto eziningi ezenzeka empilweni yakho	C	C
D. Usigcina njengoba sinjalo isimo sezinto ezenzakalayo.	D	D
<b>UMBUZO 7</b>		
A. Abanye abantu bayakuthokozela ukuba nawe	A	A
B. Ukuzihlupha kakhulu ngento kuze kufinyelelwe kwiminingwane edingekile	B	B
C. Ukuma ungaguquki ezintweni okholelwa kuzona	C	C
D. Ukungathatheli izinto phezulu ube nolaka	D	D
<b>UMBUZO 8</b>		
A. Ukubheka ukuthi awusaleli ngemumva ezintweni ezenziwa ngabanye abantu.	A	A
B. Ukuchitha isikhathi ucabanga ngezidingo zabanye abantu	B	B
C. Ukuyithakasela impilo ube nethemba ngekusasa	C	C
D. Ukuzwana cishe nabo bonke abantu abakhona	D	D
<b>UMBUZO 9</b>		
A. Ukuwasebenzisa ngokugcwele amathuba onawo	A	A
B. Ukwemukela imibono emisha ngaphandle kwenkinga	B	B
C. Ukuhlala unobuntu ngazo zonke izikhathi	C	C
D. Ukuphatheka futhi uzizwe untshantshala	D	D
<b>UMBUZO 10</b>		
A. Ukuthokozela ukuba nabanye abantu	A	A
B. Ukuwemukela amaphutha enziwa ngabanye abantu	B	B
C. Ukuzazi kahle kamhlophe izinto okwazi ukuzenza	C	C
D. Ukuzibalekela izimo ezingadala ukungqubuzana	D	D
<b>UMBUZO 11</b>		
A. Ukulindela ukuba izinto ezenzekayo zikuvune	A	A
B. Ukuzwelana nezinkinga zabanye abantu	B	B
C. Ukubhekana nezimo ezinzima ngomoya ophansi	C	C
D. Ukufuna ukuba izinto zibesezingeni eliphezulu.	D	D
<b>UMBUZO 12</b>		
A. Ukuzinikela ekutheni usize abanye abantu	A	A
B. Ukuwuthakasela umsebenzi wakho	B	B
C. Uma kunokwenzeka ufuna isixazululo esizogculisa iningi	C	C

D. Ukuhlangabezana nezinkinga ngomqondo ohluzekile	D	D
<b>UMBUZO 13</b>		
A. Ukuzihlupha ngokuqiniseka ukuthi izinto zimi ngononina	A	A
B. Ukungakuvumeli kalula ukuhluleka	B	B
C. Ukuba kubekhona into oyenzayo, ukwenza umehluko ezimpilweni zabanye abantu.	C	C
D. Ukunikeza abanye abanye ithuba ungabanqumeli ogodweni.	D	D
<b>UMBUZO 14</b>		
A. Ukubhekela isimo uma kudingeka.	A	A
B. Ukuba kube nguwe obukwayo/owaziwayo	B	B
C. Ukusiza abanye abantu, uma ikhona indlela yokwenzenjalo	C	C
D. Ukuzivimbela izimo ozibonayo ukuthi zingaba nobungozi	D	D
<b>UMBUZO 15</b>		
A. Ukuziphatha ubukeke ngendlela efanelekile nephucuzekile	A	A
B. Ukungesabi ukudala inxushunxushu	B	B
C. Ukugwema ukuphatha kabi abanye abantu	C	C
D. Ukujabulela ukuba semsebenzini nokwenza umsebenzi.	D	D
<b>UMBUZO 16</b>		
A. Ukuyibeka ngokusobala imibono yakho kwabanye abantu.	A	A
B. Ukuzinqanda ekwenzeni izinto ezingafanele	B	B
C. Ukuzama ukulandela imithetho eyamiswa kudala uma kunokwenzeka.	C	C
D. Ukwenza izinqumo bese unamathela ngokuphelele kuzo	D	D
<b>UMBUZO 17</b>		
A. Ukuba nogazi kwabanye abantu	A	A
B. Ukuba nomqondo ovulekile ezintweni	B	B
C. Ukubhekana nezinkinga ngomfutho nogqozi	C	C
D. Ukuwemukela amaphutha enziwa ngabanye abantu	D	D
<b>UMBUZO 18</b>		
A. Ukubathemba abanye abantu	A	A
B. Ukweneliseka ngendima oyidlalayo empilweni	B	B
C. Ukuhlala unethemba ngempilo	C	C
D. Ukuzama ngokusemandleni ukubalekela ukungqubuzana.	D	D

<b>UMBUZO 19</b> A. Ukungabi namahloni okubhekana nabantu, ubabuze okuthile uma isindingo sikhona. B. Ukuzamukela izimo ezintsha ngaphandle kokuba nenkinga C. Ukubhekana nempilo ngomoya ophansi D. Ukwenza ukuba isimo salapho ukhona sithokozise	A  B  C D	A  B  C D
<b>UMBUZO 20</b> A. Ukuhlonipha abanye abantu B. Ukuzimisela ukuzama izindlela ezintsha zokubhekana nezinkinga C. Ukukhombisa ukuzethemba nakuba kukhona abanye abantu. D. Ukuhlala uzihlupha ngokulalela nokwemukela imibono yabanye	A B C D	A B C D
<b>UMBUZO 21</b> A. Ukuba yisibonelo kwabanye bafise ukukulingisa B. Ukubacabangela abanye abantu futhi ube nomusa C. Ukwazi ukuthi kunini lapho kufanele wemukele khona ukuthi wehlulekile D. Ukuba ngumuntu oziphoqayo izinto afune ukuzibona zenzeka nakuba iningi linobunzima	A B C D	A B C D
<b>UMBUZO 22</b> A. Ukuhlala ngokuyiqapha indlela nezinga lakho lokuziphatha. B. Ukuhlala ukulungele ukuxolela amaphutha abanye C. Ukwenzisa isiqiniseko sokuthi abantu bayayiqonda/bayizwe kahle imibono yakho D. Ukuqiniseka ukuthi umsebenzi othize owuqalile ugcina nakanjani uwufezile	A B C D	A B C D
<b>UMBUZO 23</b> A. Ukuqeda imisebenzi omiselwe yona ngokushesha B. Ukuba nomoya wokubambisana nabanye C. Ukuba nenqwaba yabangane D. Ukubhekana nezinkinga ngomqondo ohluzekile	A B C D	A B C D



<b>UMBUZO 24</b> A. Abanye abantu bayakuthakasela ukuhlala nawe B. Ukuqiniseka ukuthi umsebenzi wakho uyiwo C. Ukubeka uvo lwakho ngezinto ezibalulekike kuwe. D. Ukuziphatha ngendlela eyiyo nelindelekile	A B C D	A B C D

NAME: \_\_\_\_\_ STUDENT NUMBER: \_\_\_\_\_

### DISCUS BEHAVIOUR PROFILING SYSTEM

#### INSTRUCTIONS:

From each set of four phrases below, choose the phrase that describes you most closely, and the phrase that describes you least closely in your current job position. Indicate your choice by circling the appropriate letters in the MOST and LEAST columns. You must choose only one letter from each column in each question.

QUESTION 1	MOST	LEAST
Behaving compassionately towards others	A	A
Persuading others to your point of view	B	B
Showing modesty in describing your achievements	C	C
Producing original ideas	D	D
QUESTION 2	MOST	LEAST
Receiving attention from other people	A	A
Working together with others to achieve an aim	B	B
Standing up for your rights	C	C
Showing affection in personal relationships	D	D
QUESTION 3	MOST	LEAST
Knowing when to admit defeat	A	A
Trying out new experiences	B	B
Remaining loyal to your friends	C	C
Being thought entertaining by others	D	D
QUESTION 4	MOST	LEAST
Listening to new ideas with an open mind	A	A
Being ready to make a sacrifice for others	B	B
Showing determination in achieving a goal	C	C
Maintaining a cheerful outlook	D	D
QUESTION 5	MOST	LEAST
Having other people enjoy your company	A	A
Taking pains to achieve precise detail	B	B
Standing up for your views and opinions	C	C
Remaining calm and even-tempered	D	D
QUESTION 6	MOST	LEAST
Keeping a competitive edge over others	A	A
Taking time to think about other people's needs	B	B
Maintaining a happy and optimistic view of life	C	C
Keeping on good terms with as many people as possible	D	D
QUESTION 7	MOST	LEAST
Explaining things precisely when required	A	A
Following the rules at all times	B	B
Being in control of your life	C	C
Deriving enjoyment from everything you do	D	D

QUESTION 8	MOST	LEAST
Being ready to take risks when required	A	A
Communicating in an inspiring way	B	B
Accepting your lot in life	C	C
Preserving the status quo	D	D
QUESTION 9	MOST	LEAST
Enjoying the company of other people	A	A
Accepting faults in others	B	B
Being sure of your own abilities	C	C
Avoiding confrontational situations	D	D
QUESTION 10	MOST	LEAST
Taking full advantage of opportunities	A	A
Being receptive to new ideas	B	B
Being friendly and cordial whenever possible	C	C
Behaving in a moderate, restrained way	D	D
QUESTION 11	MOST	LEAST
Expressing ideas to other people	A	A
Maintaining a self-disciplined approach	B	B
Following convention where possible	C	C
Making decisions and standing by them	D	D
QUESTION 12	MOST	LEAST
Presenting a polished and professional image	A	A
Not being afraid to cause offence	B	B
Avoiding hurting other people's feelings	C	C
Being happy in your work	D	D
QUESTION 13	MOST	LEAST
Taking control when a situation calls for it	A	A
Being the centre of attention	B	B
Helping other people when you can	C	C
Avoiding unnecessary risks	D	D
QUESTION 14	MOST	LEAST
Taking care to get things exactly right	A	A
Refusing to accept defeat	B	B
Making a difference to other people	C	C
Giving others the benefit of the doubt	D	D
QUESTION 15	MOST	LEAST
Volunteering to help others	A	A
Enjoying your work	B	B
Reaching a compromise solution when you can	C	C
Approaching problems in a dynamic and original way	D	D
QUESTION 16	MOST	LEAST
Expecting things to turn out for the best	A	A
Sympathising with others' problems	B	B
Dealing calmly with difficult situations	C	C
Demanding high standards	D	D

QUESTION 17	MOST	LEAST
Maintaining a standard of self-discipline	A	A
Being ready to forgive others	B	B
Making sure others understand your point of view	C	C
Seeing a task through to the end	D	D
QUESTION 18	MOST	LEAST
Setting a standard for others to look up to	A	A
Being kind and thoughtful	B	B
Knowing when to accept defeat	C	C
Having a forceful personality	D	D
QUESTION 19	MOST	LEAST
Having respect for other people	A	A
Being ready to try new approaches to a problem	B	B
Being confident in the company of others	C	C
Always taking others' points of view into account	D	D
QUESTION 20	MOST	LEAST
Being prepared to confront others when necessary	A	A
Adapting well to new situations	B	B
Having a calm and relaxed approach to life	C	C
Generating a light-hearted atmosphere	D	D
QUESTION 21	MOST	LEAST
Trusting other people	A	A
Being satisfied with your place in life	B	B
Maintaining a positive approach	C	C
Trying to avoid conflict	D	D
QUESTION 22	MOST	LEAST
Being liked by other people	A	A
Maintaining a wide general knowledge	B	B
Approaching problems with vigour and zest	C	C
Accepting faults in other people	D	D
QUESTION 23	MOST	LEAST
Being regarded as good company	A	A
Ensuring that your work is accurate	B	B
Speaking out on matter that are important to you	C	C
Employing restraint and self-control	D	D
QUESTION 24	MOST	LEAST
Completing tasks as quickly as possible	A	A
Adopting a neighbourly attitude	B	B
Having a wide circle of friends	C	C
Approaching problems in a systematic way	D	D

**CORRELATING QUESTIONS BETWEEN ENGLISH DISCUS AND ZULU  
DISCUS QUESTIONNAIRE**

<b>ENGLISH DISCUS BEHAVIOUR QUESTIONNAIRE</b>	<b>ZULU DISCUS QUESTIONNAIRE (ROTATION OF QUESTIONS)</b>
QUESTION 1	QUESTION 3
QUESTION 2	QUESTION 4
QUESTION 3	QUESTION 1
QUESTION 4	QUESTION 2
QUESTION 5	QUESTION 7
QUESTION 6	QUESTION 8
QUESTION 7	QUESTION 5
QUESTION 8	QUESTION 6
QUESTION 9	QUESTION 10
QUESTION 10	QUESTION 9
QUESTION 11	QUESTION 16
QUESTION 12	QUESTION 15
QUESTION 13	QUESTION 14
QUESTION 14	QUESTION 13
QUESTION 15	QUESTION 12
QUESTION 16	QUESTION 11
QUESTION 17	QUESTION 22
QUESTION 18	QUESTION 21
QUESTION 19	QUESTION 20
QUESTION 20	QUESTION 19
QUESTION 21	QUESTION 18
QUESTION 22	QUESTION 17
QUESTION 23	QUESTION 24
QUESTION 24	QUESTION 23

**STUDENT NUMBER:****DISCUS ZULU PHRASE BASED QUESTIONNAIRE**

<b><u>UMBUZO 1</u></b>	<b>KUVAMILE</b>	<b>KUQABUKELA</b>
A. Ukwazi uma sekumele wamukele ukuthi wehlulekile	A	A
B. Ukuzama ukwenza izinto ngendlela ehlukile	B	B
C. Ukuhlala uthembekile kubangane	C	C
D. Abanye abantu bakubuka njengomuntu onamahlanya othokozisayo	D	D
<b><u>UMBUZO 2</u></b>		
A. Ukulalela imibono emisha ngomqondo ovulekile	A	A
B. Ukuzinikela ngokuzimisela ekusizeni abanye abantu.	B	B
C. Ukuzimisela ngokuphelele ukuze inhloso iphumelele	C	C
D. Ukuhlala uchachambile, usesimweni esikahle	D	D
<b><u>UMBUZO 3</u></b>		
A. Ukuba nozwelo olukhulu kwabanye abantu.	A	A
B. Ukwenza abanye abantu bahambisane nombono wakho	B	B
C. Ukuchaza impumelelo yakho ngale kokuzigqaja ngayo	C	C
D. Ukuqhamuka nemibono emisha	D	D
<b><u>UMBUZO 4</u></b>		
A. Ukuthola ukunakwa ngabanye abantu	A	A
B. Ukusebenzisana nabanye ekuphumeleliseni inhloso ethile	B	B
C. Ukuwasukumela amalungelo akho	C	C
D. Ukubeka imizwa ngokusobala kwabasondelene nawe	D	D
<b><u>UMBUZO 5</u></b>		
A. Ukuchaza izinto ngokusobala uma kudingekile	A	A
B. Ukuyilandela ngaso sonke isikhathi imithetho ebekiwe	B	B
C. Ukukwazi ukuziphathela impilo yakho ngokuphelele	C	C
D. Ukuzithokozela zonke izinto ozenzayo	D	D
<b><u>UMBUZO 6</u></b>		
A. Uzimisela ekwenzeni okubukeka kunobungozi uma nje kunesidingo	A	A
B. Ukhuluma nabantu ngendlela evuselelayo	B	B

C. Uyazamukela izinto eziningi ezenzeka empilweni yakho	C	C
D. Usigcina njengoba sinjalo isimo sezinto ezenzakalayo.	D	D
<b>UMBUZO 7</b>		
A. Abanye abantu bayakuthokozela ukuba nawe	A	A
B. Ukuzihlupha kakhulu ngento kuze kufinyelelwe kwiminingwane edingekile	B	B
C. Ukuma ungaguquki ezintweni okholelwa kuzona	C	C
D. Ukungathatheli izinto phezulu ube nolaka	D	D
<b>UMBUZO 8</b>		
A. Ukubheka ukuthi awusaleli ngemumva ezintweni ezenziwa ngabanye abantu.	A	A
B. Ukuchitha isikhathi ucabanga ngezidingo zabanye abantu	B	B
C. Ukuyithakasela impilo ube nethemba ngekusasa	C	C
D. Ukuzwana cishe nabo bonke abantu abakhona	D	D
<b>UMBUZO 9</b>		
A. Ukuwasebenzisa ngokugcwele amathuba onawo	A	A
B. Ukwemukela imibono emisha ngaphandle kwenkinga	B	B
C. Ukuhlala unobuntu ngazo zonke izikhathi	C	C
D. Ukuphatheka futhi uzizwe untshantshala	D	D
<b>UMBUZO 10</b>		
A. Ukuthokozela ukuba nabanye abantu	A	A
B. Ukuwemukela amaphutha enziwa ngabanye abantu	B	B
C. Ukuzazi kahle kamhlophe izinto okwazi ukuzenza	C	C
D. Ukuzibalekela izimo ezingadala ukungqubuzana	D	D
<b>UMBUZO 11</b>		
A. Ukulindela ukuba izinto ezenzekayo zikuvune	A	A
B. Ukuzwelana nezinkinga zabanye abantu	B	B
C. Ukubhekana nezimo ezinzima ngomoya ophansi	C	C
D. Ukufuna ukuba izinto zibesezingeni eliphezulu.	D	D
<b>UMBUZO 12</b>		
A. Ukuzinikela ekutheni usize abanye abantu	A	A
B. Ukuwuthakasela umsebenzi wakho	B	B
C. Uma kunokwenzeka ufuna isixazululo esizogculisa iningi	C	C

D. Ukuhlangabezana nezinkinga ngomqondo ohluzekile	D	D
<b>UMBUZO 13</b>		
A. Ukuzihlupha ngokuqiniseka ukuthi izinto zimi ngononina	A	A
B. Ukungakuvumeli kalula ukuhluleka	B	B
C. Ukuba kubekhona into oyenzayo, ukwenza umehluko ezimpilweni zabanye abantu.	C	C
D. Ukunikeza abanye abanye ithuba ungabanqumeli ogodweni.	D	D
<b>UMBUZO 14</b>		
A. Ukubhekela isimo uma kudingeka.	A	A
B. Ukuba kube nguwe obukwayo/owaziwayo	B	B
C. Ukusiza abanye abantu, uma ikhona indlela yokwenzenjalo	C	C
D. Ukuzivimbela izimo ozibonayo ukuthi zingaba nobungozi	D	D
<b>UMBUZO 15</b>		
A. Ukuziphatha ubukeke ngendlela efanelekile nephucuzekile	A	A
B. Ukungesabi ukudala inxushunxushu	B	B
C. Ukugwema ukuphatha kabi abanye abantu	C	C
D. Ukujabulela ukuba semsebenzini nokwenza umsebenzi.	D	D
<b>UMBUZO 16</b>		
A. Ukuyibeka ngokusobala imibono yakho kwabanye abantu.	A	A
B. Ukuzinqanda ekwenzeni izinto ezingafanele	B	B
C. Ukuzama ukulandela imithetho eyamiswa kudala uma kunokwenzeka.	C	C
D. Ukwenza izinqumo bese unamathela ngokuphelele kuzo	D	D
<b>UMBUZO 17</b>		
A. Ukuba nogazi kwabanye abantu	A	A
B. Ukuba nomqondo ovulekile ezintweni	B	B
C. Ukubhekana nezinkinga ngomfutho nogqozi	C	C
D. Ukuwemukela amaphutha enziwa ngabanye abantu	D	D
<b>UMBUZO 18</b>		
A. Ukubathemba abanye abantu	A	A
B. Ukweneliseka ngendima oyidlalayo empilweni	B	B
C. Ukuhlala unethemba ngempilo	C	C
D. Ukuzama ngokusemandleni ukubalekela ukungqubuzana.	D	D



<b>UMBUZO 19</b> A. Ukungabi namahloni okubhekana nabantu,ubabuze okuthile uma isindingo sikhona. B. Ukuzamukela izimo ezintsha ngaphandle kokuba nenkinga C. Ukubhekana nempilo ngomoya ophansi D. Ukwenza ukuba isimo salapho ukhona sithokozise	A  B  C D	A  B  C D
<b>UMBUZO 20</b> A. Ukuhlonipha abanye abantu B. Ukuzimisela ukuzama izindlela ezintsha zokubhekana nezinkinga C. Ukukhombisa ukuzethemba nakuba kukhona abanye abantu. D. Ukuhlala uzihlupha ngokulalela nokwemukela imibono yabanye	A B C D	A B C D
<b>UMBUZO 21</b> A. Ukuba yisibonelo kwabanye bafise ukukulingisa B. Ukubacabangela abanye abantu futhi ube nomusa C. Ukwazi ukuthi kunini lapho kufanele wemukele khona ukuthi wehlulekile D. Ukuba ngumuntu oziphoqayo izinto afune ukuzibona zenzeka nakuba iningi linobunzima	A B C D	A B C D
<b>UMBUZO 22</b> A. Ukuhlala ngokuyiqapha indlela nezinga lakho lokuziphatha. B. Ukuhlala ukulungele ukuxolela amaphutha abanye C. Ukwenza isiqiniseko sokuthi abantu bayayiqonda/bayizwe kahle imibono yakho D. Ukuqiniseka ukuthi umsebenzi othize owuqalile ugcina nakanjani uwufezile	A B C D	A B C D
<b>UMBUZO 23</b> A. Ukuqeda imisebenzi omiselwe yona ngokushesha B. Ukuba nomoya wokubambisana nabanye C. Ukuba nenqwaba yabangane D. Ukubhekana nezinkinga ngomqondo ohluzekile	A B C D	A B C D

<b>UMBUZO 24</b> A. Abanye abantu bayakuthakasela ukuhlala nawe B. Ukuqiniseka ukuthi umsebenzi wakho uyiwo C. Ukubeka uvo lwakho ngezinto ezibalulekike kuwe. D. Ukuziphatha ngendlela eyiyo nelindelekile	A B C D	A B C D

NAME: \_\_\_\_\_ STUDENT NUMBER: \_\_\_\_\_

### DISCUS BEHAVIOUR PROFILING SYSTEM

#### INSTRUCTIONS:

From each set of four phrases below, choose the phrase that describes you most closely, and the phrase that describes you least closely in your current job position. Indicate your choice by circling the appropriate letters in the MOST and LEAST columns. You must choose only one letter from each column in each question.

QUESTION 1	MOST	LEAST
Behaving compassionately towards others	A	A
Persuading others to your point of view	B	B
Showing modesty in describing your achievements	C	C
Producing original ideas	D	D
QUESTION 2	MOST	LEAST
Receiving attention from other people	A	A
Working together with others to achieve an aim	B	B
Standing up for your rights	C	C
Showing affection in personal relationships	D	D
QUESTION 3	MOST	LEAST
Knowing when to admit defeat	A	A
Trying out new experiences	B	B
Remaining loyal to your friends	C	C
Being thought entertaining by others	D	D
QUESTION 4	MOST	LEAST
Listening to new ideas with an open mind	A	A
Being ready to make a sacrifice for others	B	B
Showing determination in achieving a goal	C	C
Maintaining a cheerful outlook	D	D
QUESTION 5	MOST	LEAST
Having other people enjoy your company	A	A
Taking pains to achieve precise detail	B	B
Standing up for your views and opinions	C	C
Remaining calm and even-tempered	D	D
QUESTION 6	MOST	LEAST
Keeping a competitive edge over others	A	A
Taking time to think about other people's needs	B	B
Maintaining a happy and optimistic view of life	C	C
Keeping on good terms with as many people as possible	D	D
QUESTION 7	MOST	LEAST
Explaining things precisely when required	A	A
Following the rules at all times	B	B
Being in control of your life	C	C
Deriving enjoyment from everything you do	D	D

QUESTION 8	MOST	LEAST
Being ready to take risks when required	A	A
Communicating in an inspiring way	B	B
Accepting your lot in life	C	C
Preserving the status quo	D	D
QUESTION 9	MOST	LEAST
Enjoying the company of other people	A	A
Accepting faults in others	B	B
Being sure of your own abilities	C	C
Avoiding confrontational situations	D	D
QUESTION 10	MOST	LEAST
Taking full advantage of opportunities	A	A
Being receptive to new ideas	B	B
Being friendly and cordial whenever possible	C	C
Behaving in a moderate, restrained way	D	D
QUESTION 11	MOST	LEAST
Expressing ideas to other people	A	A
Maintaining a self-disciplined approach	B	B
Following convention where possible	C	C
Making decisions and standing by them	D	D
QUESTION 12	MOST	LEAST
Presenting a polished and professional image	A	A
Not being afraid to cause offence	B	B
Avoiding hurting other people's feelings	C	C
Being happy in your work	D	D
QUESTION 13	MOST	LEAST
Taking control when a situation calls for it	A	A
Being the centre of attention	B	B
Helping other people when you can	C	C
Avoiding unnecessary risks	D	D
QUESTION 14	MOST	LEAST
Taking care to get things exactly right	A	A
Refusing to accept defeat	B	B
Making a difference to other people	C	C
Giving others the benefit of the doubt	D	D
QUESTION 15	MOST	LEAST
Volunteering to help others	A	A
Enjoying your work	B	B
Reaching a compromise solution when you can	C	C
Approaching problems in a dynamic and original way	D	D
QUESTION 16	MOST	LEAST
Expecting things to turn out for the best	A	A
Sympathising with others' problems	B	B
Dealing calmly with difficult situations	C	C
Demanding high standards	D	D

QUESTION 17	MOST	LEAST
Maintaining a standard of self-discipline	A	A
Being ready to forgive others	B	B
Making sure others understand your point of view	C	C
Seeing a task through to the end	D	D
QUESTION 18	MOST	LEAST
Setting a standard for others to look up to	A	A
Being kind and thoughtful	B	B
Knowing when to accept defeat	C	C
Having a forceful personality	D	D
QUESTION 19	MOST	LEAST
Having respect for other people	A	A
Being ready to try new approaches to a problem	B	B
Being confident in the company of others	C	C
Always taking others' points of view into account	D	D
QUESTION 20	MOST	LEAST
Being prepared to confront others when necessary	A	A
Adapting well to new situations	B	B
Having a calm and relaxed approach to life	C	C
Generating a light-hearted atmosphere	D	D
QUESTION 21	MOST	LEAST
Trusting other people	A	A
Being satisfied with your place in life	B	B
Maintaining a positive approach	C	C
Trying to avoid conflict	D	D
QUESTION 22	MOST	LEAST
Being liked by other people	A	A
Maintaining a wide general knowledge	B	B
Approaching problems with vigour and zest	C	C
Accepting faults in other people	D	D
QUESTION 23	MOST	LEAST
Being regarded as good company	A	A
Ensuring that your work is accurate	B	B
Speaking out on matter that are important to you	C	C
Employing restraint and self-control	D	D
QUESTION 24	MOST	LEAST
Completing tasks as quickly as possible	A	A
Adopting a neighbourly attitude	B	B
Having a wide circle of friends	C	C
Approaching problems in a systematic way	D	D

**CORRELATING QUESTIONS BETWEEN ENGLISH DISCUS AND ZULU  
DISCUS QUESTIONNAIRE**

<b>ENGLISH DISCUS BEHAVIOUR QUESTIONNAIRE</b>	<b>ZULU DISCUS QUESTIONNAIRE (ROTATION OF QUESTIONS)</b>
QUESTION 1	QUESTION 3
QUESTION 2	QUESTION 4
QUESTION 3	QUESTION 1
QUESTION 4	QUESTION 2
QUESTION 5	QUESTION 7
QUESTION 6	QUESTION 8
QUESTION 7	QUESTION 5
QUESTION 8	QUESTION 6
QUESTION 9	QUESTION 10
QUESTION 10	QUESTION 9
QUESTION 11	QUESTION 16
QUESTION 12	QUESTION 15
QUESTION 13	QUESTION 14
QUESTION 14	QUESTION 13
QUESTION 15	QUESTION 12
QUESTION 16	QUESTION 11
QUESTION 17	QUESTION 22
QUESTION 18	QUESTION 21
QUESTION 19	QUESTION 20
QUESTION 20	QUESTION 19
QUESTION 21	QUESTION 18
QUESTION 22	QUESTION 17
QUESTION 23	QUESTION 24
QUESTION 24	QUESTION 23