

**VALIDATION OF A PRELIMINARY SOFT-HEARTEDNESS SCALE WITHIN THE
SOUTH AFRICAN PERSONALITY INVENTORY**

by

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ABSTRACT

The South African Personality Inventory (SAPI) project aims to develop a personality measurement instrument unique to South Africa, taking into account the diversity evident in the different cultures within South Africa. The objective of this study was to validate the Soft-heartedness scale of the SAPI and to determine whether Soft-heartedness is a unique personality construct distinct from the Big Five factors measured within the Basic Trait Inventory (BTI). In addition, the study aimed to determine whether Soft-heartedness can predict the external criterion, Prosocialness. A quantitative, cross-sectional research design with convenience sampling was used. Data was gathered from students ($N=435$) at two tertiary institutions in South Africa, using a preliminary Soft-heartedness Scale, the BTI-S (Short form: Research Version), and the Prosocialness Scale. The Soft-heartedness scale consists of 79 items that yielded a reliable six factor structure, namely Empathy, Antagonism, Egoism, Active Support, Compassionate, and Hostility. The results of this study suggest that the Soft-heartedness scale is valid and reliable since: (1) it consists of reliable measuring scales; (2) demonstrated divergent validity from those measures it was meant to differ from; (3) demonstrated convergent validity from those measures it was intended to be in agreement with; and (4) demonstrated predictive validity in terms of predicting an external criterion.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	ii
AFFIDAVIT	iii
ABSTRACT	iv
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER 1: INTRODUCTION	1
1.1. Introduction	1
1.2. Problem statement	1
1.3. Objective(s) of this study	3
1.4. Conclusion	4
CHAPTER 2: LITERATURE STUDY	5
2.1. Introduction	5
2.2. Personality	5
2.3. Big Five/ Five Factor Model	7
2.4. Other personality models	9
2.5. The South African Personality Inventory	11
2.6. The present study	14
2.7. Conclusion	18
CHAPTER 3: RESEARCH DESIGN	19
3.1. Introduction	19
3.2. Research design	19
3.3. Research method	19
3.3.1. Participants	19
3.3.2. Sampling procedure	20

3.3.3. Measuring instruments	21
3.3.3.1. Soft-heartedness Scale	21
3.3.3.2. Basic Trait Inventory	21
3.3.3.3. Prosocialness Scale	22
3.3.4. Research procedure	22
3.3.5. Statistical analysis	23
3.3.5.1. Descriptive statistics	23
3.3.5.2. Unidimensionality of the Soft-heartedness Scale	23
3.3.5.3. Factor analysis of the Soft-heartedness Scale	23
3.3.5.4. Reliability and correlations	24
3.3.5.5. Factor analysis of the Soft-heartedness and Basic Trait Inventory	
Scales	25
3.3.5.6. Regression analysis	26
3.4. Conclusion	26
CHAPTER 4: RESULTS	28
4.1. Introduction	28
4.2. Research results	28
4.2.1. Descriptive statistics and unidimensionality of the Soft-heartedness scale	28
4.2.2. Factor analysis	30
4.2.3. Reliability and correlations	34
4.2.4. Factor analysis of Soft-heartedness and BTI scales	36
4.2.5. Regression analysis	39
4.3. Conclusion	40
CHAPTER 5: DISCUSSION	41
5.1. Introduction	41



5.2. Discussion of results	41
5.3. Conclusion	44
CHAPTER 6: CONSLUSIONS AND RECOMMENDATIONS	46
6.1. Introduction	46
6.2. Conclusions	46
6.3. Recommendations	47
6.4. Limitations and suggestions for future research	47
6.5. Practical implications ad value-add of this study	48
6.6. Conclusion	48
REFERENCES	50



LIST OF TABLES

Table 1	Characteristics of participants	20
Table 2	Descriptive statistics of the Soft-heartedness scale	28
Table 3	Pattern matrix of the Soft-heartedness scale	31
Table 4	Descriptive statistics, Cronbach alpha coefficients and correlations between the Soft-heartedness scale, BTI, and Prosocialness scale	35
Table 5	Pattern matrix for the Soft-heartedness scale and BTI sub-scales	37
Table 6	Factor correlation matrix of the Soft-heartedness scale and BTI sub-scales	38
Table 7	Regression coefficients of the independent variables	39



LIST OF FIGURES

Figure 1	Scree plot indicative of the amount of factors to retain	31
Figure 2	Scree plot indicative of the factor structure of the Soft-heartedness scale	38



CHAPTER 1: INTRODUCTION

1.1 Introduction

It has been said that South Africa mostly followed international trends, and adapted tests that were developed abroad, for use in South Africa. Most of these tests did not take into account the political, social and economic history of South Africa and consequently fair assessment for all South Africans are questionable (see Foxcroft, 1997). This chapter provides a brief overview of the adaptation of tests across cultures, as well as the challenges this holds. Furthermore, the South African Personality Inventory, a new project aiming at addressing these challenges, will also be briefly described in order to get an understanding of what the project entails.

1.2 Problem statement

Personality assessment in South Africa has historically been based on the use of imported western-developed personality instruments that have been applied directly to the local population (Valchev et al., 2011). However, research has shown that these imported instruments (most of which are in English) do not function well for individuals of African descent whose native tongue is one of the indigenous languages within South Africa (Valchev et al., 2011). The South African indigenous languages include IsiNdebele, IsiXhosa, isiZulu, Sesotho sa Leboa, Sesotho, Setswana, siSwati, Tshivenda, and Xitsonga (Statistics South Africa, 2001). According to Abrahams and Mauer (1999) indigenous language speakers' difficulties may stem from unfamiliarity with the material used in the tests. It is also possible that the adapted tests may lose the real meaning of the measured constructs during translation and that the translated items therefore measure a construct that is slightly different to the originally designed and standardised construct (Abrahams & Mauer, 1999). Language is an important cultural variable that needs to be taken into account when focusing on the cross-cultural applicability of personality measures (Kanjee & Foxcroft, 2005).

Finally, most of these adapted tests do not take into account the political, social and economic history of South Africa and consequently the provision of fair assessment for all South Africans is questionable (Foxcroft, 1997).

According to De Bruin, De Bruin, Dercksen and Cilliers-Hartslief (2005) the current use of personality tests in South Africa presents two major challenges: (1) many participants have a first language that is an indigenous African language, and there are only a few appropriate inventories available in African languages; and (2) several individuals may have poor English comprehension and reading skills. De Bruin et al. (2005) noted that when instruments are developed for use within the South African context, care should be taken to ensure that the content can be translated into the various African languages. These issues within the context of personality assessment in South Africa point to the need to develop an indigenous measure of personality for all cultures and languages in South Africa in order to secure fair assessment of traits across cultures and to prevent the occurrence of bias and non-equivalence (Nel, 2008).

Based on the context presented above the South African Personality Inventory¹ (SAPI) project was undertaken with the aim of discovering universal and culture-specific personality traits for all 11 official language groups in South Africa. The project also aimed to develop a unified personality inventory that can be applied fairly towards all of these language groups (Nel, 2008). An emic approach was used to build a South African model of personality “...on the basis of local phenomena and experiences originating within a culture...”, as well as to “...study specific cultural personality constructs...” (Cheung et al.,

¹The SAPI, an acronym for South African Personality Inventory, is a project that aims to develop an indigenous personality measure for all 11 official languages in South Africa. Participants are Byron Adams (University of Johannesburg and Tilburg University, The Netherlands), Deon de Bruin (University of Johannesburg), Karina de Bruin (University of Johannesburg), Carin Hill (University of Johannesburg), Leon Jackson (North-West University), Deon Meiring (University of Pretoria and University of Stellenbosch), Alewyn Nel (North-West University), Ian Rothmann (North-West University), Michael Temane (North-West University), VelichkoValchev (Tilburg University, The Netherlands), and Fons van de Vijver (North-West University and Tilburg University, The Netherlands).

2011, p. 4). The SAPI currently consist of nine clusters thought to be the basis of personality within the South African context. These clusters have been labelled Extraversion, Soft-heartedness, Conscientiousness, Emotional Stability, Intellect, Openness, Integrity, Relationship Harmony, and Facilitating. This study focused on the *Soft-heartedness* cluster, which can be briefly described as being pleasant and kind, considering other's feelings and needs, and ultimately caring for others (Nel et al., in press).

The Soft-heartedness cluster is the largest cluster within the SAPI and contains the most sub-clusters and facets. The cluster consists of consists of 6 sub-clusters: (1) Amiability (six facets); (2) Egoism (five facets); (3) Gratefulness (two facets); (4) Hostility (twelve facets); (5) Empathy (seven facets); and (6) Active Support (six facets) (Nel, 2008; Nel et al., in press). Nel (2008) theorised that the Soft-heartedness cluster is associated with the Agreeableness construct of the Big 5/Five Factor Model (FFM) (Costa & McCrae, 1992) as well as with the Agreeableness vs. Anger construct within the HEXACO personality model (Lee & Ashton, 2004). Soft-heartedness might also have a moderate correlation with the Extraversion and Psychoticism constructs of Eysenck's „Giant Three“ model; the Negative Valence construct of the Big Seven Factor Model of personality description (Tellegan & Waller, 1987); and the Dependability, Interpersonal Relatedness, and Accommodation constructs of the Chinese Personality Assessment Instrument (CPAI) (Cheung et al., 1996).

1.3 Objective(s) of the study

The objective of this study was to establish the construct validity of a preliminary Soft-heartedness scale developed for the SAPI. This objective was achieved by (1) investigating the factor structure of the preliminary Soft-heartedness scale; (2) determining whether the Soft-heartedness cluster can be identified as a unique personality facet over and above the FFM; and (3) determining whether the Soft-heartedness cluster can act as a predictor for an external criterion, namely Prosocialness.

1.4 Conclusion

This chapter provided a brief overview of test adaptations from Western countries to various cultures across the world, as well as depicted the challenges involved in the adaptation and application of such test specifically to the South African context. In this chapter, the SAPI project, more specifically the Soft-heartedness cluster was also introduced, which forms the basis of this study. Lastly, the main objective of this study was highlighted, along with the other objectives.



CHAPTER 2: LITERATURE STUDY

2.1 Introduction

Within this section a condensed overview is given regarding the use of personality, as well as the approaches or theories developed to better understand personality and predict behaviour. The models developed towards explaining personality are also discussed with the main focus being on the Big Five/ Five Factor Model of personality. Furthermore the SAPI project is discussed more in-depth ultimately leading to the discussion of the present study, in which the main focus points are highlighted and discussed.

2.2 Personality

The concept of personality first gained recognition from psychologists in the 1930s and has subsequently become an important construct within psychology (Laher, 2007). Personality psychologists and researchers aim to address the issues of human universals, individual differences, and individual uniqueness (Pervin & Cervone, 2010). Various approaches have been taken to understand personality. The six main approaches to personality are known as the psychoanalytic, neo-psychoanalytic, humanistic, social-learning, cognitive, behavioural, and trait approaches (Allen, 1997; Burger, 2008; Ewen, 2003; Friedman & Schustack, 2003; Pervin & Cervone, 2010; Schultz & Schultz, 2005).

The psycho-analytic approach views personality as regulated and shaped by instincts (Schultz & Schultz, 2005), unconscious motives, and the interplay between people's thoughts and feelings (Peterson, 1992). In contrast, the biological approach focuses on inherited predispositions and physiological processes in order to explain individual differences in personality (Burger, 2008). The humanistic approach stresses people's conscious experience and will, along with their drive to fully realise their inner potential (Peterson, 1992). The behavioural approach, which is often represented as the behavioural/social learning approach, views personality as an accumulation of learned responses to stimuli, sets of overt behaviour

or habit systems (Schultz & Schultz, 2008), as well as the impact of the environment on people's behaviour (Rotter, 1954). The cognitive approach is the most recent approach to personality (McCann & Sato, 2000) and focuses on the manner in which people construct the world in order to explain differences in behaviour and personalities (Kelly, 1955), as well as the interaction of people with situations and each other to produce behaviour (Mischel & Shoda, 1995).

The trait approach to personality is based on the assumption that personality traits can be used to describe personality and predict behaviour rather than simply explain why individuals behave in a certain way (Burger, 2008). Traits are thus viewed as stable, continuous and dimensional qualities (Boyle, Matthews, & Saklofske, 2010). The trait approach is linked to theories developed to understand personality, and identifies a wide range of dimensions or continua along which individuals can differ (Sigelman & Rider, 2009). Individuals are placed anywhere along a certain continuum as traits are viewed as dimensions of personality used to categorise people according to the degree to which they manifest a particular characteristic (Burger, 2008).

Laher (2008) inferred from the work of personality psychologists that the trait theory of personality currently dominates the field of personality psychology, particularly among those theorists focusing on the comparison of individuals across cultures in order to test the universality of trait psychology (McCrae & Terracciano, 2005). The trait approach to personality allows personality psychologists to easily make comparisons across different groups (Burger, 2008). In order to effectively compare traits across cultures, it is necessary to have a taxonomy of traits on which these comparisons can be based. According to John and Srivastava (1999) these taxonomies allow personality psychology researchers to study specified domains of personality characteristics, rather than studying the thousands of particular attributes that make individuals unique. Various taxonomies consisting of traits or

attributes that might describe human behaviour have been constructed. These taxonomies include the Allport and Odbert list, Cattell's major dimensions of personality, Norman's 2800 trait descriptors and preliminary taxonomy, the Goldberg taxonomies, Wiggins' circumplex taxonomy of interpersonal traits, and the Dutch trait taxonomy (Oliver, Alois, & Fritz, 1988).

2.3 The Big Five / Five Factor Model

According to John and Srivastava (1999) after decades of research the field of personality psychology has reached consensus on a general taxonomy of personality attributes or traits. This consensus is based on the Big Five dimensions of personality. These Big Five dimensions do not represent a particular perspective. Instead, they were derived from analysis of the natural-language terms people use to describe themselves and others (John & Srivastava, 1999). The Big Five model of personality therefore serves as an integrative function that represents the various and diverse systems of personality description in a common framework (John & Srivastava, 1999). The Big Five model of personality initially consisted of factors labelled Surgency, Agreeableness, Dependability, Emotional stability, and Culture (Tupes & Crystal, 1961). However, these factors were later relabelled Extraversion, Agreeableness, Conscientiousness, Emotional stability, and Intellect or Imagination (Lee, Ogunfowora, & Ashton, 2005). In recent years the Big Five dimensions of personality are more commonly referred to as the Five Factor Model (FFM) and the five factors are labelled Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (Costa & McCrae, 1992).

According to Lee et al. (2005) the effort to establish an optimal structural model of personality traits is one of the major accomplishments of personality psychologists in the twentieth century. This model provides a starting point from which vigorous research and theorising can emerge, resulting in an explanation and revision of the descriptive taxonomy in both casual and dynamic terms (John & Srivastava, 1999). The five fundamental dimensions

of individual differences found in the FFM therefore represent a significant development in personality (McAdams, 1992). Briggs (1989) explained the significance of this model by stating that: (1) the FFM provides a compelling framework for building personality measures that seek to represent the domain of individual difference terms broadly and systematically; (2) the FFM enables researchers to locate the myriad constructs and measures in the field within a meaningful conceptual space, enhancing individuals' ability to compare and contrast different constructs; and (3) the FFM suggests that the five basic dimensions should merit special attention in the continuing search for the mechanisms underlying individuals' differences in personality.

The FFM makes use of natural language and is thus easily understandable and not biased in favour of any existing scientific conceptions (John & Srivastava, 1999). However, in the light of cross-cultural applicability, using natural language may result in the personality descriptive being context dependent or vague as these personality attributes are difficult to study outside the cultural context in which it emerged (Oliver et al., 1988). McAdams and Pals (2006) commented that the FFM "...suggests a broad outline of what scientists, practitioners, and other informed scholars should be thinking about when they seek to make psychological sense of the individual human life..." (p. 205).

However, some researchers have indicated that the Big Five/FFM model of personality is not without flaws (Lee et al., 2005; McAdams & Walden, 2010; Norem, 2010). McAdams (1992) undertook a critical appraisal of the FFM and identified six limitations of the model. These limitations include the model's (1) inability to address core construct of personality functioning beyond the level of traits, (2) limitations on predicting specific behaviour and the adequate descriptions of individuals' lives, (3) failure to provide compelling causal explanations for human behaviour and experiences, (4) disregard of the contextual and conditional nature of human experience, (5) failure to offer an attractive

program for studying personality organisation and integration, and (6) reliance on simple, noncontingent, and implicitly comparative statements about persons.

More recently Block (2010) has raised certain concerns regarding the FFM. These concerns mainly revolve around the atheoretical and factor analytic nature of the model, resulting in the non-consensual understanding of the five factors within the model. Other concerns include the transformational developments with regards to inventory assessment of personality, and the need for a deeper biological understanding of the origins and implications of the model's higher order factors (Block, 2010). However, McAdams and Walden (2010) noted that Block (2010) overlooked significant achievements of the Five-factor approach to personality while occasionally holding the model to impossibly stringent standards.

2.4 Other Personality Models

Various personality trait researchers have proposed models that include some of the FFM factors with additional or revised factors. These proposed models include the HEXACO, Big Seven, Multi-Language Seven (ML7), and „Giant Three“. Lee and Ashton (2004) proposed a six-factor model, namely the HEXACO model of personality, which consists of the following dimensions: (a) Extraversion; (b) Agreeableness; (c) Conscientiousness; (d) Openness to experience; (e) Emotionality, (which is similar to the Neuroticism dimension of the Big Five model); and (f) Honesty-humility. The additional dimension of Honesty-humility is defined by terms such as unassuming vs. sly, and pretentious (Lee et al., 2005). Lee, Ashton, Morrison, Cordery, and Dunlop (2008) stated that the HEXACO model incorporates six cross-language factors, of which three of the factors (Extraversion, Conscientiousness, and Openness to experience) are similar to those contained in the FFM. Two of the factors (Agreeableness and Emotionality) represent a re-

rotation of the FFM, while the last factor (Honesty-humility) is a newly added dimension with a fraction of its variance being present in the FFM (Lee et al., 2008).

Tellegen and Waller (1987) stated that at least seven higher order dimensions are necessary for a comprehensive taxonomy of natural language personality descriptions, and proposed the Big Seven (Big7) model of personality. This model consists of five dimensions closely related to the Big Five dimensions as well as two additional dimensions. The dimensions related to the Big Five dimensions are positive Emotionality (similar to Extraversion), Agreeability (similar to Agreeableness), Dependability (similar to Conscientiousness), Emotional stability (similar to Neuroticism), and Conventionality (similar to Openness to experience). The additional dimensions identified by Tellegen and Waller (1987) are Positive and Negative Valence, which tap aspects of self-evaluation that are not measured by popular lexically informed personality inventories and furthermore represent enduring self-constructs and global evaluation. Benet and Waller (1995) stated that Positive Valence includes descriptions such as excellent, special, impressive, skilled, without equal, and matchless, while Negative Valence includes descriptions such as devil, wicked, awful, disgusting, deserves to be hated, and immoral.

Based on the development and testing of the Big Seven model on Hebrew and Philippines participants, Saucier (2009) anticipated the measurement of an alternative model of personality, which he referred to as the Multi-Language Seven (ML7). This model resembles the narrowband Cross-language Six, which is the same as the HEXACO model. The factors within the ML7 have been relabelled, although the model is still closely related to the Big Five model. The factors include Gregariousness (similar to Extraversion), Even temper (similar to Agreeableness), Intellect (similar to Openness to experience), Self-assurance (similar to Emotionality or Neuroticism), Concern for others and negative Valence (similar to Honesty) (Saucier, 2009).

One of the earliest and most well-established models developed to describe personality is the three-factor or „Giant Three“ model developed by Eysenck (1992). The three factors within this model are Extraversion vs. Introversion, Neuroticism vs. Emotional stability, and Psychoticism. According to Eysenck (1992) the first two factors (Extraversion vs. Introversion and Neuroticism vs. Emotional stability) are closely related to the Big Five model, while the Psychoticism factor might include both the Agreeableness and Conscientiousness factors of the Big Five model.

All of the personality models described in this section are related in one way or another to the FFM. The various factors in the different models measure one or more of the FFM factors, although they are often given different names. While some of the models have additional factors in relation to the FFM, other models contain fewer factors.

2.5 The South African Personality Inventory

The SAPI project was initiated in response to the development of different personality models and the challenges associated with these models (Labuschagne, 2010). Nel (2008) stated that the aim of the SAPI is to discover universal and culture-specific personality traits for all 11 language groups within South Africa and to derive authentic, relevant, and accurate personality-descriptive terms from each of the 11 official languages in South Africa. The SAPI project consists of both qualitative and quantitative phases. During the qualitative phase the researchers used indigenous approaches to identify culturally and linguistically adequate personality descriptive terms for all 11 official languages (Cheung et al., 2011).

Indigenous psychologists are said to have developed methodologies and strategies to illustrate and comprehend local construct models with different measures (Cheung et al., 2011). Indigenous psychology aims to study human behaviour from the indigenous populations“ perspective (Cheung et al., 2011). The SAPI adopted an emic approach in

generating indigenous personality constructs. However, etic procedures were followed in order to identify relevant and important personality clusters (Cheung et al., 2011; Nel, 2008).

The indigenous or emic approaches followed by the SAPI researchers are often described as bottom-up approaches. These approaches develop theories on the basis of local phenomena and experiences originating in the different cultures within South Africa in order to study cultural specific personality constructs (Cheung et al., 2011). Nel (2008) alluded to the importance of defining personality in social and behavioural terms in order to derive its meaning from the context in which it occurs. The emic approach is ideal for this type of theory development. The emic approach to the study of personality allows cultural distinctions to be emphasised as the approach highlights different cultures' beliefs, thoughts and attitudes (Xia, 2010). In addition, the emic approach is useful for (1) studying the behaviour of individuals from within a culture, (2) studying only one culture at a given time, (3) identifying a personality structure that is uncovered and manifested as important in one culture; (4) identifying personality dimensions that are seen as absolute or universal; and (5) identifying personality dimensions that are seen as relevant to only one culture (Nel, 2008).

Using the indigenous approach, during the first qualitative phase of the SAPI project data was gathered by means of interviews held with a sample of approximately 120 participants. The sample included participants from each of the 11 official language groups. During the interviews the participants were asked to describe various persons they know well, including their children, friends of both the same and opposite sex, and their least and most favourite teacher (Cheung et al., 2011). These interviews produced 49818 personality-descriptive responses. The responses were then reduced to 550 sub-facets through consultation with researchers and international experts and workshops with South African linguists with knowledge of several languages and cultures (Cheung et al., 2011; Nel et al., in press).

The etic approach to the study of personality employs inventories and is mainly focused on establishing the cross-cultural universality of personality traits (Nel et al., in press). The etic approach is also used to answer questions regarding whether personality instruments measure the same constructs across various cultures (Cheung et al., 2011), moreover used to make generalisations across cultures while assuming the same meaningful interpretation across the different cultures within the world (Herche, Swenson, & Verbeke, 1996). The personality model developed in phase 1 of the SAPI project incorporates the facets found in all the South African cultures as well as those specific to one culture, thus accounting for the implicit personality structure in all the cultural groups within South Africa (Nel et al., in press). Using the etic approach the researchers were able to analyse and sort the descriptive terms into 550 sub-facets, 188 facets, 37 clusters and nine broad representative personality clusters. These various facets and clusters accommodate the core elements that were highlighted as core components of personality by the different South African cultural groups (Nel, 2008; Nel et al., in press).

The nine clusters were labelled Extraversion (5 sub-clusters: Dominance, Expressiveness, Positive Emotionality, and Sociability; 24 facets: e.g. Assertive), Soft-heartedness (6 sub-clusters: Amiability, Egoism, Gratefulness, Hostility, Empathy, and Active Support; 38 facets: e.g. Appreciative), Conscientiousness (5 sub-clusters: Achievement-oriented, Dedication, Orderliness, Self-disciplined, and Thoughtless; 24 facets: e.g. Dedicated), Emotional Stability (6 sub-clusters: Ego Strength, Emotional Sensitivity, Emotional Control, Neuroticism, Courage, and Balance; 25 facets: e.g. Exaggerate), Intellect (4 sub-clusters: Aesthetics, Reasoning, Skilfulness, and Social Intellect; 16 facets: e.g. Creative), Openness (4 sub-clusters: Broad-mindedness, Epistemic Curiosity, Materialism, and Openness to experience; 17 facets: e.g. Independent), Integrity (2 sub-clusters: Integrity and Fairness; 10 facets: e.g. Loyal), Relationship Harmony (4 sub-clusters: Approachability,

Conflict-seeking, Interpersonal Relatedness, and Meddlesome; 23 facets: e.g. Approachable), and Facilitating (2 sub-clusters: Guidance and Encouraging others; 11 facets: e.g. Leading) (Cheung et al., 2011; Nel, 2008).

The first step in the quantitative phase of the SAPI project involved transforming the filtered responses collected in the first phase into items that could be used to measure personality. Pilot studies were done for each of the nine clusters (see Flattery, 2010; Janse van Rensburg, 2010; Labuschagne, 2010; Lötter, 2010). The aim of the pilot studies was to create a pool of items from which the best performing items could be selected to form part of the SAPI (see Labuschagne, 2010). The next step in the quantitative phase involves validating the preliminary sub-scales that were refined in the previous step of the SAPI project. The main focus of this study was validating the preliminary Soft-heartedness scale of the SAPI.

2.6 The Present Study

Nel (2008, p. 124) defined Soft-heartedness as a:

“feeling of concern for the welfare of someone else (especially someone defenceless), low concern for own interests and welfare, being thankful for others or overall life being, an actively expressed feeling of dislike of aggressive behaviour, a compassionate type of person who is understanding and sensitive towards others” feelings, and a concept of community from sub-Saharan Africa, often summarised as humanity towards others.”

Soft-heartedness thus shows the gentle side of people and a person obtaining a high score on Soft-heartedness is likely to be described as being kind, generous, helpful and supportive (Nel, 2008). The facets underlying Soft-heartedness describe an individual’s interpersonal understanding and consideration for others. The facets also attempt to describe individuals who are good, kind, and tender vs. ruthless, unkind, and abusive towards others.

The Soft-heartedness cluster consists of six sub-clusters, namely Amiability, Egoism, Gratefulness, Hostility, Empathy, and Active support. Each of these sub-clusters consists of several facets. *Amiability* is described as being pleasant, kind, and trusting. *Egoism* is described as being greedy, jealous, selfish, and focusing on one's own needs and desires (Nel, 2008). *Hostility* is described as the tendency to experience anger and related states such as aggression and frustration (Costa & McCrae, 1992). *Gratefulness* can be describes as the tendency to express gratitude and appreciation for others or life in general (Nel, 2008). *Active Support* is the quality of being generous, actively involved with the well-being of others, lending a helping hand and support when needed (Nel, 2008). Finally, *Empathy* is described as having compassion, being considerate of other's needs and feelings and caring for others (Nel, 2008).

On a theoretical level the Soft-heartedness clusters seems to correlate with the Agreeableness factors of most of the existing personality models as it includes many of the facets found within the Agreeableness factor, such as sympathetic, kind, warm understanding, harsh, and cruel (Nel, 2008). However, in order to ascertain whether Soft-heartedness is unique to the SAPI or whether it is similar to the Agreeableness factor within the FFM, it was necessary to investigate the construct validity of the Soft-heartedness cluster as this is representative of the theoretical validity within a scale (Moerdyk, 2009).

The demonstration of an instrument's validity is crucial in studies that attempt to measure unobservable constructs such as personality through the use of subjective assessments such as questionnaires (Wikan, 2006). Instrument validation involves demonstrating that a research instrument measures what it purports to measure in order to ensure that the research inferences based on the instrument are valid (Kim, 2009). According to Wolfaard and Roodt (2005) the obvious way to validate a new measure is by correlating it with another available valid test that measures the same or a similar trait. If the two measures

are correlated the construct validity of the newly developed measure is supported. In order to validate the Soft-heartedness scale this study investigated the scale's construct validity, specifically in relation to its convergent, discriminant, and predictive validity (see Moerdyk, 2009; Murphy & Davidshofer, 2005; Wolfaardt & Roodt, 2005).

Construct validity is mostly a concern in the development of a measurement scale of a latent construct (Netemeyer, Bearden, & Sharma, 2003). Construct validity is also known as theoretical validity because it revolves around the question of whether the measurement instrument produces results that are in accordance with what is already known in theory (Moerdyk, 2009). In addition, an instrument's content validity refers to the degree to which the items in the instrument are relevant to and representative of the theory underlying the instrument (Wolfaardt & Roodt, 2009). Peter (1981, cited in Netemeyer et al., 2003) stated that a measurement instrument can be said to have high construct validity based on the degree to which it (a) assesses the magnitude and direction of the representative sample of the characteristics of the construct, and (b) is not contaminated with elements from the domain of other constructs or error. Items were developed for the Soft-heartedness cluster based on the responses generated during the SAPI project's qualitative phase. In this research project the factor structure of the cluster was investigated in order to determine (1) whether the developed items represent the Soft-heartedness cluster as a whole, and (2) whether the developed items represent the initially theorised six sub-clusters as postulated by Nel (2008).

Construct validity is also demonstrated through convergent and divergent validity. Convergent validity exists when strong correlations exist between the newly developed measure and measures that are known to be theoretically linked to the newly developed measure (Moerdyk, 2009; Netemeyer et al., 2003). In order to assess the Soft-heartedness scale's convergent validity the correlations between the scale and the various factors in the FFM were assessed. If Soft-heartedness was strongly correlated with the Agreeableness

factor, this would indicate that the scale has high convergent validity. Discriminant validity exists when a newly developed measure is minimally correlated with variables from which it is designed to differ. The Soft-heartedness scale's discriminant validity was assessed by examining the scale's correlations with the Openness to Experience, Extroversion, Conscientiousness and Neuroticism factors in the FFM (Moerdyk, 2009; Wolfaardt & Roodt, 2005). The Soft-heartedness scale can be said to have good discriminant validity if it proves to be completely distinct from the FFM factors.

Lastly, predictive validity is the most accurate method of estimating the validity of a measure (Murphy & Davidshofer, 2005). Predictive validity examines a measure's ability to effectively predict some subsequent and temporally ordered criterion or a future behaviour or status of an individual (Netemeyer et al., 2003; Wolfaardt & Roodt, 2005).

For the purposes of this study Prosocialness (or prosocial behaviour) was used as the external criterion to measure the Soft-heartedness scale's predictive validity. Prosocial behaviour can be defined as "...voluntary actions undertaken to benefit others and includes behaviours such as sharing, donating, caring, comforting, and helping" (Caprara, Alessandri, Di Giunta, Panerai, & Eisenberg, 2010, p. 36). Individuals differ in terms of their motivations for acting in a prosocial manner, the behavioural ways in which these motives are manifested, and the personal value that is assigned to the enactment of these behaviours (Caprara, Steca, Zelli, & Capanna, 2005). Research findings have suggested that the FFM's Agreeableness factor is linked to Prosocial behaviour. This research suggests that agreeableness, empathy and sympathy can be seen as components or determinants of individuals' prosocial behaviour, with agreeableness being the major determinant of prosocial behaviour (Caprara et al., 2010).

Agreeableness is defined as the "...degree to which individuals are good natured, warm, and cooperative as opposed to uncooperative, inflexible, unpleasant, and disagreeable"

(Laher, 2008, p. 76; Vogt & Laher, 2009, p. 40). Agreeable individuals tend to be cheerful and adaptable and believe that others will feel sympathy toward them and to be helpful to them (Costa & McCrae, 1992). In addition, agreeable individuals are good-natured (Goodstein & Lanyon, 1999), altruistic, straightforward, trusting, soft-hearted, modest, compliant (McCrae & Costa, 1997), cooperative, and likeable (Judge, Higgins, Thoresen, & Barrick, 1999). According to John and Srivastava (1999) early definitions of agreeableness contrast a prosocial and communal orientation towards others with antagonism, including traits such as altruism, tender-mindedness, trust, and modesty.

2.7 Conclusion

This chapter provided an overview of the literature relevant to personality, and the approaches and models developed towards understanding, explaining and predicting it. Following this, the SAPI project was discussed to give an overview of the progress made up to date, as well as the mention the steps ahead. The main focus point of the present study, Soft-heartedness, was also discussed to provide the reader with an understanding of this cluster within the SAPI project, and also the importance of validating the scale that has been developed for this cluster.

CHAPTER 3: RESEARCH DESIGN

3.1 Introduction

This chapter is focused towards the research design used within this study. The design used to conduct the study is discussed along with the sample used within this study. The procedures followed to approach participants and gather data are also discussed, along with the measuring instruments used to obtain the data. Lastly, the analysis procedures followed to analyse the data is also discussed.

3.2 Research design

This study made use of a quantitative, cross-sectional research design. Quantitative designs measure variables for individual participants in order to obtain scores, usually numerical values, which are submitted to statistical analysis for summary and interpretation (Gravetter & Forzano, 2009). Quantitative designs also aim to draw a representative sample from the population in order to ensure that the results of the study can be generalised to the population (Marshall, 1996). Cross-sectional designs are used to examine groups of subjects in various stages of development simultaneously (Burns & Grove, 1993).

3.3 Research method

3.3.1. Participants.

Convenience sampling was used to select participants ($N=435$). All the participants were students of two tertiary institutions within South Africa. Participants selected by means of a convenience sample are easily accessible (Marshall, 1996) and generally cooperative (Wegner, 2007). Many researchers have made use of student samples when investigating the psychometric properties of personality instruments (see Aluja, Rolland, Garcia, & Rossier, 2007; Judge et al., 1999; Lee et al., 2005).

3.3.2. Sampling procedure.

The tertiary institutions were contacted by the researchers and invited to participate in this current research project.

The characteristics of the participants can be seen in table 1.

Table 1
Characteristics of participants (N=435)

Item	Category	Frequency	Percentile
Gender	Male	155	35.6
	Female	274	63.0
	Missing values	3	0.7
Language	Afrikaans	331	76.1
	English	49	11.3
	IsiNdebele	0	0.0
	IsiXhosa	5	1.2
	IsiZulu	8	1.9
	Sepedi	5	0.9
	Sesotho	4	3.3
	Setswana	14	3.2
	SiSwati	2	0.5
	Tshivenda	4	0.9
	Xitsonga	0	0.0
Age	Other	4	0.9
	Missing values	9	2.1
	18-19	36	8.2
	20-21	303	69.7
	22-23	56	12.9
	24-25	11	2.5
	Other	10	2.3
Race	Missing values	19	2.4
	White	326	74.9
	Black	48	11
	Indian	10	2.3
	Coloured	42	9.7
	Other	1	0.2
Education	Missing values	8	1.8
	Grade 12	370	85.1
	Certificate	10	2.3
	Diploma	10	2.3
	Bachelors	31	7.1
	Other	3	0.7
English reading ability	Missing values	11	2.5
	Very poor	3	0.7
	Poor	11	2.5
	Good	233	53.6
	Very good	183	42.1
	Missing values	5	1.1

Most of the participants in the study were female (63%). Participants from most of the 11 official language groups in South Africa took part in the study. The majority of the

participants were Afrikaans speaking (76.1%), followed by English speaking individuals (11.3%) and Sesotho speaking individuals (3.3%). The IsiNdebele and Xitsonga language groups were not represented in this sample. The participants in the study were mainly aged between 20 and 21 (69.7%). Table 1 shows that 74.9% of the participants were white and had at least a Grade 12 certificate (85.1%). Almost all the participants considered their own English reading ability to be good (53.6%) to very good (42.1%).

3.3.3 Measuring instruments.

3.3.3.1 *Soft-heartedness Scale:*

The preliminary SAPI Soft-heartedness Scale as developed by the SAPI project team was used to measure participants' orientation towards the welfare of others rather than their own welfare. The instrument consists of 100 items (e.g., "I am friendly towards others", "I only think of myself", "I look after the safety of others", and "I threaten people"). Responses for the items range from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). Since this scale is still in the process of being refined, the reliability of the scale was determined during data analysis.

3.3.3.2 *Basic Traits Inventory:*

The Basic Traits Inventory (Short form: Research Version) (BTI-S) (Taylor & De Bruin, 2005) was used to measure the FFM factors. The research version of the BTI consists of 60 items that are grouped according to their respective facets. The items for each facet are presented together rather than being presented in random order (Taylor, 2004). A five-point Likert-type scale is used to rate the items, with responses ranging from "strongly disagree" (D; coded as 1) to "strongly agree" (A; coded as 5). The reliability of the BTI has proven to be satisfactory when internal consistency between the factors is measured, as well as the reliability for comparison groups. Taylor and De Bruin (2005) found reliable Cronbach alpha coefficients for all five factors: Extraversion ($\alpha=.89$), Neuroticism ($\alpha=.94$), Openness to

Experience ($\alpha=0.90$), Agreeableness ($\alpha=.88$), and Conscientiousness ($\alpha=.94$). These reliability coefficients were obtained across all ethnic groups in South Africa (Taylor & De Bruin, 2005).

3.3.3.3 Prosocialness Scale:

The 16 item Prosocialness Scale (Caprara et al., 2005) was used to measure the single factor or trait dimension of Prosocialness. This scale aims to measure behaviours and feelings related to actions such as sharing, helping, taking care of, and feeling empathetic. A five-point Likert scale is used to rate the items, with responses ranging from “never/almost never true” (coded as 1) to “always/almost always true” (coded as 5). A Cronbach alpha of .91 has been reported for the scale, thus indicating high and satisfactory levels of reliability across all the items in the scale (Caprara et al., 2005).

Biographical information was gathered on the answer sheets with regards to the participants’ age, gender, race, language, educational level, and English reading ability.

3.3.4 Research procedure.

After access to certain student populations was granted, the researchers distributed paper-and-pencil questionnaires and answer sheets in order to obtain the data. Each participant completed a consent form indicating voluntary participation and granting permission to the researchers to use their data in the research project. The participants were informed of the purpose of the study and the confidentiality of the results. The participants were also given instructions regarding the completion of the questionnaires. Participants were given the opportunity to ask questions before, during, and after the administration process. A registered psychologist supervised the administration process.

Since the data collection of this study was done by means of questionnaires, the importance of confidentiality of the results has to be emphasised, as well as the use of the

data for research purposes. Informed consent was also taken into consideration before the assessment took place in which the purpose of the study was explained.

3.3.5 Statistical Analysis.

The statistical analysis was conducted by making use of the SPSS program (SPSS Inc., 2010). The statistical analysis performed in this study is similar to that performed in previous studies focusing on other personality clusters within the SAPI project (e.g. Relationship Harmony). The statistical procedure used in this study followed the standard statistical procedure for all SAPI studies (see Flattery, 2010; Janse van Rensburg, 2009; Labuschagne, 2010; Lötter, 2010).

3.3.5.1 Descriptive statistics.

The questionnaire data was inspected for missing and/or unexpected values. The minimum and maximum values, as well as the means and standard deviations were checked to determine their plausibility. Next, the skewness and the kurtosis coefficients of the items from the questionnaires were investigated. When using a small sample, absolute values $> 1,96$ at a significance level of $p < ,005$ are used, while absolute values $> 2,58$ are used when having a large sample at a significance level of $p < ,001$ (Field & Miles, 2010). A large sample (> 200 participants) was used in this study, thus it was only necessary to visually inspect the shape of the distribution, as well as to look at the actual values of skewness and kurtosis (Field & Miles, 2010). Items with skewness of > 2 and kurtosis of > 4 were identified and excluded from further analyses as they were deemed unsuitable for factor analysis.

3.3.5.2 Unidimensionality of Soft-heartedness Scale.

A principle component analysis of items was performed on the Soft-heartedness scale. One component was requested and the component matrix was inspected to identify any item with a loading of < 0.20 . These items shared less than 5% of their variance with the total

Soft-heartedness score. The results of the principle component analysis were therefore used as an early indication that the items might not function according to expectations.

3.3.5.3 Factor analysis of Soft-heartedness Scale.

Exploratory factor analysis (EFA) was used to identify latent factors or items that explain the covariance among a set of measured variables (Kahn, 2006). In this study, EFA was used to reveal any latent variables or facets that caused the manifest variable (Soft-heartedness) to co-vary. To determine the number of factors to extract a simple principal component analysis was conducted on the Soft-heartedness scale and the eigenvalues >1 and scree plot were investigated. The number of factors retained based on the eigenvalues is indicative of the amount of variance that will be explained by these factors and the amount of variance accounted for by these factors (Kahn, 2006). According to Netemeyer et al. (2003) a scree plot can also be used to determine the number of factors that should be retained. Factors beyond the elbow of the scree line should be excluded from further analysis. Additionally, a parallel analysis was conducted to establish the number of factors to extract by generating a random set of data based on the same number of variables and the same number of cases and comparing the random data with the scree plot and eigenvalues for the Soft-heartedness scale (see Kahn, 2006). Lastly, the final factor solution was investigated to determine whether it made both statistical and theoretical sense.

A maximum likelihood analysis with an oblique rotation method was used to assess the construct validity of the Soft-heartedness scale. Maximum likelihood assesses the likelihood that the correlation matrix is derived from a population where the attained factor structure underlies the scores on the variables (Kahn, 2006). The Direct Oblimin rotation allowed the factors to correlate with one another (Netemeyer et al., 2003). The pattern matrix was inspected to determine whether each of the factors was well defined with loadings of >0.30 .

3.3.5.4 Reliability and correlations.

The Cronbach Alpha coefficients for the Soft-heartedness scale, the BTI, and Prosocialness scale were inspected to determine the reliability of the facets. The calculation of reliability coefficients proceeded on the assumption of unidimensionality within each factor. A reliability score of or above 0.95 is considered acceptable when important decisions are made based on specific test scores of individuals (Nunnally & Bernstein, 1994). However, a reliability coefficient of or above 0.70 was considered acceptable in this preliminary test development stage.

The correlations between the Soft-heartedness scale, BTI, and Prosocialness scale were obtained on factor level. In addition, correlations were determined for the combined Soft-heartedness and BTI scales. The statistical analyses were designed to determine (1) whether Soft-heartedness can be identified as a unique factor of personality, and (2) whether Soft-heartedness can predict Prosocial behaviour. The researchers set a confidence level of 99% ($p \leq 0.01$) to test for statistical significance.

3.3.5.5 Factor analysis of Soft-heartedness and BTI Scales.

Next, EFA was used to determine whether the Soft-heartedness cluster can be identified as a unique personality facet over and above the BTI's five factors. However, EFA of all the Soft-heartedness and BTI items would have required a larger sample than the one used in this study. Parcel scores are more beneficial in studies with small sample sizes as they result in a more optimal variable to the sample size ratio and are able to provide stable parameter estimates (Bandalos & Finney, 2001). The process of item parcelling involves obtaining the average of two or more items and then using the average as the basis unit of the analysis (Bandalos & Finney, 2001; Little, 2002). Consequently the parcel scores for the BTI were obtained through the creation of sub-scales within the BTI. 15 sub-scales were created with three items in each sub-scale. Item parcelling has numerous advantages (see Bandalos & Finney, 2001), however, some disadvantages also exist. These include, the parcel scores

resulting in biased estimates of other model parameters in some situations as the parcel scores do not allow for as many free parameters as the individual items (Bandalos & Finney, 2001).

Additionally, there are more items within the Soft-heartedness factors than in the BTI sub-scales, the standard deviations of the Soft-heartedness scales were expected to be far greater than those of the BTI sub-scales. Therefore standardised scores were calculated for each of the Soft-heartedness factors and BTI sub-scales. Standardised scores are used to ensure that the same measurements are used in the analysis (Miles & Shevlin, 2008) and to compare scores that were initially measured in different units (Field, 2000).

A simple principal component analysis was conducted and the eigenvalues and scree plot were inspected to determine the number of factors to extract. Maximum likelihood with a Direct Oblimin rotation was used to analyse the factor solution and the pattern matrix was inspected to determine whether each of the factors was well defined with loadings > 0.30 . In the factor correlation matrix, correlations > 0.30 were viewed as indicating that the factors are very similar (Brace, Kemp, & Snelgar, 2009).

3.3.5.6 Regression analysis.

Lastly, multiple regression analysis was used to analyse the amount of variance in Prosocialness explained and predicted by the Soft-heartedness scales. Before the relationship between the variables could be inspected, the assumptions concerning the model's linearity had to be inspected. This included inspecting the data by using boxplots and histograms to identify any outliers in the data. Outliers are abnormal scores that lie outside the normal distribution of scores of a certain variable (Miles & Shevlin, 2008). The mahalanobis distances (the distance of each of the cases from the mean of the independent or predictor variable) of the cases in the data also had to be determined (Field, 2000). According to Field (2000) distances with values above 25 are indicative of problematic cases. Lastly, the multi-

colinearity was inspected to determine the extent to which one independent variable is able to predict the other independent variables (Miles & Shevlin, 2008).

The *R*-square and *F*-test were inspected to determine the goodness of fit of the model. *R*-square represents the amount of variance in the dependent variable that is accounted for by the independent variable (Miles & Shevlin, 2008). The *R*-square test also represents the amount of variability in the dependent variable that can be explained by the independent variable (Field, 2000). The *F*-test is used to test the overall fit of the regression model to the observed data in the study and is based on the ratio of the improvement due to the model (Field, 2000). The researchers set a confidence level of 95% ($p \leq 0.05$) to test for statistical significance.

3.4 Conclusion

This chapter discussed the research design used to conduct the research, with reference to the research design and sample used in this study, the procedure followed to approach participants to take part in the study, as well as the procedure followed to obtain the data needed for the study. The measuring instruments used to obtain the data were also discussed. Lastly, the statistical analysis procedure followed to analyse the data was also discussed.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter is oriented towards the results that were obtained from the data analysis in order to ensure that all the objectives of the study are attained.

4.2 Research results

4.2.1 Descriptive statistics and unidimensionality of the Soft-heartedness scale

The descriptive statistics and component matrix results are presented in table 2.

Table 2

Descriptive statistics for the Soft-heartedness Scale (N=435)

Item	Mean	Std Deviation	Skewness	Kurtosis	Component matrix
i002AMfriendSH	4.43	0.65	-1.17	2.76	0.45
i009AMkindSH	4.37	0.66	-1.16	3.28	0.52
i005AMpleasSH	4.27	0.71	-1.21	3.30	0.41
<u>i004AMseriousSH</u>	2.06	1.03	0.91	0.38	<u>-0.10</u>
i001EGOgenrsSH	3.86	0.75	-0.41	0.56	0.33
i002EGOgenrsSH	3.98	0.84	-0.68	0.68	0.40
i008EGOgenrsSH	3.72	0.79	-0.21	0.21	0.35
i003EGOgreedySH	3.02	1.16	0.05	-0.80	-0.23
i005EGOgreedySH	2.49	1.11	0.47	-0.50	-0.48
i001EGOjealsSH	1.67	0.90	1.39	1.59	-0.39
i009EGOjealsSH	1.76	0.82	0.98	0.70	-0.34
i002EGOself_cSH	1.69	0.86	1.48	2.38	-0.46
i007EGOself_cSH	1.83	0.89	1.14	1.26	-0.43
i010EGOself_cSH	2.60	1.06	0.23	-0.54	-0.32
i002EMPcompSH	4.21	0.76	-0.95	1.53	0.53
i002EGOselffishSH	2.43	0.98	0.37	-0.25	-0.27
i001EMPcareSH	4.04	0.74	-0.55	0.66	0.54
i002EMPcareSH	3.90	0.68	-0.37	0.34	0.52
i010EMPcareSH	3.82	0.81	-0.17	-0.43	0.46
i018EMPcareSH	4.00	0.79	-0.69	0.81	0.47
i024EMPcareSH	4.19	0.70	-0.84	1.71	0.57
i026EMPcareSH	4.06	0.69	-0.29	-0.15	0.49
i027EMPcareSH	3.59	0.74	-0.07	0.09	0.30
i033EMPcareSH	3.96	0.72	-0.73	1.84	0.48
i003EMPcompSH	4.11	0.76	-0.73	0.89	0.55
i006EMPcompSH	4.23	0.79	-1.10	1.68	0.52
i008EMPcompSH	4.04	0.77	-0.66	0.54	0.58
i002EMPconsSH	3.98	0.73	-0.47	0.44	0.44
i012EMPconsSH	4.00	0.62	-0.48	1.22	0.65
i011EMPconsSH	4.10	0.70	-0.71	1.55	0.58
i015EMPconsSH	3.98	0.67	-0.31	0.23	0.60
i006EMPhumanSH	4.17	0.62	-0.36	0.56	0.53
i004EMPloveSH	3.99	0.79	-0.53	0.10	0.54
i007EMPloveSH	4.02	0.88	-0.80	0.58	0.39
i008EMPloveSH	3.93	0.78	-0.47	0.14	0.53

Table 2 continues

Descriptive statistics for the Soft-heartedness Scale (N=435)

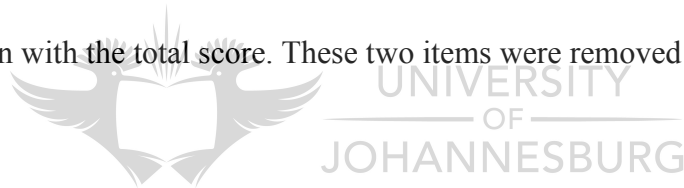
Item	Mean	Std Deviation	Skewness	Kurtosis	Component
i017EMPloveSH	3.94	0.95	-0.75	0.25	0.43
i024EMPloveSH	4.03	0.66	-0.43	0.90	0.61
i003EMPrespSH	4.21	0.74	-0.56	-0.31	0.58
i005EMPrespSH	4.29	0.69	-0.66	0.08	0.56
i009EMPrespSH	4.08	0.67	-0.51	0.63	0.56
i009GRapprSH	4.20	0.62	-0.40	0.52	0.48
i001GRgrateSH	4.27	0.74	-0.81	0.54	0.46
i002GRgrateSH	4.32	0.70	-0.75	0.14	0.37
i006GRgrateSH	4.03	0.90	-0.71	0.29	0.25
i017AScominSH	3.29	0.87	-0.24	0.34	0.33
i004ASheedSH	3.96	0.68	-0.61	1.49	0.57
i009ASheedSH	4.11	0.72	-0.55	0.50	0.59
i006AShelpSH	4.29	0.76	-0.86	0.36	0.41
i013AShelpSH	4.00	0.71	-0.42	0.43	0.50
i015AShelpSH	3.87	0.69	-0.24	0.22	0.51
i017AShelpSH	4.00	0.68	-0.36	0.52	0.56
i019AShelpSH	3.80	0.67	-0.19	0.28	0.50
i001ASprotSH	3.94	0.73	-0.44	0.54	0.38
i003ASprotSH	3.94	0.88	-0.83	0.89	0.28
i007ASprotSH	3.91	0.76	-0.51	0.51	0.39
i001ASprobSH	3.65	0.80	-0.36	0.40	0.44
i002ASprobSH	3.60	0.81	-0.46	0.64	0.41
i003ASprobSH	3.82	0.69	-0.17	-0.10	0.49
i006ASprobSH	3.83	0.74	-0.48	0.44	0.46
i001ASsuppSH	4.01	0.66	-0.55	0.99	0.59
i003ASsuppSH	4.09	0.64	-0.65	2.16	0.49
i004ASsuppSH	4.09	0.78	-0.72	0.86	0.41
i008ASsuppSH	4.07	0.79	-0.94	1.65	0.50
i009ASsuppSH	4.14	0.89	-1.41	2.61	0.47
i002HOSabusSH	1.58	0.84	1.54	1.99	-0.54
i012HOSabusSH	1.44	0.71	1.88	4.14	-0.58
i013HOSabusSH	1.58	0.81	1.54	2.42	-0.60
i001HOSaggrsSH	1.64	0.84	1.27	1.16	-0.49
i005HOSaggrsSH	1.90	1.15	1.10	0.21	-0.41
i016HOSaggrsSH	1.59	0.87	1.64	2.58	-0.52
i017HOSaggrsSH	1.62	0.83	1.32	1.45	-0.50
i002HOScritSH	1.68	0.88	1.26	1.09	-0.50
i003HOScritSH	1.90	0.95	0.72	-0.38	-0.49
i006HOScritSH	2.01	0.92	0.72	0.07	-0.43
i009HOScritSH	2.02	0.94	0.68	-0.18	-0.53
i010HOScritSH	1.49	0.71	1.45	1.79	-0.56
i007HOScruelSH	1.79	0.92	1.22	1.43	-0.52
i009HOScruelSH	2.13	1.16	0.79	-0.25	-0.48
i005HOSdelSH	2.29	1.32	0.60	-0.95	-0.40
i007HOSdelSH	1.54	0.87	1.73	2.62	-0.47
i010HOSdelSH	1.90	1.04	0.97	0.08	-0.39
i002HOSdenigSH	2.14	1.07	0.61	-0.52	-0.51
i005HOSdenigSH	1.94	1.02	0.94	0.19	-0.53
i017HOSdenigSH	2.23	1.06	0.46	-0.65	-0.52
i011HOSexpltSH	1.86	0.88	0.84	0.26	-0.56
i012HOSexpltSH	2.24	1.00	0.33	-0.75	-0.44
i003HOSintSH	1.59	0.80	1.58	2.92	-0.55
i006HOSintSH	2.01	1.07	0.92	0.16	-0.46
i001HOSdistrSH	2.63	1.10	0.20	-0.63	-0.36
i002HOSdistrSH	2.62	1.05	0.19	-0.44	-0.26

Table 2 continues

Descriptive statistics for the Soft-heartedness Scale (N=435)

Item	Mean	Std Deviation	Skewness	Kurtosis	Component
i013HOSdistrSH	2.43	1.06	0.43	-0.46	-0.36
i006GRapprSH	4.37	0.70	-0.83	0.11	0.40
i015HOSdistrSH	2.20	0.89	0.39	-0.12	-0.40
i004HOSundrmSH	1.87	0.85	1.01	1.24	-0.52
i006HOSundrmSH	1.57	0.82	1.62	2.83	-0.43
i001HOSverbSH	2.90	1.08	-0.16	-0.71	-0.40
i006HOSverbSH	2.00	0.99	0.80	0.01	-0.56
i009HOSverbSH	1.90	0.94	0.79	-0.19	-0.42
i016HOSverbSH	2.49	1.09	0.32	-0.60	-0.41
i018HOSverbSH	2.53	1.25	0.29	-1.04	-0.29

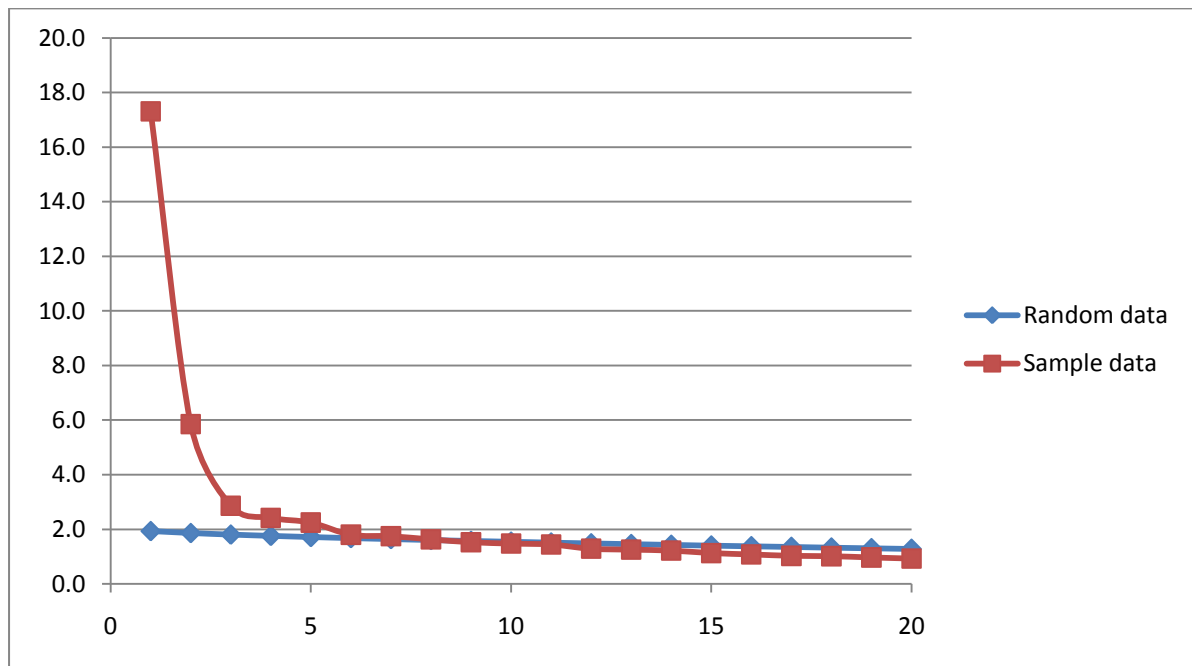
Table 2 shows that one item (i012HOSabusSH:“I treat weaker people badly”) proved to have high kurtosis and was relatively skew and could therefore influence the normal distribution of the data. The component matrix indicated that only item (i004AMseriousSH: “I remain serious when jokes are told”) did not load sufficiently onto the cluster and did not show any correlation with the total score. These two items were removed from further analyses.



4.2.2. Factor analysis

Simple principal component analysis was used to determine the number of factors to extract. Although the parallel analysis suggested that seven factors should be retained, the scree plot indicated that six factors should be retained since the graph showed a clear break after the seventh root of the sample data (see figure 1). The six factor solution supports the theoretical findings within the qualitative phase of the SAPI project (Nel, 2008). The six factors explained 41% of the total variance of the Soft-heartedness Scale.

Figure 1: Scree plot indicative of the number of factors to retain



The results for the pattern matrix of the Soft-heartedness Scale are presented in table 3.

Table 3

Pattern matrix of the Soft-heartedness Scale (N=435)

Item	F1	F2	F3	F4	F5	F6	h^2
i009AMkindSH	<u>0.73</u>	0.00	-0.03	0.14	-0.03	-0.07	0.43
i001EMPcareSH	<u>0.37</u>	0.03	-0.05	-0.28	0.00	-0.06	0.21
i015EMPconsSH	<u>0.41</u>	-0.13	-0.03	-0.20	-0.13	-0.05	0.25
i006EMPhumanSH	<u>0.42</u>	-0.07	-0.01	-0.19	-0.14	-0.01	0.14
i004EMPloveSH	<u>0.45</u>	-0.10	-0.08	-0.18	-0.01	0.05	0.22
i008EMPloveSH	<u>0.32</u>	-0.04	0.02	-0.22	-0.04	-0.16	0.15
i017EMPloveSH	<u>0.34</u>	-0.07	0.08	-0.19	-0.09	-0.03	0.18
i024EMPloveSH	<u>0.49</u>	-0.08	-0.03	-0.24	-0.06	0.01	0.26
i009GRapprSH	<u>0.36</u>	0.01	-0.01	-0.16	-0.04	-0.12	0.20
i003EMPrespSH	<u>0.46</u>	-0.06	0.01	-0.08	0.09	-0.21	0.18
i005EMPrespSH	<u>0.48</u>	0.02	0.00	-0.06	0.03	-0.25	0.19
i009EMPrespSH	<u>0.39</u>	-0.05	0.01	-0.15	0.05	-0.19	0.21
i002AMfriendSH	<u>0.74</u>	-0.02	-0.05	0.22	0.11	-0.04	0.16
i005AMpleasSH	<u>0.59</u>	0.02	-0.10	0.15	-0.01	-0.03	0.44
i033EMPcareSH	<u>0.39</u>	0.00	0.06	-0.23	-0.14	-0.04	0.25
i012EMPconsSH	<u>0.39</u>	-0.09	-0.18	-0.21	-0.14	-0.04	0.25

Table 3

Pattern matrix of the Soft-heartedness Scale (N=435)

Item	F1	F 2	F 3	F 4	F 5	F 6	h^2
i005HOSdelSH	0.09	<u>0.42</u>	0.03	0.06	0.19	0.18	0.22
i010HOSdelSH	0.08	<u>0.46</u>	0.06	0.02	0.16	0.14	0.50
i002HOSdenigSH	0.03	<u>0.78</u>	0.03	0.01	0.10	0.05	0.36
i005HOSdenigSH	-0.07	<u>0.68</u>	0.02	-0.08	0.09	0.15	0.42
i017HOSdenigSH	-0.08	<u>0.80</u>	0.07	-0.02	0.02	-0.06	0.37
i012HOSexpltSH	0.08	<u>0.41</u>	0.19	0.07	-0.03	0.13	0.37
i001HOSverbSH	-0.10	<u>0.57</u>	-0.01	-0.03	-0.15	0.05	0.31
i006HOSverbSH	-0.08	<u>0.48</u>	0.06	-0.03	-0.04	0.29	0.25
i018HOSverbSH	-0.04	<u>0.47</u>	0.01	-0.10	-0.11	0.07	0.48
i001HOSdistrSH	0.04	<u>0.31</u>	0.03	0.09	-0.27	0.22	0.27
i009HOSverbSH	-0.08	<u>0.36</u>	0.02	-0.11	-0.06	0.30	0.40
i003EGOgreedySH	0.01	0.03	<u>0.46</u>	-0.14	-0.08	0.07	0.39
i005EGOgreedySH	-0.03	0.03	<u>0.58</u>	0.01	-0.05	0.12	0.35
i001EGOjealsSH	-0.01	0.22	<u>0.58</u>	-0.03	-0.02	-0.11	0.47
i009EGOjealsSH	0.02	0.00	<u>0.68</u>	-0.03	-0.02	-0.03	0.33
i002EGOself_cSH	0.05	-0.17	<u>0.71</u>	0.07	0.14	0.16	0.34
i007EGOself_cSH	0.07	-0.13	<u>0.64</u>	0.12	0.14	0.11	0.47
i010EGOself_cSH	0.01	0.08	<u>0.61</u>	-0.10	-0.10	0.00	0.33
i002EGOselffishSH	-0.05	0.06	<u>0.49</u>	-0.07	0.02	-0.07	0.33
i024EMPcareSH	0.27	0.03	-0.09	<u>-0.40</u>	-0.21	-0.03	0.67
i008EGOgenrsSH	0.19	-0.04	0.08	<u>-0.31</u>	0.11	-0.03	0.62
i002EMPcareSH	0.26	0.12	-0.05	<u>-0.38</u>	0.02	-0.14	0.65
i026EMPcareSH	0.29	0.07	-0.20	<u>-0.32</u>	-0.15	0.09	0.35
i001GRgrateSH	0.23	0.08	0.01	<u>-0.32</u>	-0.02	-0.14	0.41
i001ASsuppSH	0.03	-0.02	-0.02	<u>-0.65</u>	-0.22	-0.07	0.53
i003ASsuppSH	0.06	-0.04	0.05	<u>-0.55</u>	-0.27	-0.03	0.29
i008ASsuppSH	0.14	-0.01	-0.06	<u>-0.38</u>	-0.25	-0.06	0.32
i009ASsuppSH	0.18	-0.03	-0.05	<u>-0.35</u>	-0.20	0.00	0.37
i004ASheedSH	0.28	-0.12	-0.03	<u>-0.32</u>	-0.03	-0.05	0.26
i009ASheedSH	0.18	-0.06	-0.04	<u>-0.48</u>	-0.12	-0.05	0.45
i006AShelpSH	0.00	-0.01	-0.04	<u>-0.43</u>	-0.17	-0.06	0.40
i013AShelpSH	0.12	-0.01	-0.02	<u>-0.52</u>	-0.04	-0.01	0.44
i015AShelpSH	-0.02	-0.05	0.08	<u>-0.74</u>	-0.01	-0.01	0.55
i017AShelpSH	0.16	0.01	0.00	<u>-0.60</u>	0.00	-0.02	0.46
i019AShelpSH	0.09	-0.05	-0.08	<u>-0.54</u>	0.11	0.03	0.41
i001ASprotSH	0.08	0.05	-0.03	<u>-0.56</u>	0.06	0.10	0.24
i003ASprotSH	-0.14	0.14	-0.01	<u>-0.61</u>	0.01	-0.04	0.46
i007ASprotSH	0.01	0.05	-0.05	<u>-0.59</u>	0.11	0.04	0.19
i001ASprobSH	-0.08	-0.05	0.01	<u>-0.70</u>	0.08	0.02	0.37
i002ASprobSH	-0.02	-0.07	0.03	<u>-0.56</u>	0.12	-0.03	0.39
i003ASprobSH	0.00	-0.08	0.02	<u>-0.70</u>	0.03	0.06	0.27
i006ASprobSH	-0.05	-0.01	0.03	<u>-0.68</u>	-0.05	-0.01	0.58

Table 3

Pattern matrix of the Soft-heartedness Scale (N=435)

Item	F1	F 2	F 3	F 4	F 5	F 6	h^2
i003EMPcompSH	0.27	-0.20	-0.07	-0.28	-0.33	0.09	0.46
i006EMPcompSH	0.23	-0.13	-0.08	-0.14	-0.38	-0.09	0.36
i008EMPcompSH	0.28	-0.20	-0.08	-0.17	-0.33	-0.05	0.32
i011EMPconsSH	0.27	-0.12	-0.07	-0.19	-0.33	-0.11	0.36
i013HOSdistrSH	-0.01	0.26	0.12	0.12	0.33	0.11	0.45
i015HOSdistrSH	0.02	0.27	0.13	0.18	0.32	0.12	0.27
i009HOScruelSH	-0.08	0.21	-0.02	0.10	-0.19	0.36	0.37
i007HOSdelSH	0.10	0.25	0.03	0.04	0.25	0.42	0.53
i004HOSundrmSH	0.07	0.09	0.19	0.24	-0.18	0.35	0.49
i002HOSabusSH	-0.09	-0.09	0.23	-0.02	-0.01	0.56	0.39
i013HOSabusSH	-0.10	-0.10	0.19	0.04	0.06	0.61	0.35
i001HOSaggrsSH	-0.21	0.00	0.02	-0.13	-0.05	0.58	0.30
i005HOSaggrsSH	0.02	0.11	-0.07	0.04	0.16	0.48	0.35
i016HOSaggrsSH	-0.13	0.06	-0.12	-0.10	0.07	0.72	0.43
i017HOSaggrsSH	-0.02	0.02	0.00	-0.01	-0.01	0.67	0.32
i002HOScritSH	0.04	0.08	0.07	-0.03	0.04	0.64	0.48
i003HOScritSH	-0.02	0.19	0.13	0.02	-0.10	0.38	0.45
i006HOScritSH	0.05	0.18	0.11	-0.03	-0.11	0.48	0.44
i009HOScritSH	0.02	0.25	0.08	0.06	-0.21	0.47	0.38
i010HOScritSH	-0.07	0.09	-0.09	0.04	-0.07	0.51	0.43
i007HOScruelSH	0.01	0.15	0.09	0.16	-0.20	0.42	0.43
i011HOSexpltSH	0.01	0.27	0.25	0.00	0.04	0.36	0.30
i003HOSintSH	0.06	0.15	0.17	0.01	0.16	0.53	0.32
i002EMPcompSH	0.31	-0.16	0.02	-0.18	-0.37	-0.05	0.35
i002HOSdistrSH	-0.06	0.28	0.10	0.05	-0.28	-0.02	0.42
i010EMPcareSH	0.29	0.01	-0.12	-0.20	0.00	-0.04	0.37
i027EMPcareSH	0.24	0.02	-0.04	-0.19	0.02	0.04	0.45
i017AScominSH	0.27	-0.08	-0.01	-0.21	0.24	0.07	0.51
i001EGOgenrsSH	0.19	0.01	-0.13	-0.20	0.03	0.03	0.42
i002EGOgenrsSH	0.20	0.02	-0.15	-0.07	0.06	-0.17	0.31
i018EMPcareSH	0.18	0.00	-0.15	-0.29	-0.08	-0.02	0.55
i002EMPconsSH	0.26	-0.12	-0.07	-0.14	-0.05	-0.02	0.46
i007EMPloveSH	0.20	-0.02	-0.05	-0.18	-0.15	-0.06	0.49
i006GRapprSH	0.29	-0.07	-0.10	-0.14	-0.01	0.04	0.37
i002GRgrateSH	0.25	0.13	-0.06	-0.22	0.11	-0.11	0.41
i006GRgrateSH	0.15	0.07	-0.22	-0.09	0.21	-0.01	0.52
i006HOSintSH	0.00	0.38	0.02	-0.08	0.08	0.37	0.43
i006HOSundrmSH	0.08	0.22	0.17	0.11	0.08	0.23	0.41
i016HOSverbSH	-0.12	0.26	0.09	-0.02	-0.13	0.19	0.48
i004ASSuppSH	0.13	-0.05	0.00	-0.28	-0.19	-0.07	0.50
Total % variance	22.32	8.87	3.06	2.66	2.37	2.02	

Values in bold indicate high values; h^2 denotes communalities of the items.

Despite the retention of the six factor solution some of the items did not load sufficiently (>0.30) onto any of the factors. These items either had double loadings or loadings lower than 0.30. These items were excluded from further analyses. Most of the communalities ranged between average and high; indicating that the items were well represented by the six factors. The six factors were labelled as follows: Empathy (factor 1; 16 items); Antagonism (factor 2; 11 items); Egoism (factor 3; 8 items); Active Support (factor 4; 23 items); Compassionate (factor 5; 6 items); and Hostility (factor 6; 17 items). Two items from the Compassionate factor were reversed scored.

4.2.3 Reliability and correlations

The reliabilities of the various scales were calculated in order to determine the inter-item consistency on each scale. Two items appeared to significantly lower the reliability of the Compassionate factor and were removed from further analysis. The correlations between the various scales were determined. The results are presented in table 4.

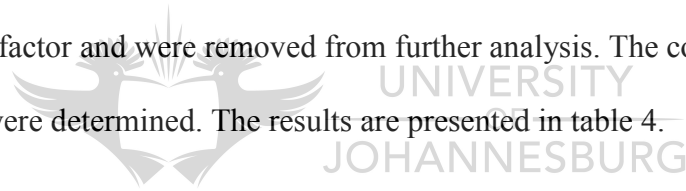


Table 4

Descriptive statistics, Cronbach alpha coefficients and correlations between the Soft-heartedness Scale, BTI, and Prosocialness Scale (N=435)

	Mean	Std. Deviation	Skewness	Kurtosis	α	1	2	3	4	5	6	7	8	9	10	11
Soft-heartedness																
1. Empathy	65.88	6.98	-0.61	1.14	.89	1.00	-	-	-	-	-	-	-	-	-	-
2. Antagonism	24.70	7.93	0.54	-0.08	.87	-.37**	1.00	-	-	-	-	-	-	-	-	-
3. Egoism	17.49	5.21	0.50	0.28	.82	-.33**	.41**	1.00	-	-	-	-	-	-	-	-
4. Active Support	90.96	11.09	-1.35	8.37	.92	.72**	-.22**	-.22**	1.00	-	-	-	-	-	-	-
5. Compassionate	23.84	3.15	-0.44	0.36	.78	.65**	-.36**	-.27**	.61**	1.00	-	-	-	-	-	-
6. Hostility	29.77	9.89	1.11	1.12	.91	-.49**	.74**	.52**	-.33**	-.41**	1.00	-	-	-	-	-
BTI																
7. Extraversion	45.50	6.90	-0.20	-0.34	.83	.26**	.02	-.01	.34**	-.16**	-.06	1.00	-	-	-	-
8. Neuroticism	31.30	8.87	0.43	0.01	.88	-.12*	.17**	.28**	-.14**	-.06	.24**	-.19**	1.00	-	-	-
9. Conscientious	44.66	7.23	-0.24	-0.07	.87	.26**	-.19**	-.12*	.28**	.19**	-.18**	.34**	-.21**	1.00	-	-
10. Openness To Experience	46.57	6.76	-0.30	0.20	.86	.36**	-.03**	-.07	.45**	.32**	-.14**	.48**	-.23**	.43**	1.00	-
11. Agreeableness	47.78	5.55	-0.39	0.45	.81	.55**	-.27**	-.28**	.55**	.40**	-.38**	.45**	-.33**	.42**	.55**	1.00
Prosocialness																
12. ProSocialness	63.71	8.75	-0.35	-0.06	.90	.61**	-.29**	-.27**	.69**	.56**	-.41**	.34**	-.13**	.36**	.48**	.57**

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

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

Correlations underlined and in **bold** represent the correlations with magnitudes higher than 0.5, indicating a strong correlation

Table 4 shows that all three measuring instruments displayed a normal distribution and that Cronbach alpha coefficients for the instruments ranged from 0.78 to 0.91. These coefficients were all higher than .70 and according to Nunnally and Bernstein (1994) this indicates acceptable internal consistency. The correlations between the factors are also shown in the table above, with correlations having values $>.1$ displaying small effect sizes, correlations having values $>.3$ indicating medium effect sizes, and correlations having values $>.5$ showing large effect sizes (Cohen, 1988, 1992).

The results indicate that all the Soft-heartedness factors have statistically significant relationships with each other at the 0.01 level, ranging between $r=-.22$ (small effect) and $r=.74$ (large effect). All the BTI factors also have statistically significant relationships with each other at the 0.01 level, ranging between $r=-.19$ (small effect) and $r=.55$ (large effect).

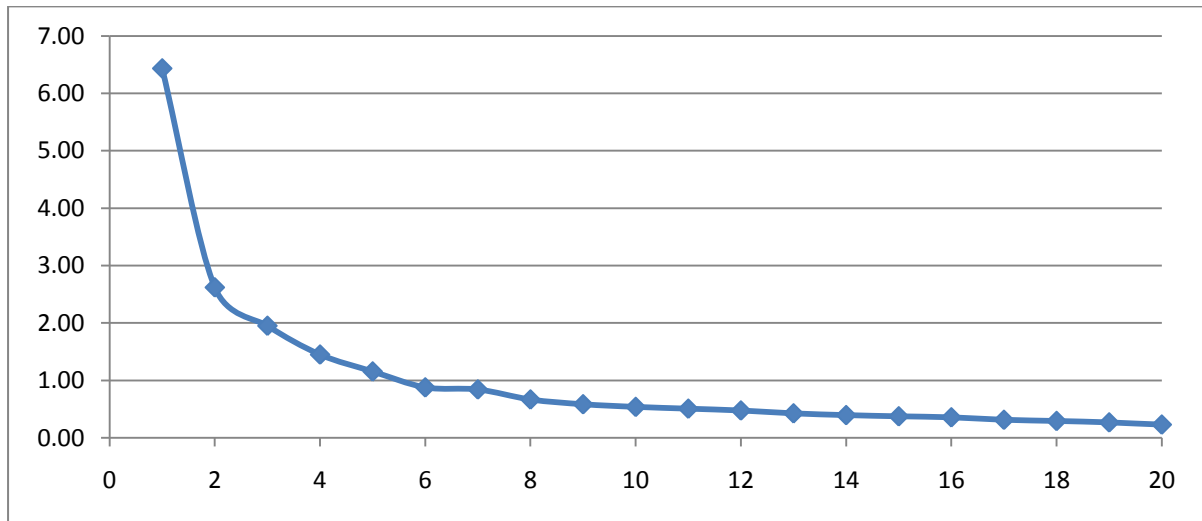
Five of the relationships between the Soft-heartedness factors and the BTI factors were not statistically significant: Extraversion and Antagonism ($r=.02$); Extraversion and Egoism ($r=-.01$); Extraversion and Aggressive ($r=-.06$); Compassionate and Neuroticism ($r=.06$); and Open to experience and Egoism ($r=-.07$). Although the correlation between Openness to experience and Antagonism was statistically significant, it was not practically significant ($r=-.03$). The remaining correlations were all statistically and practically significant, ranging from $r=-.10$ (small effect) to $r=.55$ (large effect).

Lastly, Prosocialness had practical and statistical significant correlations with all the Soft-heartedness and BTI factors, ranging from $r=-.13$ (small effect) to $r=.69$ (large effect).

4.2.4 Factor analysis of Soft-heartedness and BTI scales

The results from the scree plot of the principal component analysis suggested that six factors should be extracted when combining the Soft-heartedness scale and BTI parcels (see figure 2). These six factors jointly account for 69% of the total variance of the combined scale.

Figure 2: Scree plot indicative of the factor structure of the combined Soft-heartedness and BTI scales



The pattern matrix from the maximum likelihood estimation with a direct Oblimin rotation is displayed in table 5.

Table 5

Pattern matrix for the Soft-heartedness scale and BTI sub-scales

Factors	F1	F2	F3	F4	F5	F6	h^2
Agreep3	<u>0.36</u>	-0.08	-0.15	0.01	0.11	0.27	0.46
Empathy	<u>0.79</u>	-0.14	0.00	0.00	0.04	-0.02	0.74
Active Support	<u>0.88</u>	0.12	-0.06	0.03	0.05	0.00	0.76
Compassionate	<u>0.66</u>	-0.17	0.20	0.01	-0.07	0.09	0.60
Agreep2	<u>0.29</u>	-0.08	-0.15	0.14	0.20	0.15	0.43
Antagonism	0.00	<u>0.83</u>	-0.04	-0.13	0.01	0.08	0.69
Egoism	-0.13	<u>0.46</u>	0.19	0.03	0.04	0.03	0.35
Hostility	-0.08	<u>0.85</u>	0.02	0.00	-0.01	-0.02	0.80
Neurp1	-0.09	-0.03	<u>0.72</u>	-0.03	0.13	-0.04	0.53
Neurp2	0.11	0.14	<u>0.78</u>	0.01	-0.05	-0.02	0.68
Neurp3	0.05	-0.04	<u>0.75</u>	-0.02	-0.07	0.03	0.57
Consp1	0.08	0.06	-0.03	<u>0.56</u>	0.16	0.03	0.45
Consp2	0.02	0.01	0.02	<u>0.83</u>	-0.10	0.03	0.68
Consp3	-0.07	-0.13	-0.03	<u>0.70</u>	0.02	0.04	0.55
Extp1	0.06	0.20	-0.04	0.08	<u>0.61</u>	-0.07	0.45
Extp2	0.02	-0.08	0.06	0.08	<u>0.79</u>	0.03	0.68
Extp3	0.00	-0.14	-0.02	-0.10	<u>0.67</u>	0.24	0.63
Openp1	-0.01	-0.01	0.00	0.06	-0.01	<u>0.72</u>	0.55
Openp2	0.06	0.05	-0.01	0.05	-0.07	<u>0.76</u>	0.61
Openp3	-0.02	0.11	0.00	0.03	0.11	<u>0.74</u>	0.64
Agreep1	0.09	-0.21	-0.08	0.00	0.17	<u>0.30</u>	0.32
Total % variance	30.42	12.05	9.93	6.92	5.54	4.33	

Values underlined and in bold are high.
 h^2 denotes communalities of the items.

Table 5 presents the factors that could be extracted from the combined factors and item parcels. The factors were labelled Good-naturedness (Factor 1), Detrimental behaviour (Factor 2), Neuroticism (Factor 3), Conscientiousness (Factor 4), Extraversion (Factor 5), and Openness to experience (Factor 6). Two of the Agreeableness item parcels loaded on the Good-naturedness factor, while the remaining Agreeableness item parcel loaded on the Openness to experience factor. The communalities ranged between average and high; indicating that the scales were well represented by the six factors.

The factor correlation matrix is presented in table 6.

Table 6

Factor correlation matrix of the Soft-heartedness scale and BTI sub-scales

Factor	1	2	3	4	5
1. Good-naturedness	1.00	-	-	-	-
2. Detrimental behaviour	-.43	1.00	-	-	-
3. Neuroticism	-.13	.24	1.00	-	-
4. Conscientiousness	.27	-.15	-.21	1.00	-
5. Extraversion	.28	.02	-.21	.33	1.00
6. Openness to Experience	.51	-.14	-.27	.44	.48

Correlations in bold indicate the factors with medium to large magnitude correlations

Table 6 shows that Detrimental behaviour has a negative correlation with Good-naturedness ($r=-.43$; medium effect). In addition, Extraversion has a positive relationship with Conscientiousness ($r=.33$; medium effect). The results also indicate that Openness to experience has positive, medium correlations with Good-naturedness ($r=.51$), Conscientiousness ($r=.44$), and Extraversion ($r=.48$). These findings are indicative of the factors that underpin the new factor structure that was identified (Brace et al., 2009).

4.2.5 Regression analysis

The assumptions of normal distribution, homoscedasticity and linearity were all met.

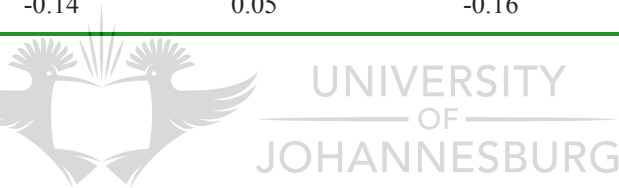
The results for the multiple regression analysis with Prosocialness as dependent variable are presented in table 7.

Table 7

Regression coefficients of the independent variables

Model	Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	Sig.
	B	Std. Error	Beta		
(Constant)	15.47	4.20		3.69	0.00
1. Empathy	0.11	0.07	0.09	1.54	0.12
2. Antagonism	0.04	0.06	0.04	0.71	0.48
3. Egoism	-0.08	0.07	-0.05	-1.18	0.24
4. Active Support	0.39	0.04	0.46	9.24	0.00
5. Compassionate	0.61	0.18	0.16	3.40	0.00
6. Hostility	-0.14	0.05	-0.16	-2.76	0.01

Model 1: $R^2 = 0.36$; $p = 0.000$
 Model 2: $R^2 = 0.01$; $p = 0.051$
 Model 3: $R^2 = 0.00$; $p = 0.082$
 Model 4: $R^2 = 0.13$; $p = 0.000$
 Model 5: $R^2 = 0.01$; $p = 0.001$
 Model 6: $R^2 = 0.01$; $p = 0.006$



The Soft-heartedness factors account for 52% of the variance in Prosocialness

($F(6,424)=77.02$; $p<0.05$). The regression coefficients of Active Support ($\beta=0.46$; $p<0.05$).

Compassionate ($\beta=0.16$; $p<0.05$), and Hostility ($\beta=-0.16$; $p<0.05$) were statistically significant. Thus, individuals with high scores on the Soft-heartedness factor are likely to portray prosocial behaviour. In addition, less soft-hearted individuals are less likely to portray prosocial behaviour. The regression coefficients of Empathy ($\beta=0.09$; $p>0.05$). Antagonism ($\beta=0.04$; $p>0.05$), and Egoism ($\beta=-0.05$; $p>0.05$) were insignificant. This indicates that these factors are not accurate predictors of prosocial behaviour. The results showed that the “Compassionate” factor of the Soft-heartedness cluster is the strongest predictor of prosocial behaviour.

4.3 Conclusion

In this chapter the results obtained from the data analysis was portrayed and interpreted within the various phases. The next chapter will provide a more in-depth discussion of the results presented.



CHAPTER 5: DISCUSSION

5.1 Introduction

This chapter builds onto the previous section as it provides an in-depth discussion of the results found. This chapter also discusses the reasons for some of the results, as well as specify whether each of the objectives within this study was attained.

5.2 Discussion of the results

The first objective of this study was to investigate the factor structure of the preliminary Soft-heartedness scale in order to establish the validity of the scale. Items with high levels of skewness and kurtosis, as well as items with insufficient loadings on the scale were deleted. Item i012HOSabusSH (“I treat weaker people badly”) had high levels of skewness and kurtosis, while item i0004AMseriousSH (“I remain serious when jokes are told”) did not load sufficiently on the Soft-heartedness factor. The high levels of skewness and kurtosis for the first item may be due to the item being of such a nature that all participants disagreed with it and provided socially desirable responses. The second item had ambiguous item wording and participants might not have understood the meaning of the item, thus having varying interpretations. The rest of the items functioned very well and provide evidence that these remaining items represented the Soft-heartedness cluster effectively.

The results suggested that a six factor solution would best represent the data. This solution is partially supportive of the theoretical findings obtained in the qualitative phase of the SAPI project (Nel, 2008). The six factors obtained in this study were labelled Empathy, Antagonism, Egoism, Active Support, Compassionate, and Hostility. The Empathy factor contained mostly items from the original Empathy sub-cluster, with only one Amiability item loading on this factor. Empathy can be defined as being considerate of others’ needs and feelings, showing love and care towards others, and being friendly and kind. The Antagonism factor contained items from the originally proposed Hostility sub-cluster, which related

specifically to the Delinquent, Denigrating, Exploiting, Distrusting, and Verbally Aggressive facets (Flattery. 2010; Nel. 2008). Antagonism refers to individuals being cruel and abusive towards others, exploiting and intimidating them, and being full of themselves.

The Egoism factor in this study is described as being jealous of other people, while being self-centred, selfish and greedy in one's interactions. This factor is similar to the originally postulated Egoism sub-cluster. Active Support involves solving others' problems, being supportive and helpful, and being generous. This factor included most items from the original Active Support sub-cluster, with a few items from the initial SAPI sub-clusters of Egoism, Gratefulness, and Empathy.

Although Compassionate was originally a facet within the Empathy sub-cluster, the results from this study indicate that it functions as a factor on its own. Compassionate involves being humane and respectful towards others, being in agreement with other, and satisfying others. Finally, the remaining Hostility facets clustered together and formed the sixth factor. This factor was labelled Hostility and refers to individuals being cruel and aggressive towards others and abusing and criticising them.

Seventeen of the items did not load onto the six factors listed above. Some of these items loaded on more than one factor while other items had insufficient loadings on any of the factors. These items were excluded from further analyses. In addition, after renaming and inspecting each of the factors it was found that items i013HOSdistrSH ("I am suspicious of what people close to me do") and 015HOSdistrSH ("I distrust other people's opinion") lowered the reliability of the Compassionate factor and these items were ultimately removed from the factor structure.

The six Soft-heartedness factors displayed medium to high inter-correlations. The highest inter-correlations were between Empathy, Active Support, and Compassionate and between Antagonism, Egoism, and Hostility on the other. This finding supports the

understanding of the Soft-heartedness cluster being concerned with individuals being good, kind, and tender versus individuals being unkind, abusive, and ruthless (Nel, 2008).

In essence, it can be said that the new Soft-heartedness cluster within the SAPI yielded a six factor solution fairly similar to that, presented in the previous phases of the SAPI project. It can thus be said that these six factors explain Soft-heartedness in a valid and reliable manner.

The second objective of this study was to determine whether Soft-heartedness can be identified as a unique facet of personality, distinct from the FFM factors. Soft-heartedness correlated with most of the BTI factors – the highest correlations were those between Agreeableness and Empathy and Active Support. Subsequent factor analysis results indicated that a six factor solution fitted the data the best. The six factors represented three of the FFM's factors, a combination of three Soft-heartedness factors, an amalgamation of Soft-heartedness factors and Agreeableness, and a combination of the Openness to Experience and Agreeableness factors. The new factors were labelled (1) Good-naturedness, (2) Detrimental behaviour, (3) Neuroticism, (4) Conscientiousness, (5) Extraversion, and (6) Openness to experience.

Good-naturedness can be described as being considerate of others and caring for them, being selfless, providing support, getting along with others and showing compassion. Eight of the twelve Agreeableness items loaded on this factor. Closer inspection of the item content revealed that these items relate to caring and selfless behaviour towards others and thus it makes theoretical sense that these items should be integrated with the Empathy, Compassionate, and Active Support factors of the Soft-heartedness cluster. In contrast, Detrimental Behaviour refers to being self-centred and cruel, abusing and criticising others, and intimidating and undermining others. The three Soft-heartedness factors that loaded on this factor were Antagonism, Egoism, and Hostility.

The Neuroticism, Conscientiousness, and Extraversion factors remained intact. Four of the twelve Agreeableness items loaded on the same factor as all the Openness to Experience items. Although these items did not have high loadings on the Openness to Experience factor, the fact that they did load on this factor support previous findings that suggest that Agreeableness overlaps with Openness to experience (Taylor, 2004).

In short, it can be concluded that Soft-heartedness portrays to be a unique facet towards explaining individuals' personality and behaviour. Soft-heartedness thus account for some explanation of personality over and above the factors presented in the FFM.

The last objective of this study was to determine whether Soft-heartedness can act as a predictor for an external criterion such as Prosocialness. The results indicated that the Soft-heartedness factors jointly account for 52% of the variance when predicting Prosocialness. People who score high on traits such as Active Support and Compassionate will tend to earnestly seek opportunities to help other through actions such as sharing, donating, caring, comforting, and helping. An individual with high Hostility traits will tend to display less prosocial behaviour and their motivations for acting in a prosocial manner are likely to be different from the motivations of individuals scoring high on Active Support and Compassionate.

Thus, it can be concluded that Soft-heartedness account for slightly more than half of the variance when predicting prosocial behaviour, and individuals that are more Soft-hearted will be more likely to portray prosocial behaviour.

5.3 Conclusion

To conclude, this chapter was focused on providing a discussion on the results of this study and to state reason in the explanation of some of the results. The results yielded that a six factor solution seem to be underlying of the Soft-heartedness cluster, as well as that Soft-heartedness can as a unique facet within personality as it explains personality over and above

those factors within the FFM. It can further be said that Soft-heartedness can be seen as a valid predictor of the external criterion, Prosocialness. Lastly, it can be concluded that all the objectives of this study has been obtained.



CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter the conclusion that were made from the results and discussion chapters is discussed, as well as the recommendation made. The possible limitations of the study are also highlighted and suggestions for future research are made. Lastly, the practical implications and value-add of this study in emphasised.

6.2. Conclusions

The final Soft-heartedness scale consists of 79 of the original 100 items and yielded a reliable six factor structure. These factors were labelled Empathy, Antagonism, Egoism, Active Support, Compassionate, and Hostility. This factor structure partially supports the factor structure proposed by Nel (2008) as the Egoism and Hostility factors are still well represented. However, the items from the Amiability, Gratefulness, Empathy, and Active Support sub-clusters produced different factor structures than those initially suggested by Nel (2008).

When analysing the FFM and Soft-heartedness factors, two additional factors were extracted, namely Good-naturedness and Detrimental Behaviour. The Agreeableness factor of the FFM split and formed part of both the Good-naturedness and Openness to experience factors. It can therefore be concluded that the Antagonism, Egoism, and Hostility factors contribute to a unique new personality factor, while the Active Support, Empathy, and Compassionate factors contribute to the expansion of the FFM's Agreeableness factor.

Lastly, Soft-heartedness can be seen as an external predictor of Prosocialness. The results show that Soft-heartedness can predict slightly more than half of individuals' prosocial behaviour. However, not all of the Soft-heartedness factors are significant predictors of Prosocialness. The Soft-heartedness factors that did predict prosocial behaviour

did so significantly and strongly. Thus, individuals who are highly Soft-hearted will be more likely to portray prosocial behaviour.

It can therefore be concluded that the Soft-heartedness scale is valid and reliable since it consists of reliable measuring scales, and demonstrated good divergent (by differing from measures such as Extraversion and Neuroticism), convergent (by being in agreement with the Agreeableness factor), and predictive (by being able to predict prosocialness) validity.

6.3 Recommendations

Based on the above inferences, it is recommended that the current Soft-heartedness scale be administered again in order to confirm the six factor structure that was found in this study. However, a bigger sample size should be used with the next administration of the validated Soft-heartedness Scale.

6.4 Limitations and suggestions for future research

This study had several possible limitations. Firstly, the sample size was small and was not representative of a wide variety of cultures within South Africa. Secondly, the study was limited by its use of cross-sectional design. This research design prevents researchers from comparing participants since different age groups are used in the study simultaneously. Thus, the research was not able to evaluate differences between the participants. Finally, the homogeneity of the group was also a limitation since the majority of the participants were white females. This might have impacted on the results as women are perceived, by society, to be more soft-hearted than men.

The first suggestion for future research is that confirmatory factor analysis (CFA) should be conducted to verify the Soft-heartedness factors, as well as to determine whether Soft-heartedness is a unique facet of personality. This could not be done during this study as the aim was simply to validate the scale. However, a larger sample size is needed to conduct the CFA. It is further suggested that latent trait analyses using Rasch analysis be conducted

on the overall Soft-heartedness scale in order to determine the differential item difficulty of each of the items within the scale. Lastly, a more heterogeneous sample should be used to ensure that the results are representative of all the language groups within South Africa.

6.5 Practical implications and value-add of the study

The practical implication of this study is that the Soft-heartedness scale can be used as a valid and reliable instrument to assess individuals' standing on this trait. Moreover, the Soft-heartedness scale can assist in describing individuals' prosocial behaviour as the Soft-heartedness scale has been found to explain more than half of individuals' likelihood to engage in prosocial behaviour.

The value-add of this study lies in the validation of the preliminary Soft-heartedness Scale that creates the basis for a broader context to be used to explain individuals' behaviour and personality. The Soft-heartedness factor is a unique facet of personality that accounts for and allows researchers and practitioners to predict individuals' prosocial behaviour. Furthermore, the validation of the Soft-heartedness scale enhances the process of developing a personality measure unique to South Africa.

6.6 Conclusion

In conclusion it can be said that personality psychologists has been striving to explain and understand personality across cultures by means of adapting already established measures to the various cultures across the world. However, this had some challenges as most of the cultures were not efficient in the language these tests were developed and administered in. These challenges are also evident within the South African context as the majority of the population speak the indigenous African languages.

This posed the opportunity for researcher to develop a personality measure, the South African Personality Inventory (SAPI), that is unique to South Africa and which can be applied fairly to all cultures and language groups within the South African boarder as it is

based on personality descriptives obtained from all 11 official language groups. This study formed part of the SAPI project and was aimed towards the validating one of the scales within the inventory, namely the Soft-heartedness Scale. Although the main objective was to validate the scale, it was further necessary to establish the construct validity of the Soft-heartedness cluster. The study was further aimed at determining whether Soft-heartedness can be seen as a unique facet of personality apart from the FFM, as well as determining whether Soft-heartedness can be a predictor of an external criterion, Prosocialness.

The results yielded that a six factor solution that is underlying of the Soft-heartedness cluster within the SAPI. These factors were also found to all have higher than acceptable reliability coefficients. In addition, it was found that when combining the Soft-heartedness factor with those within the BTI, two additional factors were formed (Good-naturedness and Detrimental behaviour) and the Agreeableness factor within the BTI split and loaded onto both the Good-naturedness factor and the Openness to experience factor. Thus, it can be said that Soft-heartedness is a unique facet towards personality. Lastly, it was found that Soft-heartedness account for slightly more than half of the variance in explaining Prosocialness.

It can thus be said that all the objectives of this study have been attained and that the Soft-heartedness Scale is a reliable and valid measure of personality as it has construct, convergent, discriminant, and predictive validity. This creates the basis for a broader context to be used to explain individuals' behaviour and personality, as well as enhances the process of developing a personality measure unique to South Africa.

REFERENCES

- Abrahams, F., & Mauer, K. F. (1999). Qualitative and statistical impacts of home language on responses to the items of the Sixteen Personality Questionnaire (16PF) in South Africa. *SA Journal of Psychology, 29*, 76-86.
- Allen, B. P. (1997). *Personality theories: Development, growth, and diversity (2nd ed.)*. Needham Heights, MA: A Viacom Company.
- Aluja. A., Rolland. J.P., Garcia. L. F., & Rossier. J. (2007). Dimensionality of the Rosenberg self-esteem scale and its relationship with the Three- and the Five-Factor personality models. *Journal of Personality Assessment, 88*(2), 1-4. doi:10.1080/00223890701268116
- Bandalos, D. L., & Finney, S. J. (2001). Item parcelling issues in structural equation modelling. In G. A. Marcoulides & R. E. Schumacker (Eds.). *Advanced structural equation modelling: New developments and techniques* (pp. 269-296). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Benet, V., & Waller. N. G. (1995). The Big Seven factor model of personality descriptions: Evidence for its cross-cultural generality in a Spanish sample. *Journal of Personality and Social Psychology, 69*(4), 701-718. doi:10.1037//0022-3514.69.4.701
- Block, J. (2010). The Five-Factor framing of personality and beyond: Some ruminations. *Psychological Inquiry, 21*, 2-25. doi:10.1080/10478401003596626
- Boyle, G. J., Matthews, G., & Saklofske, D. H. (2010). *The SAGE Handbook of Personality Theory and Assessment, Vol. 1*. London: SAGE Publications.
- Brace, N., Kemp, R., & Snelgar, R. (2009). *SPSS for psychologists*. Houndmills, Basingstoke. Hampshire: Palgrave Macmillian.
- Briggs, S. R. (1989). The optimal level of measurement for personality constructs. In D. M. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions* (pp. 246-260). New York: Springer-Verlag.
- Burger, J. M. (2008). *Personality (7th ed.)*. Belmont, CA: Thomson Wadsworth Corporation

- Burns, N., & Grove, S. K. (1993). *The Practice of Nursing Research: Conduct, Critique and Utilization (4th ed.)*. Philadelphia, PA: W. B. Saunders Company.
- Caprara, G. V., Alessandri, G., Di Giunta, L. P., & Eisenberg, N. (2010). The contribution of agreeableness and self-efficacy beliefs to prosociality. *European Journal of Personality*, 24, 35-55. doi:10.1002/per.739
- Caprara, G. V., Steca, P., Zelli, A., & Capanna, C. (2005). A new scale for measuring adults' prosocialness. *European Journal of Psychological Assessment*, 21(2), 77-89. doi:10.1027/1015-5759.21.2.77
- Cheung, F. M., Leung, K., Fan, R. M., Song, W. Z., Zhang, J. X., & Zhang, J. P. (1996). Development of the Chinese Personality Assessment Inventory (CPAI). *Journal of Cross-Cultural Psychology*, 32, 407-433. doi:10.1177/0022022196272003
- Cheung, F. M., van de Vijver, F. J. R., & Leong, F. T. L. (2011). Toward a new approach to the study of personality in culture. *American Psychologist*, Advance online publication. doi: 10.1037/a0022389.
- Cohen, J. (1988). *Statistical power analysis for behavioural sciences (2nd ed.)*. Hillsdale, NJ: Erlbaum.
- Cohen, J. (1992). Quantitative methods in psychology: A power primer. *Psychological Bulletin*, 112(1), 155-159. doi:10.1037/0033-2909.112.1.155
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO-Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- De Bruin, G. P., & Bernard-Phera, M. J. (2002). Confirmatory factor analysis of the career development questionnaire and the career decision-making self-efficacy scale for South African high school students. *SA Journal of Industrial Psychology*, 28(2), 1-6.

- De Bruin, K., de Bruin, G. P., Dercksen, S., & Cilliers-Hartslief, M. (2005). Predictive validity of general intelligence and Big Five measures for adult basic education and training outcomes. *SA Journal of Psychology, 35*, 46-57.
- Ewen, R. B. (2003). *An introduction to theories of personality (6th ed.)*. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Eysenck, H. (1992). Four ways five factors are not basic. *Personality and Individual Differences, 13*, 667- 674.
- Field, A. (2000). *Discovering statistics using SPSS for Windows*. London: SAGE Publications.
- Field, A., & Miles, J. (2010). *Discovering statistics using SAS*. London: SAGE Publications.
- Flattery, A. (2010). *Developing and validating a hostility, gratefulness and active support measuring instrument*. Unpublished master's dissertation. North-West University, Potchefstroom Campus. Potchefstroom. South Africa
- Foxcroft, C. D. (1997). Psychological testing in South Africa: Perspectives regarding ethical and fair practices. *European Journal of Psychological Assessment, 13*, 229-235.
doi:10.1027/1015-5759.13.3.229
- Foxcroft, C. D., Paterson, H., Le Roux, N., & Herbst, D. (2004). *Psychological assessment in South Africa: A needs analysis*. Pretoria: Human Sciences Research Council.
- Foxcroft, C. D., & Roodt, G. (2005). *An introduction to psychological assessment in the South African context (2nd ed.)*. Cape Town: Oxford University Press.
- Friedman, H. S., & Schustack, M. W. (2003). *Personality: classical theories and modern research (6th ed.)*. Needham Heights, MA: A Viacom Company.
- Goodstein, L. D., & Lanyon, R. J. (1999). Applications of personality assessment to the workplace: A review. *Journal of Business and Psychology, 13*(3), 291-322.
doi:10.1023/A:1022941331649

- Gravetter, F. J., & Forzano, L. B. (2009). *Research methods for the behavioural sciences (3rd ed.)*. Belmont, CA: Wadsworth. Cengage Learning.
- Herche, J., Swenson, M. J., Verbeke, W. (1996). Personal selling constructs and measures: emic versus etic approaches to cross-national research. *European Journal of Marketing*, 30(7), 83-97.
- Janse van Rensburg, C. (2009). *The development of an experimental conscientiousness measurement instrument within the SAPI project*. Unpublished master's dissertation, University of Stellenbosch. Stellenbosch. South Africa.
- John, O.P., & Srivastava, S. (1999). The Big Five Trait taxonomy: History, measurement, and theoretical perspectives. In L.A. Pervin & O.P. John (Eds.), *Handbook of Personality: Theory and Research* (pp.102-138). New York: Guilford Press.
- Judge, T. A., Higgins, C. A., Thoresen, C. J., & Barrick, M. R. (1999). The Big Five personality traits, general mental ability, and career success across the life span. *Personnel Psychology*, 52(3), 621-652. doi:10.1111/j.1744-6570.1999.tb00174.x
- Kahn, J. H. (2006). Factor analysis in counselling psychology research, training, and practice: Principlesm advances and applications. *The Counselling Psychologist*, 34, 684-718. doi:10.1177/0011000006286347
- Kanjee, A. (2005). Cross-cultural test adaptation and translation. In C.D. Foxcroft & G. Roodt (Eds.). *An introduction to psychological assessment in the South African context (2nd ed.)* (pp. 24-45). Cape Town: Oxford University Press.
- Kelly, G. A. (1955). *The psychology of personal constructs*. New York: Norton.
- Kim, Y. (2009). Validation of psychometric research instruments: The case of information science. *Journal of the American Society for Information Science and Technology*, 60(6), 1178-1191. doi:10.1002/asi.21066

- Labuschagne, A. (2010). *The development and validation of a measuring instrument for the Intellect cluster of the South African Personality Inventory*. Unpublished master's dissertation. North-West University, Potchefstroom Campus. Potchefstroom. South Africa.
- Laher, S. (2007). Personality reconceptualised: A Million approach? *SA Journal of Psychology*, 37(1), 82-95
- Laher, S. (2008). Structural Equivalence and the NEO PI-R: Implications for the applicability of the Five-Factor Model of personality in an African context. *SA Journal of Industrial Psychology*, 34(1), 76-80.
- Lamoureux, E. L., Pallant, J. F., Pesudovs, K., Rees, G., Hassel, J. B., & Keeffe, J. E. (2007). The impact of vision impairment questionnaire: An assessment of its domain structure using confirmatory factor analysis and Rasch analysis. *Investigative Ophthalmology and Visual Science*. 48(3), 1001-1006. doi:10.1167/iovs.06-0361
- Lee, K., & Ashton, M. C. (2004). The HEXACO Personality Inventory: A new measure of the major dimensions of personality. *Multivariate Behavioural Research*, 39, 329-358
- Lee, K., & Ashton, M. C. (2008). The HEXACO personality factors in the indigenous personality lexicons of English and 11 other languages. *Journal of Personality*, 76, 1001-1053. doi:10.1111/j.1467-6494.2008.00512.x
- Lee, K., Ashton, M. C., Morrison, D. L., Cordery, J., & Dunlop, P. D. (2008). Predicting integrity with the HEXACO personality model: Use of self- and observer reports. *Journal of Occupational and Organisational Psychology*, 81, 147-167. doi:10.1348/096317907X195175
- Lee, K., Ogunfowora, B., & Ashton, M. C. (2005). Personality traits beyond the Big Five: Are they within the HEXACO space? *Journal of Personality*, 73(5), 1437-1463. doi:10.1111/j.1467-6494.2005.00354.x

- Lotter, M. (2009). *The development of an experimental integrity instrument for various cultural groups as conceptualised from the South African personality inventory (SAPI) project*. Unpublished master's dissertation, University of Stellenbosch. Stellenbosch. South Africa.
- Marshall, M. N. (1996). Sampling for qualitative research. *Family Practice- An International Journal*, 13(6), 522-525. doi:10.1093/fampra/13.6.522
- McAdams, D. P. (1995). What do we know when we know a person? *Journal of Personality*, 63, 365-396. doi:10.1111/j.1467-6494.1995.tb00500.x
- McAdams, D. P., & Pals, J. L. (2006, April). A new big five: Fundamental principles for an integrative science of personality. *American Psychologist*, 61, 204-217. doi:10.1037/0003-066X.61.3.204
- McAdams, D. P., & Walden, K. (2010). Jack Block, the Big Five, and personality from the standpoints of actor, agent and author. *Psychological Inquiry*, 21, 50-56. doi:10.1080/10478401003648740
- McCann, D., & Sato, T. (2000). Personality, cognition, and the self. *European Journal of Personality*, 14, 449-461. doi:10.1002/1099-0984(200009/10)14:5<449::AID-PER392>3.0.CO;2-R
- McCrae, R. R., & Costa, P. T. (1997). Personality trait structure as a human universal. *American Psychologist*, 52, 509-516. doi:10.1037//0003-066X.52.5.509
- McCrae, R. R., & Terracciano, A. (2005). Universal features of personality traits from the observer's perspective: Data from 50 cultures. *Journal of Personality and Social Psychology*, 88, 547-561. doi:10.1037/0022-3514.88.3.547
- Miles, J., & Shevlin, M. (2008). *Applying regression and correlation: A guide for students and researchers*. London: SAGE Publications.

- Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualising situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review*, *102*, 246-268. doi:10.1037//0033-295X.102.2.246
- Moerdyk, A. (2009). *The principles and practice of psychological assessment*. Pretoria: Van Schaik Publisher.
- Murphy, K. R., & Davidshofer, C. O. (2005). *Psychological testing: Principles and applications (6th ed.)*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Nel, J.A. (2008). *Uncovering personality dimensions in eleven different language groups in South Africa: An exploratory study*. Unpublished doctoral thesis. North-West University, Potchefstroom Campus. Potchefstroom. South Africa.
- Nel, J. A., Valchev, V. H., Rothmann, S., van de Vijver, F. J. R., Meiring, D., & de Bruin, G. P. (In press). Exploring the personality structure in the 11 languages of South Africa. *Journal of Personality*.
- Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). *Scaling procedures: Issues and applications*. Thousand Oaks, California: SAGE Publications.
- Norem, J. K. (2010). Resisting the hegemony of the Five-Factor Model: There is plenty of personality outside the FFA. *Psychological Inquiry*, *21*, 65-68. doi:10.1080/10478401003648799
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory (3rd ed.)*. New York: McGraw-Hill.
- Oliver, J. P., Alois, A., & Fritz, O. (1988). The lexical approach to personality: A historical review of trait taxonomic research. *European Journal of Personality*, *2*, 171-203.
- Pervon, L. A., & Cervone, D. (2010). *Personality: Theory and research (11th ed.)*. Hoboken, NJ: John Wiley & Sons. Inc.

- Pesudovs, K., Garamendi, E., Keeves, J. P., & Elliott, D. B. (2003). The activities of daily vision scale for cataract surgery outcomes: Re-evaluating validity with Rasch analysis. *Investigative Ophthalmology and Visual Science*, 44(7), 2892-2899. doi:10.1167/iovs.02-1075
- Peterson, C. (1992). *Personality (2nd ed.)*. Orlando, FL: Harcourt Brace Jovanovich.
- Rotter, J. B. (1954). *Social learning and clinical psychology*. Englewood Cliffs, NJ: Prentice-Hall.
- Saucier, G. (2009). Recurrent personality dimensions in inclusive lexical studies: Indications for a Big Six Structure. *Journal of Personality*, 77(5), 1578- 1614. doi:10.1111/j.1467-6494.2009.00593.x
- Schultz, D. P., & Schultz, S. E. (2005). *Theories of personality (8th ed.)*. Belmont, CA: Thomson Wadsworth.
- Sigelman, C. K., & Rider, E. A. (2009). *Life-Span Human Development (6th ed.)*. Belmont, CA: Wadsworth Cengage Learning.
- SPSS INC. (2010). *SPSS 18.0 for Windows*. Chicago. IL.
- Statistics South Africa. (2001). Census 2001: SA population. Retrieved from <http://www.southafrica.info/about/people/language.htm>.
- Taylor, N. (2004). *The construction of a South African five-factor personality questionnaire*. Unpublished master's dissertation. Rand Afrikaans University. Johannesburg. South Africa.
- Taylor, N., & De Bruin, G. P. (2005). *Basic Traits Inventory: Technical manual*. Johannesburg: Jopie van Rooyen & Partners.
- Tellegen, A., & Waller, N. G. (1987). *Re-examining basic dimensions of natural language trait descriptors*. Paper presented at the 95th annual meeting of the American Psychological Association. New York.

- Tupes, E. C., & Christal. R. E. (1992). Recurrent personality factors based on trait ratings. *Journal of Personality*, 60, 225-251. doi:10.1111/j.1467-6494.1992.tb00973.x
- Valchev, V. H., van de Vijver. F. J. R., Nel. A. J., Rothmann. S., Meiring. D., & de Bruin. G. P. (2011). Implicit personality conceptions of the Nguni cultural-linguistic groups of South Africa. *Cross-cultural Research*, 1-32. doi:10.1177/1069397111402462
- Vogt, L., & Laher, S. (2009). The Five Factor Model of personality and Individualism/Collectivism in South Africa: An exploratory study. *Psychology in Society (PINS)*, 37, 39-54.
- Wegner, T. (2007). *Applied business statistics: Methods and Excel-based applications (2nd ed.)*. Cape Town: Juta & Co. Ltd.
- Wikman, A. (2006). Reliability, validity, and true values in surveys. *Social Indicators Research*, 78, 85-110. doi:10.1007/s11205-005-5372-3
- Wolfaardt, J. B., & Roodt, G. (2005). Basic concepts. In C.D. Foxcroft & G. Roodt. (Eds.). *An introduction to psychological assessment in the South African context (2nd ed.)* (pp. 24-45). Cape Town: Oxford University Press.
- Xia, J. (2010). An anthropological emic-etic perspective on open access practices. *Journal of Documentation*, 67(1), 75-94. doi: 10.1108/00220411111105461