

THE FIVE FACTOR MODEL OF PERSONALITY AND INDIVIDUALISM / COLLECTIVISM IN SOUTH AFRICA: AN EXPLORATORY STUDY

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Abstract.

The Five-Factor Model (FFM) of personality is one of the prominent models in contemporary psychology and defines personality in terms of five broad factors, namely, Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Recent research, however, questions the comprehensiveness of the FFM with evidence indicating the presence of other factors not addressed in the FFM most notably Individualism/Collectivism. Therefore, this study investigated the relationship of the FFM of personality to Individualism/Collectivism in a sample of 176 students from the University of the Witwatersrand using the Basic Traits Inventory and the Individualism/Collectivism scale. Results indicate that there were no significant relationships between the five factors and Individualism/Collectivism. In addition no significant difference was found between race and the five factors and Individualism/Collectivism. There were also no significant differences between home language and the five factors and Individualism/Collectivism.

Key words: *collectivism, culture, five factor model, language, individualism, personality, race*

According to McCrae and Costa (1990, cited in McCrae, Costa, Del Pilar, Rolland, & Parker, 1998:173), "the Five Factor Model (FFM) is an organisation of personality traits, and traits in turn are dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions". McCrae (2001:819) further defines traits as "endogenous basic tendencies that, within a cultural context, give rise to habits, attitudes, skills, beliefs, and other characteristic adaptations". Thus traits are relatively stable or enduring individual differences in thoughts, feelings and behaviours (Church, 2000). Different theorists sometimes gave different names to the underlying five factors. However, the creation of the NEO-Personality Inventory (NEO-PI) by Costa and McCrae went some way in bringing about consensus as to the labels attached to the five factors (Church, 2000; Rolland, 2002).

In brief, the five factors are: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Costa & McCrae, 1992; Church, 2000;

Rolland, 2002). Neuroticism is defined as a general tendency to experience negative affects such as fear, sadness, embarrassment, anger, guilt, and distrust. It is the degree to which a person is calm and self-confident as opposed to anxious and insecure. Extraversion is regarded as a general tendency toward sociability, assertiveness, activeness and being talkative. Thus it is the degree to which a person is sociable, leaderlike and assertive as opposed to withdrawn, quiet and reserved. Individuals willing to entertain novel ideas and unconventional values are described by the openness to experience trait. Openness to Experience is defined as the degree to which a person is imaginative and curious as opposed to concrete minded and narrow thinking. Agreeableness encapsulates constructs of sympathy, co-operativeness, and helpfulness towards others. It is described as the degree to which a person is good natured, warm and co-operative as opposed to irritable, uncooperative, inflexible, unpleasant and disagreeable. The final factor, Conscientiousness, may be described as the degree to which a person is persevering, responsible and organised as opposed to lazy, irresponsible, and impulsive. This dimension summarizes the more specific traits that mark careful, responsible and dependable people in contrast to people who are lazy and lack self-discipline (Costa & McCrae, 1992; McCrae, et al, 1998; Rolland, 2002).

An examination of research suggests the universality of the FFM (Allik & McCrae, 2004; McCrae & Terracciano, 2005), but evidence also exists that suggests that the FFM is not comprehensive in its description of personality (see Church, 2000; Cheung, Leung, Zhang, Sun, Gan & Song, 2001; Katigbak, Church, Guanzon-Lapena, Carlota & Del Pilar, 2002; Piedmont, Bain, McCrae & Costa, 2002; Cheung, 2004; Teferi, 2004; Ashton & Lee, 2005; McCrae & Terracciano, 2005; Saucier & Skrzypinska, 2006). Furthermore studies on the NEO-PI-R in cross-cultural situations found variations in the five factor structure between Western and Asian cultures (see Church, 2000; Cheung, et al, 2001; Cheung, 2004; McCrae & Terracciano, 2005). McCrae (2004) interpreted this as the likely consequence of the differences between the individualistic societies of the West and the collectivist societies of Asia (Rolland, Parker & Stumpf, 1998; McCrae, 2004).

Research in the Chinese context sought to establish the universality and sufficiency of the FFM. Both the NEO-PI-R and the Chinese Personality Assessment Inventory (CPAI), a personality inventory developed specifically for the Chinese context, were used in this study. Through factor analysis a unique factor that did not have factor loadings on any of the facets of the NEO-PI-R was obtained from the CPAI scales. This factor has been called Interpersonal Relatedness, which emphasizes the concern of interdependence in Chinese personality (Cheung et al, 2001). The issue then became whether the Interpersonal Relatedness factor was unique to Chinese societies, or whether in fact this domain of personality pertained to other cultures as well. Cheung et al (2001) replicated this study on a culturally diverse group of Hawaiian students and found that the Interpersonal Relatedness factor could be identified in this group. Cheung, Cheung, Leung, Ward and Leong (2003) found similar results with the English version of the CPAI. This research provided empirical support for arguments on the comprehensiveness of the FFM particularly as they pertained to the Individualism/Collectivism dimension.

INDIVIDUALISM AND COLLECTIVISM.

Individualism and Collectivism are at present amongst the most widely used constructs in research about cultural differences (Triandis, 2001; Oyserman, Coon & Kemmelmeier, 2002; Triandis & Suh, 2002; Green, Deschamps & Páez, 2005; Schimmack, Oishi & Diener, 2005). These constructs, together with “power-distance”, “masculinity-femininity” and “uncertainty-avoidance” were first described as overarching patterns of cultural variation in the workplace by Geert Hofstede in 1980 (Earley & Gibson, 1998; Oyserman et al, 2002; Shulruf, Hattie & Dixon, 2003). According to Hofstede’s model, derived through factor analysis, Individualism-Collectivism can be viewed as opposite poles representing an independent stance from groups on the one hand to a dependence on groups on the other (Gouveia & Ros, 2000). However, individualism and collectivism are complex constructs which have been subject to differing interpretations and hence have several different definitions.

Broadly, constructs such as individualism and collectivism have been defined in terms of the attributes possessed by the people within a given culture reflecting either position (Triandis, McCusker & Hui, 1990). Within an individualist society, people are viewed as independent from the group. Consequently, priority is given to personal goals over those of the group and behaviour tends to be based on personal attitudes rather than group norms (Triandis, 2001; Green et al, 2005). Conversely, collectivist societies emphasize people’s interdependence within the group, group goals are given priority and people’s behaviour is largely regulated by group norms rather than personal attitudes. Therefore, people in a collectivist society are mainly interested in maintaining relationships with others and avoiding conflict (Triandis, 2001; Green et al, 2005).

From the discussion above it is clear that Individualism/Collectivism can be viewed at both the societal and individual level. At the societal level, it may be argued that Individualism/Collectivism is a cultural syndrome and not necessarily a personality trait. However it is clear from the research by Cheung and colleagues that these cultural manifestations have an individual basis and individuals demonstrate characteristics that can be associated with either individualist or collectivist dimensions.

After an extensive review of current research, Triandis and Suh (2002) found evidence that individualists and collectivists differ in terms of their cognitions, the motivation for their behaviour, emotions, and patterns of social behaviour, communication styles and ethical codes. With regard to cognitions, collectivists tend to view the norms, obligations and duties within a society as fixed, whereas they see their own attitudes and personality as changeable (Triandis & Suh, 2002). Individualists have a greater need for freedom of choice and for being seen as unique and they tend to become more motivated with the attainment of success. Collectivists are rather prompted by failure and are concerned with changing and improving themselves in order to meet the demands of the environment (Triandis & Suh, 2002; Barret, Wosinska, Butner, Petrova, Gornik-Durose & Cialdini, 2004). Emotions reported by Individualists are disengaged while collectivists are more interpersonally engaged. Generally Individualists report more positive emotions which are strong predictors of life-satisfaction and place greater emphasis on their emotions as the basis for making major personal decisions. Collectivists base their sense of satisfaction with life on the approval of other and base decisions on social norms rather than emotions (Triandis & Suh, 2002; Schimmack, Radhakrishnan, Oishi, Dzokoto & Ahadi, 2003).

Thus this study explores the relationship between the five factors as postulated by the FFM of personality and Individualism/Collectivism. It may be argued that the FFM as described above by virtue of being developed in an individualist culture and standardised on western individuals with more of an individualist orientation would also be individualist. This begs the question as to the need for this study. This study does not seek to explore the validity of the model in a collectivistic culture. It is rather intended to establish whether Individualism / Collectivism might be an additional factor that the FFM does not encapsulate by virtue of being developed in an individualist culture. South Africa is also an appropriate place to do given the multiethnic nature of this country. Since there is evidence to suggest that both the five factors and Individualism/Collectivism manifest differently across cultures, this study also explored whether differences would be found across race and language groupings in South Africa.

CULTURE AND PERSONALITY IN SOUTH AFRICA.

Individualism is generally used to describe the predominant cultures of Western Europe, North America, Australia and New Zealand. African, Middle Eastern and East Asian countries are characterized primarily by Collectivism (Triandis et al, 1990; Triandis, 2001; Green et al, 2005). However, as Fiske (2002) argues, one of the greatest limitations of the research conducted on Individualism and Collectivism is that nations are treated as if they are cultures. In South Africa, a variety of cultures are contained within a single political border, which vary in terms of Individualism and Collectivism. As Allik and McCrae (2004:23) state, “the primacy of human groups over geophysical locations is illustrated by the fact that Black and White South Africans have very different personality profiles, despite living in the same country for many generations”.

The term culture has been applied to include nation-states, ethnic and religious groups, and even schools and corporations (Dalton, Elias & Wanderman, 2002). The construct of culture is so broad that it becomes difficult to define and relate to social and psychological phenomena. It would be naïve to assume that culture as a concept is purely scientific, since it is also often used synonymously with terms such as race, ethnicity and nationality. Race in particular has been afforded a pseudo-biological status in the past, which has been discredited as race is not a biological variable. Biologically, race groups are more similar than different. Yet, it is the psychological and social meaning of this term in many societies that maintains its relevance, since as a socially constructed classification system; race is largely related to inequalities of status and power (Dalton et al, 2002).

In the South African context the issue of race is a particularly sensitive one due to the country's history of apartheid. In terms of education, the inequalities imposed by this system are most apparent. All so-called “non-Whites” were subjected to an inferior quality of education, with the black African race group being the most disadvantaged (Foxcroft & Roodt, 2005). Therefore, studies investigating the cross-cultural applicability of personality instruments in the South African context have had to take the variable of race into account. A study on the cross-cultural applicability of the 16PF, showed that the scores obtained were strongly influenced by race (Abrahams, 1996). Abrahams (1996) found significant differences in the means, reliability co-efficients and factor structures for the different race groups, most notably the Black and White race groups. In addition there were significant differences in the way that the items were answered

by the different race sub samples and 18% of the items failed to attain significant item-total correlations. These results led Abrahams (1996) to conclude that race had the greatest influence on the manner in which the test items were dealt with suggesting the possible moderating influence of this variable.

Studies of the NEO-PI-R in South Africa have similarly found differences related to race. Cross-cultural replicability has not always been found for the FFM in terms of both the number and structure of the factors. In fact, replicability of the FFM in South Africa has in some studies resulted in three, and at most, four-factor solutions (Matsimbi, 1997; Horn, 2000; Taylor, 2000). Taylor (2000) examined the construct validity of the NEO-PI-R in the workplace. The Openness to Experience factor could not be extracted from the Black group, but the complete five-factor structure was found for the White group. Heuchert, Parker, Stumpf and Myburgh (2000) administered the NEO-PI-R to 408 college students in South Africa. Through factor analysis with Varimax rotation at the facet level the five factor structure was replicated. Although personality structure was found to be equivalent for the different race groups, the mean scores for some of the domains and facets differed. Black individuals scored lower in Openness to Experience than either White or Indian individuals, while White individuals scored higher on Extraversion and Agreeableness. Another study testing the validity and reliability of the FFM among a sample of 368 South African students, from four different South African universities, found that black students scored significantly higher on Neuroticism but significantly lower on Extraversion and Agreeableness than white students (Zhang & Akande, 2002). It is important to note that both studies concluded that differences found between the race groups were related to race in terms of educational level, socio-economic status and cultural differences, but were not a direct product of race itself (Heuchert et al, 2000; Zhang & Akande, 2002).

A study by Allik and McCrae (2004) examined personality traits across 36 cultures, including a sample of Black and White South Africans. Multidimensional scaling procedures showed that Black South Africans, in line with other African and Asian cultures, were lower on Extraversion and Openness to Experience, and higher in Agreeableness suggesting that these may not be differences in personality but rather differences in which these personality traits are expressed in individuals from individualist and collectivist cultures.

Apart from race, language has also been cited as a cultural variable notable for its influence as a powerful moderator of test performance (Abrahams, 1996; Foxcroft, 1997; Heaven & Pretorius, 1998; Van de Vijver & Rothmann, 2004; Foxcroft & Roodt, 2005). The dimensions of the FFM while not explicitly located within the lexical hypotheses are based on the work conducted within these studies (see Ashton & Lee, 2005). As such one questions whether factors derived from descriptive adjectives in the English language relate to the same constructs across cultures. Considerable disagreement in the literature exists between researchers whose studies either continue to support the universality of the FFM and those which raise questions as to its validity in cross-cultural applications particularly as pertains to issues of language (Allik & McCrae, 2004; Ashton & Lee, 2005; McCrae & Terracciano, 2005).

Studies in the South African context have consistently demonstrated the effects of taking tests in a second language on test item responses (Foxcroft, 1997; Bedell, Van Eeden, & Van Staden, 1999; Van de Vijver & Leung, 2001; Van de Vijver & Rothmann,

2004). Heaven and Pretorius (1998) conducted a study to investigate whether the language descriptors of the FFM were adequate when used by a non-English-speaking group. It was found that though the traditional five-component taxonomy was the best fit for the Afrikaans-speaking group, a different pattern of components with significant loadings emerged for the Sotho-speaking group.

Similar results have been found in other African studies. Teferi (2004) translated the NEO-PI-R into the Tigrignan language to explore the utility of the FFM in the Eritrean context. Using factor analytic methods, Teferi (2004) could only extract the Neuroticism, Agreeableness and Conscientiousness factors. Piedmont, et al (2002) conducted a study in Zimbabwe using a Shona translation of the NEO-PI-R and found similar results. The five factor structure was obtained, but Extraversion and Agreeableness did not replicate as well as Neuroticism, and Conscientiousness and Openness to Experience replicated poorly.

McCrae and Terracciano (2005) found that the five-factor structure could be extracted when NEO-PI-R data from Botswana, Nigeria, Burkina Faso, Ethiopia and Uganda was analysed but the five factors replicated poorly in their African sample compared to the American normative structure. Also notable, was that the non-Western cultures had poorer data quality and internal consistency than the Western nations in this study. Botswana, Nigeria, Ethiopia, Uganda and Morocco had markedly lower data quality than Burkina Faso where the French version of the NEO-PI-R had been administered, instead of the English version as in the formerly named African cultures, where no translations in African languages were available. Thus in addition to exploring the relationship between the FFM and Individualism/Collectivism, this study explored the influence of race and home language on each of the personality domains and Individualism/Collectivism respectively.

METHODS.

Sample.

Non-probability convenience sampling was used. 176 completed questionnaires were obtained from undergraduate students attending Wits Plus (University of the Witwatersrand part time studies program), as well as the postgraduate students in Psychology and the Biological Sciences. Sample size was largely affected by a failure to complete the questionnaires. Thus non-response bias and volunteer bias could be limitations in this study (Rosenthal & Rosnow, 1991; Porter & Whitcomb; 2005). Differences in the personality types of participant versus non-participant respondents have also been found (Rosenthal & Rosnow, 1991; Aviv, Zelenski, Rollo & Larsen, 2002; Porter & Whitcomb, 2005). This is of extreme importance in personality research. In an attempt to control specifically for volunteer bias, the researchers informed students of the nature of personality research, the importance of the study and the need for individuals who would not necessarily respond to attempt to respond to the questionnaire. While this cannot fully control for these biases, it was hoped that alerting potential participants to these effects might encourage potential non-participants to complete the questionnaire.

Table 1: Demographic information for the sample

Variable		Frequency	%	Cumulative %
GENDER	Female	122	69.32	69.32
	Male	54	30.68	100.00
RACE	Non – White	86	48.86	48.86
	White	90	51.14	100.00
HOME LANGUAGE	English	116	65.91	65.91
	Non – English	60	34.09	100.00

The participants ages ranged from 19 to 52 years ($\bar{X} = 26.55$, $SD = 6.72$). The demographic information, as presented in Table 1, show that 69.32% of the sample was female and 30.68% was male. With regards to race, 51.14% were White, while 48.86% fell into the Non-White category. This latter classification was made necessary due to too few individuals of other races being represented in this sample. In this study, the “Non-White” group included individuals of African ($n = 49$), Indian ($n = 20$), Coloured ($n = 14$) and Chinese ($n = 3$) descent. It is acknowledged that the collapsing of groups in this way is not ideal. These groups are by no means homogenous. However a sufficient body of research exists which provides support for Asian and African cultures being collectivist and White, western cultures individualist (see Eaton & Louw, 2000; Cheung, et al, 2001; Mpofu, 2001; McCrae, 2004; Van Dyk & de Kock, 2004). Lastly, 65.91% of the participants reported their Home Language as English. The Non-English group represented 30.86% of the sample and included the other 10 official languages of South Africa, namely: Afrikaans ($n = 11$), Ndebele ($n = 1$), Pedi ($n = 4$), Siswati ($n = 5$), Sotho ($n = 8$), Tsonga ($n = 3$), Tswana ($n = 2$), Venda ($n = 1$), Xhosa ($n = 4$) and Zulu ($n = 11$) as well as the “Other” category. The category “Other” ($n = 11$) included Bosnian ($n = 1$), Bulgarian ($n = 2$), Dutch ($n = 1$), French ($n = 1$), German ($n = 1$), Ibo ($n = 1$), Kikuyu ($n = 1$), Mandarin ($n = 1$) Shona ($n = 1$), and Tamil ($n = 1$).

Instruments.

A questionnaire consisting of three sections was used in this study. The first section of the questionnaire was designed for the purposes of obtaining demographic information, namely age, gender, race and home language. Age and gender were used for descriptive purposes only.

The Basic Traits Inventory (BTI).

From the literature discussed earlier, the NEO- Personality Inventory –Revised (NEO-PI-R) is at present the most commonly used measure of personality, as based on the FFM in international personality assessment and research, and would be one of the instruments of choice in this study (Larsen & Buss, 2005; McCrae & Terracciano, 2005). The Basic Traits Inventory (BTI) is the second instrument of choice in this study.

The BTI has been developed in South Africa using the FFM and measures personality in terms of five broad domains, namely: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness, as defined by the FFM (Taylor & de Bruin, 2005). In terms of etic (universal) versus emic (culture specific) approaches to personality assessment it would have been ideal to use both the NEO-PI-R and the BTI in this study. However due to financial constraints we could not secure the use of the NEO-PI-R in this study. Hence only the BTI was used.

The Basic Traits Inventory (BTI) is a self report instrument consisting of 193 items and requires approximately 30-45 minutes to complete. It is suitable for individuals from the age of sixteen years with a minimum educational level of grade ten. BTI items are answered on a 5-point scale ranging from strongly agree (1) to strongly disagree (5). It has six scales, namely, Openness to Experience (O), Conscientiousness (C), Extraversion (E), Agreeableness (A), Neuroticism (N) and Social Desirability (SD). The first four scales are subdivided into five facets and the fifth, N, has only four facets (Taylor & de Bruin, 2005). However, the BTI scale is still being developed, and not much work has been done at the facet level. As a result the facets have not been used in this study. The social desirability items are used as a measure to check for subjects "faking good" and does not form part of the FFM. Hence the social desirability scale was not used in this study.

The test was standardised on a group of 5352 South Africans, majority of whom were students, others worked in a call centre or in the police service. The internal reliability, as calculated using Cronbach's Alpha, for the five scales of the BTI, were found to be 0.89 for Extraversion, 0.94 for Neuroticism and Conscientiousness respectively, 0.90 for Openness to Experience and 0.88 for Agreeableness (Taylor, 2004). The factor analysis, for determining the construct validity of the BTI, demonstrated a satisfactory fit with the FFM of personality (Taylor, 2004). Cronbach's Alpha co-efficients in this study were 0.89 for Extraversion, 0.95 for Neuroticism, 0.92 for Conscientiousness, 0.87 for Openness to Experience, and 0.90 for Agreeableness.

The Individualism / Collectivism Scale.

Individualism and collectivism as constructs have been criticised for being overly inclusive. According to Poortinga and Van Hemert (2001) this has occurred to the extent that any differences that are observed between countries from the East and West are attributed to these constructs. Therefore, the operationalisation of individualism and collectivism has proved to be challenging. There are two major approaches to the quantitative measurement of individualism and collectivism. The first approach involves the application of Hofstede's methods. All four of his measures have been replicated, but the Individualism/Collectivism dimension has had the greatest impact on cross-cultural research (Schimmack et al, 2005).

One of the commonly used operationalisations of Hofstede's dimensions is the Value Survey Module 1994 (VSM-94). However, Kruger and Roodt (2003) have found that the VSM-94 is neither valid nor reliable, as the majority of the items on the VSM-94 cannot be used in the South African context. The second approach, initiated in the late 1980's, involved the development of new measures for individualism and collectivism. The appeal of the latter approach was independence from the use of Hofstede's norms, shifting the use of these constructs from the workplace to the broader cultural context,

and providing a means for assessing these constructs at the level of the individual (Oyserman et al, 2002; Schimmack et al, 2005).

Following on from the second approach, the meta-analysis of 83 studies conducted by Oyserman et al (2002) found that the three most commonly used tools for assessing individualism and collectivism were the Independent-Interdependent Self-Construct (SCS) scale, the Horizontal-Vertical Collectivism-Individualism scale and the Individualism-Collectivism (INDCOL) scale. The INDCOL scale was used in this study as it was readily available at the time of this study.

The INDCOL scale is a paper-and pencil instrument consisting of 63 items divided into six sub-scales (Hui, 1988; Shulruf et al., 2003). The items have a six-point rating, ranging from *strongly agree* (0) to *strongly disagree* (5). High scores on the scale indicate more individualist tendencies. The subscales are based on the notion that collectivism can vary inter- and intra-personally, which theoretically implies that different forms of collectivism are possible (Hui, 1988). Therefore an individual is hypothesised to behave in either a collectivist or individualist manner towards people who form different groups in relation to the individual, viz. spouse, parents, kin, neighbours, friends, and colleagues. These groups then were also the names assigned to each of the six subscales, which had been identified through factor analytic methods (Hui, 1988; Hui & Yee, 1994). Hui and Yee (1994) reports that the INDCOL scale has proven construct validity, but no further information on the validity of this instrument could be located. The internal consistency reliability reported for the subscales ranged between 0.46 and 0.76 (Hui, 1988). Subsequent research by Hui and Yee (1994) suggested that the subscales may need revision. Subscale reliabilities in this study ranged between 0.27 and 0.71. Hence only the overall INDCOL scale score was used. Internal consistency reliability for the overall INDCOL scale on average lies in the region of 0.60. Test-retest reliabilities are between 0.62 and 0.79. An internal consistency reliability coefficient of 0.73 was found for the overall INDCOL scale in this study.

Procedure.

Ethical clearance was obtained from the Committee for Research on Human Subjects at the University of the Witwatersrand prior to data collection (Protocol number 50804). The researcher approached all students in lectures. Students were briefed verbally on the study and the associated ethical concerns. Questionnaires were distributed to willing participants to complete at their convenience. The students were asked to return the completed questionnaires in self-addressed envelopes via internal mail to the researchers.

Data analysis.

The study involved the use of descriptive statistics, reliability co-efficients, correlations and ANOVA's. All the statistics were generated using the SAS statistical computer package (SAS Institute, 1996). Both, the personality variables as measured by the BTI domain scales and the overall INDCOL score, were normally distributed. The condition of homogeneity of variance was also met. Hence Pearson's correlation coefficients were used to explore the relationship between the BTI domain scales and the overall INDCOL score and parametric one-way ANOVA's were used to explore whether differences exist between race and the BTI domains and the overall INDCOL score and whether differences exist between home language and the BTI domains and the overall INDCOL score.

RESULTS & DISCUSSION.

The results in Table 2 show the means, standard deviations, minimum and maximum values for the BTI domain scales and the INDCOL scale. All scale scores are in the expected range and are normally distributed.

Table 2: Descriptive statistics for the INDCOL scale and the BTI domain scales

Scale	Subscale	N	Min	Max	\bar{X}	SD	Skewness
INDCOL	I/C Total	174	76	197	144.09	21.53	-0.147
BTI	Neuroticism	176	46	148	91.96	22.18	0.274
	Extraversion	176	76	169	115.47	17.14	0.464
	Openness to Experience	176	84	151	121.80	13.10	0.022
	Agreeableness	176	77	174	130.26	15.75	-0.152
	Conscientiousness	176	87	199	150.27	18.82	0.106

Table 3: Correlations between the INDCOL scale and the BTI domain scales

	Pearson's correlation	Neuroticism	Extraversion	Openness to experience	Agreeableness	Conscientiousness
I/C	r	0.13	-0.15	-0.05	-0.14	0.02
Total	p	0.08	0.05	0.50	0.06	0.81

n = 176

Table 3 shows the correlations between the five factors and individualism/collectivism. No statistically significant correlations were found between scores on the Individualism/Collectivism (I/C total) scale and any of the domain scale on the BTI - five factors scale. Therefore, there is not enough evidence in this sample to suggest that any relationship exists between any of the five factors, as measured by the BTI, and Individualism/Collectivism suggesting that Individualism/Collectivism is not subsumed within the five factors as measured by the BTI.

These findings concur with research conducted in the Chinese context, which lead to the discovery that the Interpersonal Relatedness Factor was defined only by the CPAI and not by any of the five factors (Cheung et al, 2001; Cheung et al, 2003; Cheung, 2004).

Table 4: ANOVA results for race, home language and the INDCOL scale and the BTI domain scales

Variable		I/C Total	Neuroticism	Extraversion	Openness to experience	Agreeable-ness	Conscientious-ness
Race	F	0.24	0.99	1.87	1.07	0.87	0.01
	P	0.63	0.32	0.17	0.30	0.35	0.90
Home language	F	0.02	1.88	0.73	2.46	0.60	0.85
	P	0.88	0.17	0.39	0.12	0.44	0.36

Df (1, 173)

Table 4 provides the results for the one-way analysis of variance (ANOVA) for race and home language with the BTI domain scales and the INDCOL scale. No significant differences were found for either the INDCOL or BTI domain scales with both race and home language. Given the discussion presented in the literature review, it is surprising that no significant differences were found for race and home language on any of the five factors and individualism/collectivism.

However a study by Van Dyk and De Kock (2004) that hypothesised that White and Coloured officers in the South African National Defence Force (SANDF) would tend to be more individualistic, while Black officers would be more collectivistic found no significant differences in individualism and collectivism between the Black, Coloured or White groups. They argued that these findings were due to the fact that student populations have been found to be more individualist in nature, due in part to their shared exposure to similar education (Eaton & Louw, 2000; Van Dyk & De Kock, 2004). In support of this view Oyserman et al (2002) have argued that the demands of an academic environment fosters Individualism, since the focus is on individual striving, competition and the realisation of one's potential.

It is possible though that the understanding and operationalisation of Individualism / Collectivism used in this study inappropriate. Following an extensive meta-analysis Oyserman et al (2002) have concluded that a broadly inclusive approach to Individualism and Collectivism should be employed as each of the approaches to these constructs have their limitations and not one single approach as yet dominates in the field.

Another limitation in this study stems from the sample. The grouping together of Black, Indian and Coloured groups to create comparative samples in terms of magnitude,

could have influenced the results. Van Dyk and de Kock (2004) argue that the Coloured group in fact lies somewhere between the White and the Black groups with regards to some aspects of Individualism and Collectivism. Similarly with collapsing the language variable. Sample cell sizes were too small and this necessitated collapsing of groups but this does compromise the results to an extent. This sample is also not representative of the South African population or even the student population in terms of age, gender, race and home language (Crystal, 1997). Furthermore, factors such as age, gender and socio-economic status have been shown to have as great, if not more of an influence on personality traits than culture (McCrae et al, 1998; Costa, Terracciano & McCrae, 2001; Green et al, 2005). These were not explored in this study.

Thus it is recommended that similar studies be conducted with larger and more representative samples. It may also be useful to use the NEO-PI-R to enhance the study's comparability to other cross-cultural studies of the FFM. The use of several measures of Individualism and Collectivism or at least a composite measure that integrates the different perspectives would be important. Individualism/Collectivism may be too broad a distinction and levels of Individualism/Collectivism may occur. According to Triandis (2001), although Individualism and Collectivism are useful in terms of analysis, it would be gross stereotyping to assume that every individual within a certain culture would have all the characteristics of that culture. As a result, a distinction can be drawn between different types of individualist and collectivist societies. This difference is due to the degree of emphasis placed on what have been termed horizontal and vertical social relationships. The former describes equality amongst individuals and the latter, a hierarchical structure where individuals differ in status (Triandis, 2001; Triandis & Gelfand, 1998).

In a South African context one might also argue that the collectivist dimension is best captured by the indigenous term, *ubuntu* (humanness). *Ubuntu* as it is concerned with relationships towards others is defined by reverence, respect, sympathy, tolerance, loyalty, courtesy, patience, generosity, hospitality and co-operativeness (Louw, 2001; Shutte, 2001). Louw (2001) argues that *Ubuntu* is not an absolute collectivist dimension that subsumes the individual and subjects everyone to a communal identity. Rather *ubuntu* incorporates dialogue and promotes the functioning of the individual in the community giving precedence to the community. This understanding of *ubuntu* collectivism concurs with research on the horizontal and vertical aspects of individualism and collectivism which has demonstrated that both concepts have sub-dimensions and are not merely bipolar constructs and that variation on dimensions of individualism and collectivism can occur across and within cultures (see Green, Deschamps & Paez, 2005).

In addition to this, the results of this study suggest that studies also take into consideration issues of acculturation. Eaten and Louw (2000) argue that acculturation, which can be occurring at both the individual and community level, could be influencing the extent to which cultural differences are expressed or even in fact exist. Mpofu (2001) has spoken of what is referred to as the "African modernity trend" which represents a shift toward Western Individualism which concurs with the arguments made by Van Dyk & De Kock (2004). The incorporation of measures of acculturation in personality and other assessment measures particularly in a context like South Africa could benefit the assessment process tremendously.

Finally an emic approach, similar to that employed by the Cheung and colleagues, would enhance our knowledge of personality in a South African context more than the current etic and/or pseudo-etic approaches particularly if constructs such as “Ubuntu” are seen to be relevant to personality theory and assessment.

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