

Exploring the relationship between personality and acculturation in a community sample from Johannesburg, South Africa

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ABSTRACT

The Five Factor Model (FFM) of personality and the NEO-PI-R are regarded as the gold standard in personality assessment against which all other tests are compared. The universality of both the model and the test is accepted but evidence from African and Asian contexts is less conclusive. Recently it has been argued that acculturation may be amongst the most important factors influencing responses on personality scales like the NEO-PI-R, thereby influencing replicability of the FFM. Thus, this study explored the relationship between personality and acculturation using the NEO-PI-3 and the South African Acculturation Scale (SAAS) in a convenience sample of 272 South Africans in Johannesburg. Significant personality differences were found between acculturated and unacculturated individuals. With the exception of two Openness to Experience facets (Aesthetics and Values) and two Agreeableness facets (Straightforwardness and Compliance) significant agreement was found between the factor structures of acculturated and unacculturated individuals. These results are discussed within the context of the universality of the FFM and the NEO-PI-3 and the role of acculturation in this context.

Keywords: Acculturation, Five-Factor Model, NEO-PI-3, Personality; SAAS, South Africa

The Five-Factor Model (FFM) of personality and the NEO-PI-R are at this time regarded as the 'gold standard' in personality assessment against which all other tests and models are compared (Laher, 2013a). However, both the FFM and the NEO-PI-R have been found to have limited replicability in Asian and African contexts (Cheung, Cheung, Zhang, Leong, & Yeh, 2008; Laher, 2013a) in individual and cross-cultural studies. The results in the South African context have not been

conclusive in this regard with earlier studies claiming poor replicability and more recent studies finding support for the FFM and the utility of the NEO-PI-R in South Africa (Laher, 2013a). This changing trend has been ascribed to acculturation (Laher & Cockcroft, 2013). However this has not been formally researched. Thus this study will explore the relationship, if any, between personality and acculturation. This study will also make a further contribution to research in that it uses the NEO-PI-3, the most recent revision of the NEO-PI-R. As yet, there is very little formal research internationally and locally on this instrument.

In the literature review to follow personality is defined. Following this, the concept of acculturation and the models underlying acculturation are presented. Finally, empirical research on acculturation and personality is presented.

PERSONALITY DEFINED

Personality in this study is defined according to the Five Factor Model (FFM) of personality. The FFM is characterized as a trait-based approach that argues that personality can be encapsulated by five broad factors, namely, Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. These factors are regarded as Basic Tendencies in Five Factor Theory (FFT) and are therefore regarded as a genetic blueprint for personality that is common across all human beings. However, the expression of this personality may differ across cultures and individuals and therefore may present as Characteristic Adaptations. The five factors work together to produce an individual's personality profile (Laher, 2013b). Neuroticism is defined as a general tendency to experience negative affects such as fear, sadness, embarrassment, anger, guilt, and distrust. Neuroticism consists of six facets, namely, Anxiety, Anger and Hostility, Depression, Self-consciousness, Impulsiveness and Vulnerability. Extraversion can be defined by the intensity and quantity of an individual's tendency toward sociability, assertiveness and activeness. The six facets that organize behaviour and thought patterns in this domain are Warmth, Gregariousness, Assertiveness, Activity, Excitement seeking, and Positive emotions. Openness to Experience refers to the degree to which a person is imaginative and curious as opposed to concrete minded and narrow thinking. The six facets that describe Openness are namely, Fantasy, Aesthetics, Feelings, Action, Ideas and Values. Agreeableness can be described as the degree to which an individual is selfless, good natured, warm and co-operative as opposed to irritable, uncooperative, inflexible, unpleasant and disagreeable. The facets of Agreeableness include Trust, Straightforwardness, Altruism, Compliance, Modesty, and Tender-mindedness. The final factor, Conscientiousness, is defined as the degree to which the individual is good in areas of organization, efficiency, and planning. The six facets are namely, Competence, Order, Dutifulness, Achievement-striving, Self-discipline and Deliberation (Costa & McCrae, 2008; Laher, 2008).

The FFM is also informed by the recent development of the Five Factor Theory (see McCrae & Costa, 2008). According to FFT, the five factors in the FFM are regarded as Basic Tendencies, innate potentials within every human being, for the expression of Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness. However, each individual will show different expressions of these five basic factors due to the influence of the macro- and micro-environments within which they function (Laher, 2013b; McCrae & Costa, 2008). Culture and acculturation are regarded as core factors within these environments that influence the expression of these personality traits in an individual (Laher, 2010; McCrae, 2004). The changes produced in personality by virtue of exposure to the micro and macro contextual factors result in individuals expressing Characteristic Adaptations as their observable personality traits rather than Basic Tendencies (Laher, 2013b; McCrae & Costa, 2008). Hence, the FFM and FFT are used as the key theoretical frameworks within which to explore the relationship of acculturation to personality.

ACCULTURATION DEFINED

Acculturation first appeared in the work of Redfield, Linton, and Herskovits (1936) who argued that acculturation occurs when individuals from different cultures come into contact with one another, resulting in changes in the original cultural patterns of either or both groups (as cited in Berry, Poortinga, Segall & Dasen, 2002). Another group of social scientists, nearly twenty years later, expanded on the Redfield et al. (1936) model of acculturation by adding a psychological dimension to the process of acculturation (Padilla & Perez, 2003). This expanded the definition of acculturation by acknowledging the role of value systems, developmental sequences, roles, and personality factors as contributing to how individuals adjust when they come into contact with each other. This model was advanced as it identified important culture related information that changes with intergroup contact as well as which aspects of culture, such as values, might be more resistant to change with intercultural contact. The importance of this model is that it now empowered individuals with a choice in the acculturation process, as the change from one cultural orientation to another could be 'selective' (Padilla & Perez, 2003). As a result individuals involved in intergroup contact can decide what elements of their culture they wish to give up and what cultural elements they want to incorporate from the new culture. This model was recognized as the unidimensional model of acculturation (Schwartz, Unger & Szapocznik, 2010).

There are two variants within the unidimensional model, namely the assimilation variant and the bicultural variant (Ourasse, 2003). According to the assimilation variant, complete absorption into the mainstream culture is unavoidable, and cross-cultural travelers lose their ethnic feelings and cultural characteristics, supporting the host culture (Ourasse, 2003). In contrast, the

bicultural variant views biculturalism as conforming to both cultures (Ourasse, 2003). According to the unidimensional model, immigrants may be placed into the acculturation continuum from unacculturated to acculturated during cultural changes in the new culture (see Figure 1). As seen in Figure 1, the midpoint on the continuum is called biculturalism, which assumes that immigrants maintain their cultural heritage while adopting new cultural characteristics (Lee, 2005).

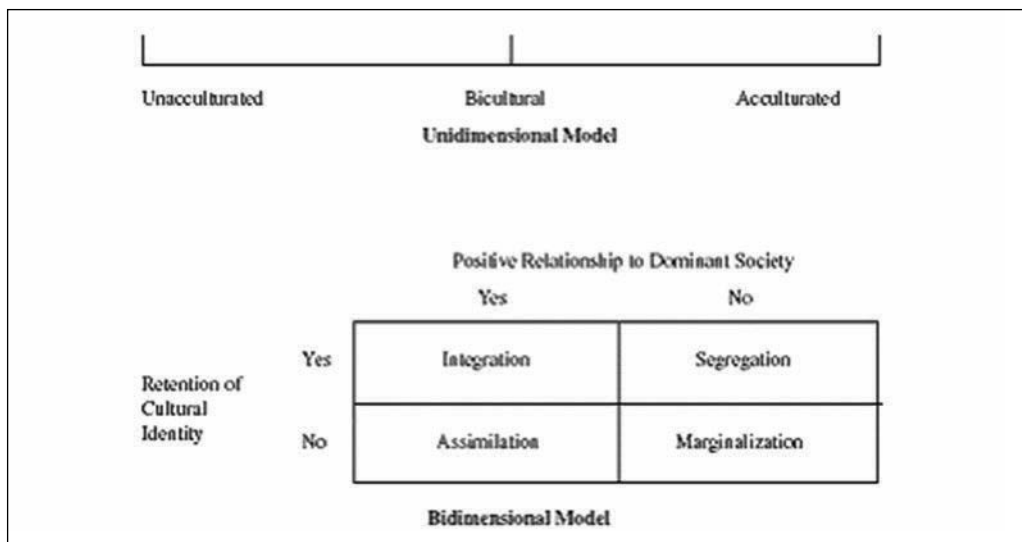


Figure 1: Two models of acculturation (Keefe & Padilla, 1987)

A criticism of the unidimensional model is that it does not go further in their psychological analysis of members in diverse cultures adjustment to one another and the element of choice is not salient (Padilla & Perez, 2003). The unidimensional model is also based on the assumption that a strong ethnic identity is not possible among those who become involved in the mainstream society and that acculturation naturally occurs with the weakening of ethnic identity (Ourasse, 2003).

Berry (1980) expanded on the unidimensional model by developing a bidimensional model of acculturation. Berry’s model was considered important as it recognized the importance of multicultural societies, and the fact that individuals have a choice in the acculturation process (Padilla & Perez, 2003).

The bidimensional model regards ethnic and host identities as independent (Ourasse, 2003). It employs four independent dimensions (integration, segregation, assimilation and marginalization) rather than the bipolar continuum of the unidimensional model (Lee, 2005). Adherence to both the host and ethnic identities leads to Integration acculturation. Assimilation acculturation is produced when individuals embraces the host culture and rejects the ethnic cultural identity (Ourasse,

2003). When the individual retains only their ethnic cultural identity this results in Segregation acculturation and Marginalization acculturation is when the individual expresses little interest in maintaining either of the cultural identities (see Figure 1) (Schwartz et al., 2010). As one can see the primary difference between these two approaches can be found in how they treat the relation between the heritage culture and the mainstream culture (Ryder, Alden & Paulhus, 2000). Ryder et al. (2000) compared the unidimensional and bidimensional models of acculturation in the contexts of personality, self-identity, and adjustment. The results of their study showed that the bidimensional model forms a broader and more valid framework for understanding acculturation.

The South African Acculturation Scale (SAAS) is based on Berry's bidimensional model and measures three of the four acculturation types, namely, Assimilation, Integration and Rejection. Marginalization (deculturation) was excluded from the scale based on Berry's (1976, p. 180) observation: "since both common sense and pilot work indicated that such an outcome was not to be chosen by anyone." This assertion is supported by Schwartz et al. (2010) who debate the inclusion of a Marginalisation category.

Padilla and Perez (2003) argue that none of the major theories of acculturation take into consideration individual differences and personality characteristics that assist acculturation. Allik and McCrae (2002) also identify a gap in the literature where, although there is a large literature on the psychology of acculturation, there seems to be few studies which consider the relationship between personality traits and acculturation.

RESEARCH ON PERSONALITY AND ACCULTURATION

McCrae, Yik, Trapnell, Bond, and Paulhus (1998) examined personality profiles in Chinese undergraduates in Hong Kong and Vancouver and found significant acculturation effects. Canadian-born Chinese were higher than recent immigrants in Extraversion, Openness, and Agreeableness when self-reports of personality were examined (McCrae et al., 1998). Another study done by Ryder, et al (2000) found that the heritage scale (ethnic identity) was associated with higher Conscientiousness and lower Neuroticism, whereas the mainstream subscale (host identity) was associated with higher scores on Conscientiousness, Extraversion, and Openness, as well as with lower Neuroticism. Benet-Martinez and Karakitapoglu-Aygun (2003) found that first generation Asian Americans scored lower on Extraversion, Conscientiousness, and Openness when compared to later generations of Asian Americans and European Americans (Eapet al 2008). Despite searching the literature fairly extensively we were only able to locate these studies that looked directly at the relationship between personality traits and acculturation strategies. Most other studies consider acculturation within the context of mental health, adjustment and well-being issues

(see meta-analyses by Yoon et al., 2013) amongst others.

Thus this study aims to explore whether personality differences occur across the three acculturation categories. This study also aims to determine whether acculturation influences personality structure by comparing the personality factor structures of acculturated and non-acculturated groups.

METHODS

This study used a non-experimental, cross-sectional design to explore the relationship between personality and acculturation. It is a non-experimental design as there was no manipulation or control of variable in this study. An experimental design would include deliberate changes in the environment of the subjects and observation or measurements would be done in accordance with the effects of those changes, none of which took place in this study, thus one can classify this study as a non-experimental one (Rosnow & Rosenthal, 2008). The type of non-experimental study will be a correlational one. A correlational study is when there are two or more variable or conditions that are measured, after which their degree of relationship to one another is then estimated. Since the two variables in the study are pre-existent and no manipulation or control was necessary, a non-experimental cross-sectional design is justified.

Sample

A nonprobability, convenience sample of 272 people from the general public in Johannesburg and surrounding areas voluntarily completed the questionnaire. Individuals in the sample ranged from age between 14 and 90 years ($X=36.52$, $SD=14.53$). From Table 1, it is evident majority of the sample was female ($n=182$, 66.9%). In terms of race, 39.7% were Black ($n=108$), 8.8% were Coloured ($n=24$), 23.2% Indian ($n=63$), and 27.6% White ($n=75$). One hundred and fifty-three (56.3%) individuals spoke English, while 115 (42.2%) spoke a language other than English. Two questions were included in the questionnaire that requested participants whose home language was not English to rate their English reading skills and English comprehension skills from 1 to 5, with 1 being “Not so good” and 5 being “Excellent”. For individuals who had English as a second language, majority of the sample had an excellent to good English reading and English comprehension ability, thus controlling for issues of language proficiency in the study.

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Table 1: Descriptive statistics for the sample

Variable		Frequency	%	Cumulative %
GENDER	Male	85	31.2	31.3
	Female	182	66.9	98.2
	Missing	5	1.8	100
POPULATION GROUP	Black	108	39.7	39.7
	Coloured	24	8.8	48.5
	Indian	63	23.2	71.7
	White	75	27.6	99.3
	Missing	2	.7	100
HOME LANGUAGE	English	153	56.3	56.3
	Afrikaans	7	2.7	59.0
	Ndebele	3	1.1	60.1
	Pedi	12	4.4	64.5
	Swati	3	1.1	65.6
	Sotho	7	2.6	68.2
	Tsonga	5	1.8	70.0
	Tswana	15	5.9	75.9
	Venda	4	1.5	77.4
	Xhosa	12	4.4	81.8
	Zulu	36	13.2	95.0
	Other	11	4.0	99.0
	Missing	4	1.5	100.0
ENGLISH READING ABILITY	Not so good (1)	2	0.8	.8
	Fairly good (2)	2	0.7	1.5
	Satisfactory (3)	23	8.5	10
	Very good (4)	49	18.0	28
	Excellent (5)	54	19.9	47.8
	Missing	142	52.2	100
	TOTAL	130	47.8	

ENGLISH COMPREHENSION ABILITY	Not so good (1)	1	0.8	.4
	Fairly good (2)	3	1.1	1.5
	Satisfactory (3)	23	8.5	10
	Very good (4)	46	16.9	26.9
	Excellent (5)	56	20.6	47.5
	Missing	143	52.6	100
TOTAL		129	47.4	

Instruments

A questionnaire consisting of a demographics section, the NEO-PI-3 and the SAAS was used in this study. Age, gender, race, home language and 2 items assessing English proficiency were included in the demographics section. This information was used for descriptive purposes only.

NEO-Personality Inventory-3 (NEO-PI-3)

The NEO-PI-3 was developed with the intention of making the NEO-PI-R more readable. The NEO-PI-3 is identical to the NEO-PI-R except that 37 items were revised to make the instrument more appropriate for younger examinees or adults with lower educational levels. The full NEO-PI-3 has shown a Flesch-Kincaid Grade Level readability of 5.3 (McCrae & Costa, 2010). It consists of 240 items with each of the five domains (Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness) having 48 items. The 48 items are further subdivided into 8 items for each of the six subscales that make up the domain. Responses for each item are on a five point Likert type scale ranging from ‘Strongly Disagree’ (0) to ‘Strongly Agree’ (4). The internal consistency reliability coefficients for the five domains in the NEO-PI-3 ranged from 0.84 to 0.93 and for the facets from .54 to .83 (McCrae, Costa & Martin, 2004). Internal consistency reliability coefficients for the five domains ranged from .78 to .92 in this study while facet reliability coefficients were all above .60 except for Actions ($\alpha = .53$), Values ($\alpha = .52$), Straightforwardness ($\alpha = .49$), Modesty ($\alpha = .58$) and Tendermindedness ($\alpha = .53$).

The South African Acculturation Scale Questionnaire (SAAS)

The South African Acculturation Scale (SAAS) was developed based on the work of Berry (1976), Berry, Trimble and Olmedo (1986) and Berry (1997) (Kramers, 2000). In constructing the scale, Kramers (2000) considered an early scale assessing acculturation attitudes of American Indians in Canada, which used the acculturation strategies outlined by Berry. Even though the scale was potentially adaptable to

the South African context, Kramers (2000) found that the items were ethically inappropriate. As a result of the history of apartheid, it was possible that respondents would find a number of items in the scale offensive (Kramers, 2000). Therefore Kramers (2000) adapted appropriate items which were selected and changed from Berry's (1976) acculturation scale.

The SAAS is a 22 item self-report questionnaire which consists of three subscales assessing respondents' tendencies towards cultural assimilation, integration and rejection (Kramers, 2000). There are eight assimilation items which assess respondents' desires to maintain relationships with other cultural groups in the absence of maintaining own-group characteristics. There are seven integration items which assess respondents' desire to maintain their own cultural identity and relationships with other cultural groups. Five rejection items assess respondents' desires to maintain their own cultural identity in the absence of maintaining relationships with other cultural groups (Kramers, 2000).

Responses are on a five point Likert scale ranging from 'Strongly Agree' (5) to 'Strongly Disagree' (1). A pilot study was conducted amongst a sample of nursing students. In the pilot, the Assimilation subscale had an alpha co-efficient of .64, the Integration subscale had an alpha co-efficient of .70 while the Rejection subscale had an alpha co-efficient of .53 (Kramers, 2000). When checking the reliability and construct validity for the SAAS in the current study, it was found that some of the items had to be removed either because the item-total correlations were too low or the factor loadings were inappropriate. Three Rejection items were removed, three Assimilation items were removed and one Integration item was removed. This resulted in the scale having 15 items rather than 22 with four items for Rejection, five for Assimilation, and six items for Integration. Cronbach alpha coefficients for the revised scale were as follows: .72 for Rejection, .55 for Assimilation and .79 for Integration.

Ethical Considerations

Ethical clearance was obtained from the Human Research Ethics Committee at the University of the Witwatersrand (Protocol number: HONS/13/045IH). All individuals who participated in this research did so voluntarily. A participant information sheet attached to each questionnaire briefly described the purpose of the study and provided a statement guaranteeing anonymity. Participants in the research at no stage needed to identify themselves, as the purpose of the research was to establish personality trends. It was stated that any respondent completing and submitting a questionnaire would thereby give their consent for the information to be used in the research. Furthermore, it was stipulated that non-participation would have no negative consequences for the individual. The letter also provided contact details, should any participants want any extra information or feedback. Participants were informed that only general feedback would be provided because no individual

could be identified due to the anonymous nature of the questionnaires. Feedback was available on request in the form of a one page summary sheet. Raw data was stored in a locked cupboard on campus. Electronic data was stored in password-protected files on a password protected computer.

Procedure

Data was collected from members of the general public by enlisting the assistance of undergraduate and postgraduate students who got members in their communities to complete the questionnaires. Once all the questionnaires had been collected, they were sorted out, with incomplete ones or any answered incorrectly being disposed of. The remaining questionnaires were then captured and scored as per the test developer specifications. After that, the data was analyzed using the SPSS computer program (IBM SPSS Version 21, 2013).

Data Analysis

Descriptive statistics were calculated. Frequencies were examined for all nominal variables while means, standard deviations, skewness coefficients and range of scores were calculated for interval variables. To examine whether there were personality differences between the three acculturation groups, ANOVA's were used. An exploratory factor analysis was used to determine whether there was sufficient agreement between the factor structures for the acculturated and unacculturated samples. Since the Integration and Assimilation groups both represent acculturation to the host culture they were combined to represent the acculturated group whilst the Rejection group represented the unacculturated group. Initially a principal components analysis with varimax rotation was used to determine the factor structure for each group. Procrustes rotation with factor congruence coefficients was used to compare the degree of agreement between the factor structures of both groups (Laher, 2010). Factor congruence coefficients of .85 or larger are generally indicative of adequacy of fit (Cheung, Cheung, Leung, Ward & Leong, 2003; McCrae, Costa, & Martin 2005).

RESULTS

Table 2 provides the means, standard deviations, minimum and maximum values and skewness coefficients for the domain and facet scales of the NEO-PI-3 as well as for the subscales of the SAAS. It is evident from Table 3 that all the variables are within the expected ranges and are normally distributed as per the criteria cited in Huck (2009).

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Table 2: Descriptive Statistics for the NEO-PI-3 and SAAS

Scale	Mean	SD	Minimum	Maximum	Skewness
Neuroticism	84.599	20.9881	12	151	.016
Anxiety	16.754	4.853	4	31	.226
Angry hostility	14.706	4.693	0	26	.065
Depression	14.7	5.216	1	28	.057
Self-consciousness	14.77	4.986	0	29	.136
Impulsivity	16.32	4.475	0	31	-.011
Vulnerability	11.68	4.729	0	25	.221
Extraversion	109.73	20.399	44	158	-.232
Warmth	21.28	4.507	9	31	-.309
Gregariousness	16.08	5.649	-17	32	-.854
Assertiveness	16.66	4.682	2	28	.02
Activity	17.21	4.405	4	32	.108
Excitement seeking	18.02	5.185	5	31	-.209
Positive emotions	20.7	5.074	4	32	-.366
Openness to Experience	110.99	18.515	54	162	.159
Fantasy	17.19	4.553	5	32	.227
Aesthetics	18.49	5.771	0	32	-.31
Feelings	17.6	3.768	8	27	.023
Actions	16.06	3.89	5	26	.004
Ideas	19.5	5.184	5	32	-.134
Values	19.48	4.075	6	30	-.042
Agreeableness	117.71	15.316	71	157	-.131
Trust	16.35	4.323	7	27	.013
Straightforwardness	19.8	4.049	8	29	-.225
Altruism	22.79	4.073	11	32	-.225
Compliance	17.08	4.945	4	31	-.143
Modesty	18.97	5.092	5	49	.542
Tender mindedness	22.72	4.018	11	32	-.288
Conscientiousness	123.2	21.504	52	177	.04
Competence	20.64	4.01	10	32	-.069
Order	20.26	4.827	5	32	-.194
Dutifulness	22	4.058	7	31	-.089
Achievement striving	21.11	5.165	5	32	-.112

Self-discipline	20.38	4.962	7	32	-.12
Deliberation	18.81	4.691	2	32	-.149
Assimilation	195.53	26.39	125	275	.138
Integration	212.39	23.66	141	278	-.07
Rejection	78.52	10.71	41	108	-.073

ANOVA for the NEO-PI-3 and the SAAS subscales

Table 3 presents the ANOVA results for the three groups and the NEO-PI-3 scales.

From Table 3 it is evident that significant differences occur between the groups on Neuroticism, Depression, Self-Consciousness, Extraversion, Warmth, Fantasy, Values, Altruism, Tendermindedness, Conscientiousness and Competence at the 0.05 level of significance. Significant differences occur between the groups on Assertiveness, Positive Emotions, Openness to Experience, Aesthetics, Feelings, Ideas and Achievement Striving at the 0.01 level of significance. Post hoc testing using Tukey’s test indicates significant differences between the Integration and Rejection groups with the Integration group scoring higher on all personality dimensions except for Depression and Self-Consciousness where the Integration group scored lower than the Rejection group. Post-hoc testing also indicated significant differences between the Assimilation and Rejection groups on Assertiveness, Openness to Experience, Aesthetics, Actions and Ideas with the Assimilation group scoring higher on all scales. Effect sizes were in the small to moderate range.

Table 3: ANOVA results for acculturation and personality

Scale	F	P	Mean scores			Cohen’s d
			I	A	R	
Neuroticism	3.09	0.047*	80.43	85.44	87.88	I-R=.36
Anxiety	0.92	0.401	16.20	16.93	17.12	
Angry Hostility	2.15	0.118	13.93	14.88	15.33	
Depression	3.12	0.046*	13.62	15.16	15.38	I-R=.34
Self-Consciousness	3.05	0.049*	13.73	15.17	14.41	I-R=.14
Impulsiveness	1.12	0.327	16.01	15.99	16.85	
Vulnerability	1.55	0.215	11.03	11.80	12.23	
Extraversion	3.79	0.024*	113.22	111.20	105.42	I-R=.39
Warmth	4.35	0.014*	22.18	21.55	20.31	I-R=.42
Gregariousness	1.60	0.204	16.78	16.29	15.34	

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Assertiveness	6.60	0.002**	17.56	17.22	15.31	I-R=.49; A-R=.42
Activity	2.52	0.082	18.00	17.10	16.57	
Excitement-Seeking	2.95	0.054	18.87	18.18	17.06	
Positive Emotions	5.62	0.004**	22.09	20.46	19.68	I-R=.48
Openness to Experience	12.29	0.000**	116.79	112.17	104.21	I-R=.71; A-R=.45
Fantasy	3.29	0.039*	18.11	16.9	16.48	I-R=.36
Aesthetics	5.92	0.003**	19.64	18.98	16.93	I-R=.48; A-R=.36
Feelings	4.84	0.009**	18.31	17.84	16.68	I-R=.44
Actions	8.00	0.000**	17.06	16.35	14.99	I-R=.55; A-R=.39
Ideas	9.53	0.000**	20.80	20.04	17.74	I-R=.61; A-R=.46
Values	3.09	0.047*	20.26	19.28	18.83	I-R=.36
Agreeableness	1.75	0.175	120.31	116.73	116.63	
Trust	0.19	0.831	16.57	16.40	16.18	
Straightforwardness	1.12	0.891	19.93	19.66	19.90	
Altruism	3.56	0.030*	23.72	22.54	22.21	I-R=.37
Compliance	0.39	0.679	17.26	17.35	16.76	
Modesty	1.49	0.228	19.27	18.23	19.45	
Tender-Mindedness	3.16	0.044*	23.57	22.55	22.13	I-R=.36
Conscientiousness	4.06	0.018*	127.63	123.72	118.81	I-R=.41
Competence	3.91	0.021*	21.46	20.69	19.84	I-R=.41
Order	0.45	0.64	20.68	20.08	20.09	
Dutifulness	2.24	0.108	22.68	21.98	21.43	
Achievement Striving	9.40	0.000**	22.69	21.25	19.52	I-R=.63
Self-Discipline	4.59	0.55	21.49	20.47	19.33	
Deliberation	0.52	0.59	18.64	19.25	18.60	

Df 2,268; *p<0.05; p<0.01; I = Integration; A = Assimilation; R = Rejection

Factor analysis: Acculturated versus unacculturated group

Table 4 presents the results obtained for the factor solution for the acculturated and unacculturated groups. Procrustes rotation was conducted using the varimax solutions obtained in this study for the acculturated and unacculturated groups. From Table 4, it is evident that sufficient agreement exists between the acculturated and

unacculturated group. All five factors have coefficients of agreement above .89. The individual matrices indicate that for both groups Neuroticism, Conscientiousness and Openness to Experience (with the exception of Values) replicate clearly. Extraversion and Agreeableness have more variation in the loadings. Despite these loadings, with the exception of Aesthetics, Values, Straightforwardness, and Compliance, which have nonsignificant congruence coefficients, all other facets have congruence coefficients above .95, indicating agreement at the 0.05 level of significance. Aesthetics loads on the appropriate factor in both factor solutions but has a stronger loading in the unacculturated group. Values loads on the Openness to Experience factor in the acculturated group but does not load on any factor in the unacculturated group. Straightforwardness and Compliance load on Factor 5 for both solutions but the scales load positively in the acculturated group and negatively in the unacculturated group.

DISCUSSION

From the ANOVA analyses it is evident that significant differences occur between the Integration group and the Rejection group primarily. When significant differences are observed with the Assimilation group they are between the Assimilation group and the Rejection group. The Assimilation and Integration group show no differences. Hence, it can be concluded that acculturated individuals, those identifying with a host culture, do present with significant personality differences as compared to those who wish to maintain their ethnic cultural identity and reject that of the host culture. In this study, acculturated individuals were more likely to exhibit traits associated with Openness to Experience to a large extent and Extraversion and Conscientiousness to a lesser extent. Acculturated individuals are also less likely to exhibit tendencies associated with Neuroticism. This finding provides evidence for personality differences that are congruent with Padilla and Perez (2003) and Ryder, et al (2000) who found that the mainstream subscale of the bidimensional model was associated with higher scores on Conscientiousness, Extraversion, and Openness to Experiences, as well as with lower scores on Neuroticism.

However, these differences do not conclusively say that acculturated and unacculturated individuals have innate personality differences. Within FFT, it is possible that acculturation does not always produce characteristic adaptations of personality. The tendency to acculturate or not may in itself also be a Basic Tendency. It is also possible that certain environments are more conducive to acculturation or that first generation versus second or subsequent generations could experience acculturation in different ways. Either way, the question for personality assessment in particular remains. If acculturated and unacculturated individuals differ on personality traits the possibility exists that these differences are evident due to the

Table 4: Factor solution for the SAAS using varimax and procrustes rotation

Scale	ACCULTURATED					UNACCULTURATED					PROCRUSTES					Congruence coefficient
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	
Neuroticism																
Anxiety	-.171	.751	-.205	.035	.054	-.173	.776	.120	.187	-.202	-.13	.78	0.06	-0.12	-0.05	0.91*
Angry Hostility	.041	.623	-.184	-.336	-.402	-.060	.657	-.204	-.262	.308	0.05	.62	-0.30	-0.21	0.42	0.97**
Depression	-.402	.678	-.102	-.206	.164	-.222	.739	.044	-.071	-.038	-0.35	.72	-0.20	-0.02	-0.19	0.93**
Self-Consciousness	-.264	.704	-.283	-.187	.173	-.171	.761	.011	-.189	-.099	-0.20	.76	-0.17	-0.18	-0.15	0.98**
Impulsiveness	-.363	.639	.077	.244	-.202	-.392	.522	.036	.279	.366	-0.37	.62	0.26	0.07	0.23	0.90*
Vulnerability	-.625	.531	-.126	-.159	-.038	-.538	.640	-.104	-.207	-.098	-.59	.57	-0.16	-0.11	0.00	0.98**
Extraversion																
Warmth	0.67	-.135	.883	.154	-.069	.186	-.143	.103	.800	.131	-0.01	-0.24	0.15	0.83	0.25	0.96**
Gregariousness	-.199	-.284	.685	.054	-.123	-.282	-.245	.022	.483	.549	-0.27	-0.36	0.04	0.60	0.22	0.90*
Assertiveness	.493	-.260	.195	.237	-.392	.289	-.319	.231	.110	.449	.43	-0.33	0.25	0.10	0.44	0.99**
Activity	.438	.057	.435	.116	-.444	.285	.022	.161	.239	.609	0.37	-0.04	0.14	0.35	.57	0.98**
Excitement-Seeking	-.047	-.011	.258	.341	-.494	-.194	-.096	.460	.316	.552	-0.12	-0.08	0.35	0.14	.52	0.97**
Positive Emotions	.156	-.220	.601	.329	-.164	.098	-.396	.377	.446	.229	0.08	-0.31	0.33	.53	0.27	0.98**
Openness to Experience																
Fantasy	-.221	.065	.188	.627	-.289	-.265	.106	.662	.046	.123	-0.27	0.02	.63	0.11	0.29	0.96**
Aesthetics	.090	-.066	.312	.548	-.233	.184	.172	.720	.116	-.082	0.03	-0.14	.55	0.25	0.28	0.73
Feelings	.054	.357	.319	.584	-.019	.190	.291	.524	.199	.058	0.03	0.30	.60	0.34	0.10	0.95**
Actions	.030	-.288	.230	.496	-.113	-.102	-.349	.681	.085	.196	-0.02	-0.33	.49	0.17	0.12	0.97**
Ideas	.395	-.151	-.010	.614	-.150	.141	-.147	.785	.001	.085	0.36	-0.19	.62	-0.04	0.15	0.94*
Values	.120	-.115	-.078	.697	.307	-.075	-.258	.359	.200	-.161	0.13	-0.11	.69	-0.01	-0.33	0.79
Agreeableness																
Trust	.136	-.173	.474	.059	.219	.120	-.219	.004	.568	-.263	0.11	-0.22	0.05	.50	-0.11	0.98**
Straightforwardness	.194	.003	.395	-.198	.516	.086	-.006	-.029	.144	-.541	0.21	-0.01	-0.21	.51	-0.39	0.77
Altruism	.345	.063	.652	.253	.298	.381	.005	.303	.668	-.119	0.32	-0.01	0.25	.72	-0.12	0.99**
Compliance	-.197	-.279	.067	-.266	.558	-.256	-.303	.139	.114	-.626	-0.16	-0.23	-0.30	0.15	-.56	0.81
Modesty	.107	.100	.037	.063	.663	-.011	.288	-.043	.201	-.462	0.16	0.13	0.05	0.20	-.62	0.90*
Tender-Mindedness	.374	.238	.419	.188	.358	.268	.258	.218	.554	-.019	0.37	0.19	0.19	.53	-0.21	0.95**
Conscientiousness																
Competence	.787	-.213	.146	.141	-.044	.758	-.334	.101	.070	.106	.76	-0.27	0.15	0.15	0.13	0.99**
Order	.737	-.138	-.061	-.043	.098	.637	-.035	-.179	.113	.006	.74	-0.16	-0.03	-0.02	-0.05	0.94**
Dutifulness	.710	-.079	.243	.036	.170	.750	.005	.073	.362	.121	.70	-0.13	0.05	0.30	-0.05	0.96**
Achievement Striving	.845	.035	.066	.094	-.166	.686	-.178	.221	.216	.295	.82	-0.02	0.12	0.07	0.25	0.95**
Self-Discipline	.796	-.190	.020	-.007	.058	.744	-.190	-.109	.119	.028	.79	-0.22	0.01	0.05	0.01	0.98**
Deliberation	.599	-.404	.049	-.045	.185	.583	-.106	.078	-.030	-.249	.60	-0.42	-0.05	0.08	-0.15	0.87*
Factor congruence											0.96**	0.95**	0.89*	0.92**	0.90*	0.93**

various acculturation strategies and familiarity with the host culture in which the test was developed. Hence the decision to test whether there would be substantial differences in the factor structures of the acculturated and unacculturated groups.

From the factor structures it is evident that significant agreement occurs between the factor solutions to conclude that there are no significant differences between acculturated and unacculturated groups at the domain level. The five factor personality structure replicates clearly providing support for the Five Factor Theory which argues that the five personality traits of the FFM are universal and innate. However, some differences were observed at the facet level with replication of two Openness to Experience facets (Aesthetics and Values) and two Agreeableness facets (Straight forwardness and Compliance). Values and Compliance have generally been found to replicate poorly in the South African context (Laher, 2013; Quay, 2007). The lack of replication of Values has been attributed to the differences between the levels of subscription to individualist versus collectivist interpretations amongst South African individuals with the suggestion that Openness to Values is more relevant to individualist orientations rather than collectivist ones (Laher, 2013a). The findings with Compliance have been linked to a legacy of apartheid as well as to the current violence permeating South African society (Laher, 2010). Some items on the Compliance subscale for example are: 1) When I've been insulted, I just try to forgive and forget; 2) If someone starts a fight, I'm ready to fight back; 3) I hesitate to express my anger even when it's justified (Costa & McCrae, 2010). Aesthetics and Straightforwardness have not traditionally been problematic facets. These findings warrant further research.

CONCLUSION

This study explored the relationship between personality and acculturation and found significant personality differences between acculturated and unacculturated individuals. However this did not seem to affect the personality structures of the acculturated and unacculturated groups with the five factor structure replicating clearly across the groups. However, the disagreement with four facets in the factor analysis suggest a possible link with contextual variables, most notably individualism and collectivism, and this would be a suggestion for future research. Given the possibility that items on the NEO-PI-3 might not be appropriate, further research is needed on the NEO-PI-3 that assesses the reliability and validity of its domains and facets. All of this research needs to be conducted on larger, more representative samples as this study was conducted on a volunteer sample primarily in the Johannesburg region. Future studies also need to be conducted on the SAAS to determine its applicability for the South African context given the findings of this study. Perhaps other acculturation scales can also be used to explore the relationship between personality and acculturation. This is a new area of research with a very

sparse body of literature on the NEO-PI-3 and the SAAS in the South African context. This study therefore paves the way for future studies in this area.

BIOGRAPHICAL NOTES



Kimera Pillay is the Academic Researcher in the R&D team at WorldsView™ Academy and has worked on the academic programmes since joining in March 2014. Kimera holds a BA honours degree in Psychology from the University of the Witwatersrand, as well as an undergraduate degree in Psychology and Anthropology. Kimera received a distinction in her honours degree in 2013. Kimera's academic grounding, along with her work as a researcher, has enabled Kimera to analyse and critically assess any given task.



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REFERENCES

- Allik, J., & McCrae, R.R. (2002). A Five-Factor theory perspective. Unpublished manuscript, University of Tartu.
- Berry, J.W. (1976). *Human ecology and cognitive style: Comparative studies in cultural and psychological adaptation*. New York: Sage/Halsted.
- Berry, J.W. (1980). Acculturation as varieties of adaptation. In A. Padilla (Ed.), *Acculturation: Theory, models and findings* (pp. 9–25). Boulder: Westview.
- Berry, J., Trimble, J., & Olmedo, E. (1986), "Assessment of Acculturation," In Lonner, W. and Berry, J. (Eds.), *Field Methods in Cross-Cultural Research*. London: Sage 291–324.
- Berry, J.W. (1997). Immigration, acculturation and adaptation. *Applied Psychology*, 46 (1), 5–68.
- Berry, J.W., Poortinga, Y.H., Segall, M.H., & Dasen, P.R. (2002). *Cross-cultural psychology: Research and applications (2nd Ed.)*. Cambridge: Cambridge University Press.
- Cheung, F.M., Cheung, S.F., Leung, K., Ward, C., & Leong, F. (2003). The English version of the Chinese Personality Inventory. *Journal of Cross-Cultural Psychology*, 34(4), 433–452.
- Cheung, F.M., Cheung, S., Zhang, J., Leung, K., Leong, F., & Yeh, K.H. (2008). Relevance of

- Openness as a personality dimension in Chinese culture: Aspects of its cultural relevance. *Journal of Cross-Cultural Psychology*, 39(1), 81–108.
- Costa, P.T., Jr. & McCrae, R.R. (2008). The revised NEO personality inventory. In G. J Boyle, G. Matthews & D. H. Saklofske (Eds.), *The SAGE handbook of personality theory and assessment* (pp. 179–199). London: SAGE Publications.
- Eap, S., DeGarmo, D.S., Kawakami, A., Hara, S.N., Hall, G.C.N., & Teten, A.L. (2008). Culture and personality among European American and Asian American. *Journal of Cross Cultural Psychology*, 39(5), 630–643.
- Huck, S.W. (2009). *Reading statistics and research (5th ed)*. Boston: Pearson.
- Kramers, A.L. (2000). *Acculturation and disordered eating: An exploration of disordered eating practices across cultures*. Masters' thesis). University of Natal, Pietermaritzburg, South Africa.
- 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. *South African Journal of Industrial Psychology*, 34(1), 76–80.
- Laher, S. (2010). Using exploratory factor analysis in personality research: Best practice recommendations. *South African Journal of Industrial Psychology*, 36(1), 1–7.
- Laher, S. (2010). *The applicability of the NEO-PI-R and the CPAI-2 in the South African context*. (Doctoral dissertation). University of the Witwatersrand: Johannesburg, South Africa.
- Laher, S. (2013a). The NEO-PI-R in South Africa. In S. Laher & K. Cockcroft (Eds.). *Psychological Assessment in South Africa: Research and Applications* (pp. 257–269). Wits University Press: Johannesburg.
- Laher, S. (2013b). Understanding the Five Factor Model and Five Factor Theory through a South African Cultural Lens. *South African Journal of Psychology*, 43(2), 208–221.
- Laher, S., & Cockcroft, K. (2013). Current and future trends in psychological assessment in South Africa: challenges and opportunities. In S. Laher, & K. Cockcroft (Eds.), *Psychological Assessment In South Africa: Research and Applications* (pp. 518–536). Johannesburg: Press.
- Lee, H. (2005). Mass media usage pattern and acculturation processed of Koreans living in Kentucky. *Global Media Journal*, 4(7), 30–44.
- McCrae, R.R., Yik, M.S.M., Trapnell, P. D., Bond, M. H., & Paulhus, D. L. (1998). Interpreting personality profiles across cultures: Bilingual, acculturation, and peer rating studies of Chinese undergraduates. *Journal of Personality and Social Psychology*, 74(4), 1041–1055.
- McCrae, R.R. (2004). Human nature and culture: A trait perspective. *Journal of Research in Personality*, 38(1), 3–14.
- McCrae, R.R., Costa, T.P. Jr., & Martin, T. A. (2005). The NEO-PI-3: A more readable revised NEO personality inventory. *Journal of Personality Assessment*, 84(3), 261–270.
- McCrae, R. R. & Costa, P. T., Jr. (2008). The Five Factor Theory of personality. In O. P. John, R. W. Robins & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (3rd ed., pp. 157–180). New York: Guilford Press.
- McCrae, R.R. & Costa, P.T., Jr. (2010). *NEO Inventories: Professional manual*. Lutz, FL: Psychological Assessment Resources.

- Ourasse, O.A. (2003). *What Immigration does to young people: the psychological acculturation of Moroccans in the Netherlands*. Rozenberg Publishers.
- Padilla, A.M., & Peres, W. (2003). Acculturation, social identity, and social cognition: a new perspective. *Hispanic Journal of Behavioural Sciences*, 25(1), 35–55.
- Ryder, A.G., Alden, E., & Paulhus, D.L. (2000). Is acculturation unidimensional or bidimensional? A head-to-head comparison in the prediction of personality, self-identity, and adjustment. *Journal of Personality and Social Psychological Association*, 79(1), 49–65.
- Rosnow, R.L., & Rosenthal, R. (2008). *Beginning Behavioural Research: A conceptual Primer (6th Ed.)*. New Jersey: Pearson Education International.
- Schwartz, S.J., Unger, J.B. & Szapocznik, J. (2010). Rethinking the concept of acculturation: Implications for theory and research. *American Psychologist*, 65(4), 237–251.
- Yoon, E., Chang, C., Kim, S., Clawson, A., Cleary, S. A., Hansen, M., Bruner, J. P., et al. (2013). A meta-analysis of acculturation/ enculturation and mental health. *Journal of Counselling Psychology*, 60(1), 15–30.