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Culture and Personality Among European American and Asian American Men

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Personality differences between Asian American (N = 320) and European American men (N = 242) and also among Asian American ethnic groups (Korean, Chinese, Japanese, Filipino, and mixed Asian) are examined on the Big Five personality dimension. Personality structures for Asian Americans and European Americans closely replicate established norms. However, congruence is greater for European American and highly acculturated Asian American men than for low acculturated Asian American men. Similar patterns are found for the construct loss of face (LOF). Asian American men with a high concern for LOF are less similar in their personality structure to European American men than Asian American men with low LOF concern. Mean differences are also found among Asian American and European American men, who differ significantly on Extraversion, Conscientiousness, Openness, and Neuroticism. Results indicate that acculturation and LOF are significantly associated with these four personality dimensions for both Asian American and European American men.

Keywords: *Asian Americans; loss of face; acculturation; Big Five personality*

The existence of universal versus culture-specific personality patterns has long been debated. Evidence for universality is found when consistent factor structures emerge across different cultures. Evidence for culturally specific personality domains is found when

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unique patterns are consistently found for different cultural groups (e.g., general personality patterns among Hawaiian, Korean, or Japanese cultures). Acculturation to Western norms may be related to culturally specific patterns of personality. The purpose of the current research is multifaceted. First, we build on prior research examining the replicability of the Big Five personality dimensions among a sample of European American and Asian American men. In addition, we examine two cultural variables, acculturation and loss of face (LOF), that have been shown to be highly related to behavior. Because Asian Americans report higher levels of LOF concerns than European Americans do, LOF may be more highly associated with Asian American personality than with European American personality (Zane & Yeh, 2002).

Goldberg (1981) asserted that the Big Five Personality structure is universal to all cultures because of its adaptive significance and should therefore be found across contexts. Indeed, much of the evidence indicates that the Big Five structure of personality has strong cross-cultural robustness and has been replicated in various cultures (McCrae & Terracciano, 2005). However, there have been cross-cultural variations on which of the five dimensions is most important in encompassing personality. Extraversion, Agreeableness, Conscientiousness, and Neuroticism have garnered strong cross-cultural validation. The validity of the Openness dimension, however, has been comparatively weak. For example, Szirmak and De Raad (1994) found no Openness dimension in a Hungarian sample but instead identified two factors associated with Agreeableness. Cheung and Leung (1998) found the dimensions of Agreeableness, Neuroticism, Extraversion, and Conscientiousness among their Chinese sample, but not Openness. Suggestions for the fifth label include the dimension of culture (Tupes & Christal, 1992), creativity or imagination (Saucier, 1992), and, more recently, autonomy (Hendriks, Hofstee, & De Raad, 1999).

Cross-cultural differences can exist, however, even when cultural equivalence is found within the Big Five factor structure. Triandis and Suh (2002) averred that personality may reflect both universal and culturally specific aspects of personality. In support of this, studies suggest that the personality dimensions express themselves differently in different contexts. Yang (1986) found that Chinese samples score lower relative to American samples on the dimension of Extraversion. Similarly, McCrae, Yik, Trapnell, Bond, and Paulhus (1998) found that Chinese Canadians scored lower than their European Canadian counterparts on Extraversion, lower on Openness, and higher on Neuroticism and Agreeableness. Mastor, Jin, and Cooper (2000) found that Malays scored higher relative to Western samples in Agreeableness and lower in Extraversion and Openness. These group differences suggest that cultural context may be associated with personality.

One factor that connects cultural context and personality is cultural values. Cheung et al.'s (2001) work on the Chinese Personality Inventory includes the dimension of interpersonal relatedness, a value that is highly emphasized in many East Asian cultures. In addition, the value of collectivism and individualism, for example, may play a role on how personality is perceived and expressed (Williams, Satterwhite, & Saiz, 1998). Konstabel, Realo, and Kallasmaa (2002) found that cultural groups scoring high on collectivism scored lower on Extraversion and Agreeableness compared to a normative American sample. Therefore, a working hypothesis is that because Asian cultures tend to be high on collectivism, their personality expressions may be more highly associated by social context. In a culture that emphasizes interdependence and in-group norms, Agreeableness may facilitate the maintenance of social harmony while extraversion may violate those values.

In addition, face concern is another cultural value that might be responsible for cultural differences in personality, particularly for Asians. LOF results when an individual's behavior shames his or her reference group (Zane & Yeh, 2002). LOF functions to guide individual behavior to maintain group harmony in East Asian cultures. Personality researchers have implicated the importance of face concerns in understanding personality. Bond (2000) asserted that Chinese tradition, which includes the concept of face, is an important dimension of personality that is less salient in Western conceptualizations of personality. In addition, Zane and Yeh (2002) found that LOF is negatively correlated with Extraversion. Yet, the impact of face on the Big Five personality constructs has not been thoroughly examined and is theoretically warranted.

Differences in personality can often be attributed to varying levels of acculturation. Therefore, we propose that moderating factors in discriminating personality will be indicators associated with immigration and levels of acculturation. Being bicultural involves the balancing of values of both their ethnic culture and American culture (LaFromboise, Coleman, & Gerton, 1993). This results in a set of conflicting values that operate on the Asian American personality. Marin and Gamba (2003) asserted that acculturation can cause permanent changes in cultural values and beliefs that may affect the defining characteristics of an ethnic group. Many of the differences found among ethnic groups are reduced when taking acculturation into consideration (Montgomery, Arnold, & Orozco, 1990). For example, Benet-Martinéz and Karakitapoglu-Aygun (2003) found that first-generation Asian Americans scored lower on Extraversion, Conscientiousness, and Openness relative to later generations of Asian Americans and European Americans. Consistent with these findings, less acculturated Vietnamese Americans scored lower on Extraversion, Conscientiousness, and Openness, and higher on Neuroticism, compared with more acculturated Vietnamese Americans and European Americans (Leininger, 2002). McCrae et al. (1998) found in a comparison of Chinese groups from Hong Kong and Canada that Chinese Canadians' scores on the Big Five personality dimensions fell between that of Chinese people from Hong Kong and European Canadians. These findings implicate the role of culture because these dimensions appear to be associated with length of residence in Canada. In their study, place and length of residency were used as proxies for acculturation. However, unidimensional indices are not always indicative of acculturation (Abe-Kim, Okazaki, & Goto, 2001).

The current study seeks to improve on past studies of personality by using two measures of acculturation in addition to LOF, which has been shown to be highly salient in Asian cultures, and exploring more specifically the role of culture by examining the role of LOF and acculturation in shaping the personality dimensions of Extraversion, Agreeableness, Conscientiousness, Openness, and Neuroticism. Therefore, the main goal of the analyses is to compare the factor structure of the personality domains across cultures to test the hypothesis that factor structure congruence will vary as a function of acculturation. The second goal of this article is to test hypotheses regarding the effects of variation in cultural constructs on levels of respective personality domains. Thus, analyses focus on expected factor structure and mean-level differences between Asian Americans and European Americans and within Asian Americans varying in acculturation status. The sample is from Hall and colleagues' (Hall, Teten, DeGarmo, Sue, & Stephens, 2005) study of Asian American men. Although this study is restricted to men, it is the largest study of the personality characteristics of Asian American men to date.

Formally, we hypothesized differences among the main personality and cultural variables on personality. Specifically,

1. The factor structure of personality domains will vary as a function of acculturation and LOF such that higher levels of acculturation and lower levels of LOF will exhibit greater congruence with the dominant culture of European Americans.
2. We expect Asian Americans will score higher on Neuroticism, Agreeableness, and Conscientiousness, and that European Americans will score higher on Extraversion and Openness, in accordance with past research.
3. We expect that higher levels of acculturation and lower levels of LOF will predict higher levels of Extraversion and Openness, and conversely, lower levels of Neuroticism, Agreeableness, and Conscientiousness for both Asian Americans and European Americans.

Method

Participants

Participants were 562 men (320 Asian Americans and 242 European Americans) recruited from psychology courses at three universities in the western United States. Among the Asian American participants, 85 (26.5%) identified themselves as Chinese Americans, 46 (14.3%) as Japanese Americans, 33 (10.3%) as Filipino Americans, 33 (10.3%) as Korean Americans, 27 (8.4%) as Vietnamese Americans, and 96 (30%) as mixed Asian American or other Asian American (one parent identifying himself or herself s as part Asian American, two parents of different Asian ethnicities, and Asian Americans from other Asian ethnic groups not included in the above categories). The percentages for Chinese Americans, Japanese Americans, and other Asians are comparable to the national Asian American proportion of 23%, 10%, and 25%, respectively. There are lower percentages of Filipino Americans, Korean Americans, and Vietnamese Americans compared to the national proportion of 20%, 11%, and 11%, respectively (U.S. Census Bureau, 2002). Participants' ages ranged from 18 to 22 years. The majority of Asian Americans were either first generation (38%) or second generation (37%). The remaining Asian Americans were third (6%), fourth (9%), or fifth generation (5%). Three percent did not know or report generational status. Among the Asian American groups, 39% of Filipino Americans, 54% of Chinese Americans, 22% of Japanese Americans, 64% of Korean Americans, 44% of Vietnamese Americans, and 22% of mixed Asians reported first-generation status. Among European Americans, 1% reported being first generation. The remaining European Americans were second (5%), third (5%), fourth (15%), and fifth (61%) generation, and 9% of our European American participants did not know or report generational status.

Measures

The data in the current study were collected from a separate study comparing Asian American and European American men on a number of measures associated with sexual aggression and cultural differences (Hall et al., 2005). Only data for European Americans and Asian Americans from three measures—two of which were not included in the Hall et al. study—are reported in this study.

The Big Five Inventory (BFI; Benet-Martinéz & John, 1998) consists of 44 items. Each item is scored on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The BFI measures 5 dimensions of personality: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. Each subscale contains 8 to 10 items. For the current study, Cronbach's alphas for the total samples on these subscales are .82, .75, .72, .80, and .81, respectively. For Asian Americans, the alphas are .78, .71, .71, .75, and .78, respectively. For European Americans, the alphas are .86, .78, .70, .83, and .82, respectively.

The LOF Questionnaire (Zane, 1991) measures one's concern about behaviors and situations that may cause them to lose face. The LOF consists of 21 items, using a 5-point Likert-type scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicate a greater concern for LOF. In the current study, Cronbach's alpha was .84 for the total sample. Asian Americans and European American men had similar alphas with .83. The scale includes items such as "I maintain a low profile because I do not want to make mistakes in front of other people" and "When someone embarrasses me, I try and forget it."

The Stephenson Multigroup Acculturation Scale (SMAS; Stephenson, 2000) consists of two independent dimensions measuring ethnic society immersion (ESI; 17 items) and dominant society immersion (DSI; 15 items). Because the current study was only interested in identification with the dominant culture, only the DSI was used. A high score on DSI indicates high identification with European American culture. Score range for the DSI is 0 to 75. The scale includes items that assess attitudes and behaviors associated with language, social relationships, food, and media. Cronbach's alpha for the DSI for the current study was .85 for the total sample, .82 for Asian Americans, and .72 for European Americans. The DSI scale includes items such as "I feel at home in the United States." First-generation Asian Americans scored higher on the SMAS-DSI than all later generations, except the fifth generation, although the differences between the generation groups are not statistically significant.

The Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA; Suinn, Ahuna, & Khoo, 1992) measures Asian Americans' acculturation level to European American culture. SL-ASIA consists of 21 items. Possible scores range from 0 to 105. A higher score indicates greater acculturation to European American culture. The instrument assesses language use, ethnic identification, social relationships, generation, behaviors, and attitudes. In the current study, Cronbach's alpha was .90 for the total sample, .86 for Asian Americans, and .52 for European Americans. The scale includes items such as "Whom do you associate with in the community?" and "Do you participate in Asian occasions, holidays, traditions, etc.?" Among the Asian American sample, SL-ASIA was significantly and positively correlated with generational status ($r = .53$, $p < .001$). For Asian Americans, scores on the SL-ASIA increased linearly with increasing generations.

Results

Cultural Equivalence of the BFI Factor Structure

To establish the replicability of the Big Five personality dimensions among this sample of college-age men, two methods were used. First, factor structure comparisons were conducted with Procrustes rotation or targeted rotation (see McCrae, Zonderman, Costa, Bond, & Paulhus, 1996, for the NEO Personality Inventory) in which the factor

structure of one group is compared with a calibrating group, typically population norms. More specifically, principal components factor loadings with varimax rotation are entered into matrix congruence program. Intraclass correlation coefficients (ICC) double entry-method was also used (see Terracciano & McCrae, 2006). The advantage of the ICC method is that it takes into account differences in mean and variance for two sets of data. Congruence coefficients are obtained for individual factor loadings, loadings among each factor, and for the total factor structure. Congruence coefficients of .85 or higher are indicative of a good fit between the data set and the hypothesized data set (Haven & ten Berge, 1977). Benet-Martinéz and John (1998) have validated targeted rotation techniques and norms for the BFI. Norms were established based on a diverse sample that included college students from a university in the United States and Spain. The U.S. sample also included a student and community sample of bilingual Hispanic Americans.

Congruence coefficients indicate reasonably good fit between the hypothesized data set and the population norms (see Table 1). Using the varimax rotation, neither population replicated established norms based on the .85 criteria. European Americans had a congruence coefficient of .81 compared to Asian Americans who had a congruence coefficient of .74. The ICC method did show good fit of the hypothesized data set to established norms with a score of .88 and .85 for European Americans and Asian Americans, respectively. In both instances, Asian Americans had a lower congruence coefficient than European Americans to the normed sample. The ICC method, however, indicated that good fit was established for both European Americans and Asian Americans. Thus, both groups adequately replicated the factor structure of past studies.

To examine the relationship of differing levels of acculturation and LOF with personality structure of Asian Americans, targeted rotation was used with European Americans as the calibrating group, because we were specifically interested in hypothesized differences within this sample. Congruence coefficients for Asian Americans tertile groups on acculturation and LOF are shown on Table 2. For Asian Americans scoring high on both the SLA-ASIA and the SMAS-DSI, a higher congruence coefficient was obtained, showing that similarity to European American personality increases as acculturation to European American culture increases. For the high tertile group on the SMAS-DSI, congruence was almost exact to the European Americans (.96). The group on the lowest tertile on the SLA showed the poorest congruence to the European American personality structure. A similar pattern was found for Asian Americans reporting a high concern for LOF. The Asian American group in the higher tertile of LOF had a lower congruence coefficient (.80) to the European American personality structure than Asian Americans in the higher tertile of LOF (.83).

Differences Between Asian American and European American Ethnic Groups

Table 3 shows mean and standard deviation scores for all study variables by ethnic group. The second hypothesis regarding differences between Asian Americans and European Americans was partially supported. As hypothesized, European Americans and Asian Americans were significantly different from each other on four of the five personality dimensions, but not always in the expected direction. A multivariate analysis of variance

Table 1
Factor Structure Congruence Coefficients and Intraclass Correlation Coefficients, or Varimax Rotated Solution Compared with the Big Five Inventory Norms

	Big Five Inventory Personality Factors					Total Structure	Average Intraclass Correlation coefficients
	E	A	C	N	O		
Congruence coefficients							
European Americans	.96	.73	.76	.92	.69	.81	
Asian Americans	.92	.88	.76	.59	.61	.74	
Intraclass correlation coefficients							
European Americans	.96	.80	.82	.94	.86		.88
Asian Americans	.94	.92	.82	.77	.78		.85

Note: E = Extraversion; A = Agreeableness; C = Conscientiousness; N = Neuroticism; O = Openness; Asian Americans (n = 320); European Americans (n = 240).
Source: Norms are based on Benet-Martinéz and John (1998).

Table 2
Big Five Inventory Individual and Total Factor Structure Congruence Coefficients for Varimax Rotated Solution by Asian American Acculturation Levels and Loss of Face

	Big Five Inventory Personality Factors					Total Factor Structure
	E	A	C	N	O	
Acculturation (SMAS-DSI)						
Lower tertile (n = 94)	.88	.59	.92	.64	.89	.80
Middle tertile (n = 102)	.81	.89	.87	.86	.87	.86
Higher tertile (n = 118)	.98	.98	.95	.96	.96	.96
Acculturation (SL)						
Lower tertile (n = 99)	.78	.83	.84	.63	.73	.76
Middle tertile (n = 110)	.93	.86	.91	.57	.83	.83
Higher tertile (n = 106)	.84	.80	.93	.75	.94	.86
Loss of face						
Lower tertile (n = 103)	.91	.87	.82	.72	.83	.83
Middle tertile (n = 99)	.71	.85	.95	.80	.89	.84
Higher tertile (n = 112)	.87	.77	.90	.75	.73	.80

Note: E = Extraversion; A = Agreeableness; C = Conscientiousness; N = Neuroticism; O = Openness; SMAS-DSI = Stephenson Multigroup Acculturation Scale–Dominant Society Immersion; SL = Suinn Lew Asian Self-Identity Acculturation (high score means more acculturated); Asian Americans (n = 320); European Americans (n = 240).

Table 3
Means and Standard Deviations for the Big Five Inventory, Loss of Face, and Acculturation by Ethnic Groups

	Asian American (n = 320)		European American (n = 242)	
	M	*SD*	*M*	*SD*
Big Five Inventory				
Extraversion	16.49	5.06	18.33	6.06
Agreeableness	23.30	4.89	24.14	5.35
Conscientiousness	20.41	5.02	22.86	4.85
Neuroticism	15.30	5.01	12.96	5.98
Openness	24.91	5.94	27.39	6.40
Loss of Face	47.18	9.88	40.46	10.04
SMAS-DSI	28.2	6.6	37.9	9.3
SL-ASIA	53.92	12.12	74.65	10.09

Note: SL-ASIA = Suinn-Lew Asian Self-Identity Acculturation Scale; SMAS-DSI = Stephenson Multigroup Acculturation Scale–Dominant Society Immersion

(MANOVA) was conducted to examine differences between Asian Americans and European Americans on the Big Five personality dimensions. A MANOVA was used over a paired samples test because it provides an overall F test for testing all personality domains at once. Although not statistically equivalent, it is conceptually analogous to using the total factor structure congruence along with the individual factor congruence coefficients. MANOVAs are more consistent with our use of the targeted rotation and ICC methods reporting individual and overall effects.

Results indicate that Asian Americans and European Americans differed on the BFI, Pillai's $F(5, 543) = 11.69$, $p < .001$. Univariate F tests indicated that Asian Americans expectedly scored higher than European Americans on Neuroticism, ($F(1,547) = 23.73$, $p < .001$, Cohen's $d = .42$) and European Americans scored higher than Asian Americans on Extraversion, ($F(1, 547) = 15.02$, $p < .001$, Cohen's $d = –.36$), Openness, ($F(1, 547) = 21.88$, $p < .001$, Cohen's $d = –.40$), and unexpectedly, Conscientiousness, ($F(1,547) = 32.9$, $p < .001$, Cohen's $d = –.50$). Contrary to our hypothesis, European Americans and Asian Americans were not significantly different on Agreeableness ($p > .05$). In addition, Asian Americans scored higher than European Americans on LOF ($F(1, 552) = 2.041$, $p < .001$, Cohen's $d = .67$), whereas European Americans scored higher than Asian Americans on acculturation ($F(1, 554) = 38.315$, $p < .001$, Cohen's $d = –1.86$).

Association Between Acculturation and LOF with Big Five Personality Traits

Intercorrelations are reported for all study variables for both Asian Americans and European Americans (see Table 4). For Asian Americans, the SMAS-DSI was significantly associated with Extraversion ($r = .23$, $p < .01$), Conscientiousness ($r = .15$, $p < .01$), Neuroticism ($r = –.16$, $p < .01$), and Openness (–.25, $p < .01$). The SL-ASIA

Table 4
Bivariate Correlations Among Loss of Face, Acculturation, and the Big Five Inventory Personality Factors

	1	2	3	4	5	6	7	8
Asian Americans								
1. Loss of Face	—	–.10	–.02	–.25**	.05	–.12*	.20**	–.14*
2. SL-Asia		—	–.14*	.12*	.17**	.04	–.05	.12*
3. SMAS-DSI			—	.23**	.06	.15**	–.16**	.25**
4. Extraversion				—	.08	.24**	–.25**	.30**
5. Agreeableness					—	.36**	–.35**	.27**
6. Conscientiousness						—	–.42**	.32**
7. Neuroticism							—	–.15**
8. Openness								—

	1	2	3	4	5	6	7
European Americans							
1. Loss of Face	—	.06	–.38**	–.09	–.13*	.20**	–.17**
2. SMAS-DSI		—	.02	.14*	.07	–.10	.15*
3. Extraversion			—	.32**	.21**	–.31**	.37**
4. Agreeableness				—	.39**	–.44**	.36**
5. Conscientiousness					—	–.28**	.11
6. Neuroticism						—	–.11
7. Openness							—

Note: SL-ASIA = Suinn-Lew Asian Self-Identity Acculturation Scale; SMAS-DSI = Stephenson Multigroup Acculturation Scale-Dominant Society Immersion
*$p < .05$. **$p < .001$.

was significantly correlated with Extraversion ($r = .12$, $p < .05$), Agreeableness ($r = .17$, $p < .01$), and Openness ($r = .12$, $p < .05$).

For Asian Americans, LOF was significantly correlated with Extraversion ($r = –.25$, $p < .001$), Conscientiousness ($r = –.12$, $p < .05$), Neuroticism ($r = .20$, $p < .001$), and Openness ($r = –.14$, $p < .05$). European Americans exhibited similar correlations between LOF and the Big Five personality dimensions. For European Americans, LOF was significantly correlated with Extraversion ($r = –.38$, $p < .001$), Conscientiousness ($r = –.13$, $p < .05$), Neuroticism ($r = .20$, $p < .001$), and Openness ($r = –.17$, $p < .01$). LOF was not significantly correlated with Agreeableness. LOF was not significantly correlated with acculturation, as measured by the SL-ASIA and the SMAS-DSI, for either ethnic group. LOF appears to have a similar relationship to the personality dimensions for both Asian Americans and European Americans. However, results indicated that Asian Americans ($M = 47.13$, $SD = 9.86$) did report a greater concern for LOF than European Americans ($M = 40.57$, $SD = 10.10$). Although there is a similar relationship between the Big Five dimensions and LOF for both European Americans and Asian Americans, LOF appears to be more salient among Asian Americans as indicated by their higher mean LOF scores (Table 3).

Discussion

This study is important in demonstrating that cultural variables can be associated with personality dimensions. The current results suggest that personality is related to both universal and culturally specific variables. On a universal level, this study replicates the five basic dimensions of personality, which attests to the strength of the Big Five personality structure. The dimension of Conscientiousness, which has formerly been found to be a weaker dimension (Cheung & Leung, 1998; Szmirmak & De Raad, 1994), was replicated in this sample. On a more culturally specific level, the weaker congruence observed among Asian Americans support the idea that culturally relevant variables may be associated with the overall structure. This study shows that acculturation levels and LOF are strongly associated with how similar the factor structures for Asian Americans were to European Americans. Given this variability in factor structure, the following results should be interpreted with caution.

Consistent with past studies, there were mean level differences. Consistent with past studies, Asian Americans scored higher than European Americans on Neuroticism while European Americans scored higher on Extraversion and Openness. Counter to past studies, the two groups were not significantly different on Agreeableness, and European Americans scored higher on Conscientiousness. The finding that European Americans score higher on Extraversion than people of Asian descent is consistent with past studies (Mastor et al., 2000; McCrae et al., 1998) and may reflect values associated with individualism and collectivism. The failure of this study to replicate differences found between Asian Americans and European Americans on Agreeableness is contrary to widely held stereotypes (Burton, Greenberger, & Hayward, 2005; Terracciano et al., 2005). This finding may reflect the uniqueness of this sample of male college students who are all from major universities. Past studies have found a slight gender difference between males and females on the dimension of Agreeableness and Conscientiousness (Lippa, 1995). Perhaps an all-male sample does not have enough variance to replicate past differences found. However, the findings on Conscientiousness may not be surprising, given the positive correlation between this dimension and Extraversion. These differences highlight the importance of context in understanding personality differences.

Results suggest that although the structure of the Big Five may be generalized cross-culturally, the significance of each trait may depend on contextual variables. Certain traits may prove more adaptive depending on the given societal structure. Asian American culture is largely collectivistic and places high value on interpersonal relationships. Thus, the ability to blend in is more conducive to a harmonious society. Introversion allows individuals to conform to the in-group while limiting contact with out-group members.

This study found that cultural variables such as acculturation and LOF were significantly associated with Extraversion, Conscientiousness, Openness, and Neuroticism for Asian Americans. LOF was associated with the personality dimensions similarly for both European Americans and Asian Americans. Past findings show that LOF is more salient for Asian Americans' behavior than European Americans' behavior (Zane & Yeh, 2002). This study demonstrates that the value of LOF is associated with psychological processes. Asian Americans report higher levels of LOF than European Americans do. Thus, the salience of

LOF is more observable among Asian Americans than among European Americans. Acculturation was not significantly associated with LOF. These results suggest that LOF is a pervasive value among Asian Americans that is independent of acculturation. The persistence of cultural variables despite acculturation to a second culture is consistent with theoretical conceptualizations of biculturalism (LaFromboise et al., 1993), which is characteristic of this sample of Asian American college students.

Overall, these findings highlight the importance of considering culture when examining between-group differences. Cultural values are important in affecting both the structure of personality and the mean scores. Thus, theories that examine the development of personality should move beyond ethnic categories, as they are neglecting other underlying cultural factors associated with ethnicity. The current study was able to demonstrate the overall affect of culture and specific values inherent in culture on personality structure. Given that past studies have primarily focused on a single Asian ethnic group, this study illustrated that cultural variables can explain more within-group differences among Asian Americans than specific national categories can.

This study had several limitations. First, the generalizability of the findings is one concern. The sample was composed of men. Men and women can differ on the five personality dimensions (Costa, Terracciano, & McCrae, 2001), and Asian American women also tend to retain cultural values more than Asian American men (Yeh, Carter, & Pieterse, 2004). Furthermore, the participants were mostly college students, which raise a number of methodological issues concerning the external validity of the findings in that these findings do not represent all age categories and all socioeconomic status levels (Okazaki & Sue, 1995; Sears, 1985). In particular, the Agreeableness and Conscientiousness factors seem unique to this population sample.

There is evidence that there may be cultural differences in how certain ethnic groups respond to questionnaires (Hamid, Lai, & Cheng, 2001). Asian groups are more likely to engage in moderate responding in comparison to European Americans. European Americans are more likely to resort to extreme responding. Thus, the current personality results should be interpreted with caution.

Future studies should examine the validity of the Big Five in predicting behavior. Church and Katigbak (2000) suggest that it is more difficult to predict behavior from the Big Five personality constructs in collectivistic cultures than it is for individualistic cultures. Collectivistic cultures place a higher value on situational cues while individualistic cultures emphasize the consistency between psychological processes and behavior. This may also be applied to cultures that place a high value on LOF. This emphasis on behaving so as not to bring public shame to one's family and social group suggest that individuals behave in a way irrespective of individual tendencies. Thus, although the Big Five may demonstrate universality, its utility may not be as strong for cultures that rely more on social cues for behavior.

It is possible that the Big Five may be less predictive of specific outcomes for certain cultures (Triandis & Suh, 2002). This study demonstrates that although there are personality universals, cultural variables can affect the expression of personality. Therefore, more work needs to be done to clarify the specific relationship between culture and personality.

References

Abe-Kim, J., Okazaki, S., & Goto, S. G. (2001). Unidimensional versus multidimensional approaches to the assessment of acculturation for Asian American populations. *Cultural Diversity & Ethnic Minority Psychology*, *3*, 232-246.

Benet-Martinéz, V., & John, O. P. (1998). Los Cincos Grandes across cultures and ethnic groups: Multitrait-multimethod analyses of the Big Five in Spanish and English. *Journal of Personality and Social Psychology*, *75*, 729-750.

Benet-Martinéz, V., & Karakitapoglu-Aygun, Z. (2003). The interplay of cultural syndromes and personality in predicting life satisfaction. *Journal of Cross-Cultural Psychology*, *34*, 38-60.

Bond, M. H. (2000). Localizing the imperial outreach. *American Behavioral Scientist*, *44*, 63-72.

Burton, M. L., Greenberger, E., & Hayward, C. (2005). Mapping the ethnic landscape: Personal beliefs about own group's and other groups' traits. *Cross-cultural research*, *39*, 351-379.

Cheung, F. M., & Leung, K. (1998). Indigenous personality measures: Chinese examples. *Journal of Cross-Cultural Psychology*, *29*, 233-248.

Cheung, F. M., Leung, K., Zhang, J., Sun, H., Gan, Y., Song, W. Z., et al. (2001). Indigenous Chinese personality constructs: Is the five factor model complete? *Journal of Cross-Cultural Psychology, 32*, 407-433.

Church, A. T., & Katigbak, M. S. (2000). Trait psychology in the Philippines. *American Behavioral Scientist*, *44*, 73-94.

Costa, P., Terracciano, A., & McCrae, R. (2001). Gender differences in personality traits across cultures: robust and surprising findings. *Journal of Personality and Social Psychology*, *81*, 322-331.

Goldberg, L. R. (1981). Language and individual differences: The search for universals in personality lexicons. In L. W Wheeler (Ed.), *Review of personality and social psychology* (pp. 141-165). Thousand Oaks, CA: Sage.

Hall, G. C. N., Teten, A. L., DeGarmo, D. S., Sue, S., & Stephens, K. (2005). Initiation, desistance, and persistence of sexual aggression among college men. *Journal of Consulting and Clinical Psychology, 73*, 830-840.

Hamid, P. N., Lai, J. C. L., & Cheng, S. T. (2001). Response bias and public and private self-consciousness in Chinese. *Social Behavior & Personality, 29,* 733-742.

Haven, S., & ten Berge, J. M. F. (1977). *Tucker's coefficient of congruence as a measure of factorial invariance: An empirical study* (Heymans Bulletin No. 290 EX). Groningen, Netherlands: University of Groningen.

Hendriks, A. A. J., Hofstee, W. K. B., & De Raad, B. (1999). The Five Factor Personality Inventory (FFPI). *Personality and Individual Differences*, *27*, 307-325.

Konstabel, K., Realo, A., & Kallasmaa, T. (2002). Exploring the sources of variations in the structure of personality traits across cultures. In R. R. McCrae & J. Allik (Eds.), The Five-Factor Model across cultures (pp. 29-52). New York: Kluwer Academic/Plenum Publishers.

LaFromboise, T., Coleman, H. L, & Gerton, J. (1993). Psychological impact of biculturalism: Evidence and theory. *Psychological Bulletin*, *114*, 395-412.

Leininger, A. (2002). Vietnamese-American personality and acculturation: An exploration of relations between personality traits and cultural goals. In R. McCrae & J. Allik (Eds.), The five-factor model of personality across cultures (pp. 197-225). New York: Kluwer Academic/Plenum.

Lippa, R. (1995). Gender-related individual differences and psychological adjustment in terms of the big five and circumplex models. *Journal of Personality and Social Psychology, 69*, 1184-1202.

Marin, G., & Gamba, R. J. (2003). Acculturation and changes in cultural values. In K. M. Chun & P. Balls Organista (Eds.), *Acculturation: Advances in theory, measurement, and applied research* (pp. 83-93). Washington, DC: American Psychological Association.

Mastor, K. A., Jin, P., & Cooper, M. (2000). Malay culture and personality. *American Behavioral Scientist*, *44*, 95-111.

McCrae, R. R., & Terracciano, A. (2005). Personality profiles of cultures: aggregate personality traits. *Journal of Personality and Social Psychology*, *89*, 407-425.

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*, 1041-1065.

McCrae, R. R., Zonderman, A. B., Costa, P. T., Jr., Bond, M. H., & Paunonen, S. V. (1996). Evaluating replicability of factors in the Revised NEO Personality Inventory: Confirmatory factor analysis versus Procrustes rotation. *Journal of Personality and Social Psychology, 70*, 552-566.

Montgomery, G. T, Arnold, B. R., & Orozco, S. (1990). MMPI supplemental scale performance of Mexican Americans and level of acculturation. *Journal of Personality Assessment*, *54*, 328-342.

Okazaki, S., & Sue, S. (1995). Methodological issues in assessment research with ethnic minorities. *Psychological Assessment*, *7*, 367-375.

Saucier, G. (1992). Benchmarks: Integrating affective and interpersonal circles with the Big Five personality factors. *Journal of Personality and Social Psychology*, *62*, 1025-1035.

Sears, D. O. (1985). College sophomores in the laboratory: Influences of a narrow data base on psychology's view of human nature. *Journal of Personality and Social Psychology*, *51*, 515-530.

Stephenson, M. (2000). Development and validation of the Stephenson Multigroup Acculturation Scale (SMAS). *Psychological Assessment, 12*, 77-88.

Suinn, R. M., Ahuna, C., & Khoo, G. (1992). The Suinn-Lew Asian Self-Identity Acculturation Scale: Concurrent and factorial validation. *Educational and Psychological Measurement*, *52*, 1041-1046.

Szirmak, Z., & De Raad, B. (1994). Taxonomy and structure of Hungarian personality traits. *European Journal of Personality*, *8*, 95-118.

Terracciano, A., Abdel-Khalek, A. M., Adam, N., Adamovova, L., Ahn, C. K., Ahn, H. N., et al. (2005). National character does not reflect mean personality trait levels in 49 cultures. *Science, 311*, 96-100.

Terracciano, A., & McCrae, R. R. (2006). How to measure national stereotypes? Response. *Science*, *311,* 777-769.

Triandis, H. C., & Suh, E. M. (2002). Cultural influences on personality. *Annual Review of Psychology, 53,* 133-160.

Tupes, E. C., & Christal, R. E. (1992). Recurrent personality factors based on trait ratings. *Journal of Personality*, *60*, 225-251.

U.S. Census Bureau. (2002). *The Asian population: 2000.* Retrieved March 29, 2005, from http://www.census.gov/prod/2002pubs/c2kbr01-16.pdf

Williams, J. E., Satterwhite, R. C., & Saiz, J. L. (1998). *The importance of psychological traits: A cross-cultural study*. New York: Plenum.

Yang, K. S. (1986). Chinese personality and its change. In M. H. Bond (Ed.), *The psychology of the Chinese people* (pp. 106-170). Oxford, UK: Oxford University Press.

Yeh, C. J., Carter, R. T., & Pieterse, A. L. (2004). Cultural values and racial identity attitudes among Asian American students: An exploratory investigation. *Counseling and Values, 48*, 92-95.

Zane, N. (1991, August). *An empirical examination of loss of face among Asian Americans*. Paper presented at the 99th Annual Convention of the American Psychological Association, San Francisco.

Zane, N., & Yeh, M. (2002). Use of culturally-based variables in assessment: Studies on loss of face. In K. Kurasaki, S. Okazaki, & S. Sue (Eds.), *Asian American mental health: Assessment, theories and methods* (pp. 123-138). Dordrecht, Netherlands: Kluwer Academic.

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