# THE RELATIONSHIP BETWEEN PERSONALITY TRAITS AND INFORMATION COMPETENCY IN KOREAN AND AMERICAN STUDENTS

HANA SONG
*Sungkyunkwan University*
NAHYUN KWON
*Myongji University*

We examined differences between Korean and American cultures in terms of the relationships between Big Five personality traits (McCrae & Costa, 1990) and information competency. Korean (*n* = 245) and American (*n* = 185) college students completed the NEO-Five Factor Inventory (Costa & McCrae, 1992) and the Information Competency Scale (Kwon, 2010). Results showed both similarities and differences between the 2 culture groups. Conscientiousness and openness to experience significantly predicted information competency in both Korean and American students. However, the influence of extraversion was significant only for American students. This result may be because of the high value placed on extraversion in American culture.

*Keywords:* cultural differences, information competency, Big Five personality traits, NEO-Five Factor Inventory, college students.

Information competency, or ability and confidence in searching and using information (American Library Association, 2000), is one of the most important skills in the 21st century. Researchers have examined the role of personality traits as a mechanism for the development of information behaviors and competency (Halder, Roy, & Chakraborty, 2010; Heinström, 2003, 2006). In particular, the Big Five personality traits of extraversion, neuroticism, openness to experience,

Hana Song, Department of Child Psychology and Education/Human Resource Development, Sungkyunkwan University; Nahyun Kwon, Department of Library and Information Science, Myongji University.
Correspondence concerning this article should be addressed to: Hana Song, Department of Child Psychology and Education/Human Resource Development, Sungkyunkwan University, 3-ga Myoungryun-dong, Chongro-gu, Seoul, Republic of Korea. Email: **jni4ever@skku.edu**

agreeableness, and conscientiousness, as proposed by McCrae and Costa (1990), have become widely accepted among many personality trait theories.

In previous studies, researchers have reported the significant influence of extraversion and openness to experience on the search for information, in that people who were more extroverted and open to experience tended to search for information more extensively and effectively (Halder et al., 2010; Heinström, 2003, 2006). We carried out the first research into the influence of the Big Five personality traits on information competency and found that conscientiousness was the strongest predictor of information competency in the American college students' culture (Kwon & Song, 2011). However, in our earlier study we did not deal with information competency in other cultural contexts.

The latest trend in globalization has been to increase understanding of cultural diversity in information behaviors and technology (Jackson et al., 2008). At the same time, cultural variability has been a challenging issue when studying personality traits (McCrae, 2001). However, the relationship between these two topics has not yet been fully investigated in non-Western cultures. Thus, our primary purpose in this study was to examine differences between Western and non-Western cultures in regard to the relationships between the Big Five personality traits and information competency. Specifically, we compared the American and Korean cultures in this study.

Like other East Asian cultures, Korean culture has been considerably influenced by Confucian traditions. Perhaps cultural differences between Korea and the US can be attributed to the Confucian traditions. One such difference between the two cultures is individualism versus collectivism. Western cultures are generally characterized as individualistic, whereas most Asian cultures are described as collectivist (Oyserman, Coon, & Kemmelmeier, 2002). Although both individualist and collectivist cultures value self-efficacy (Bandura, 1997), self-confidence seems to be valued in Western cultures. For example, in studies of competency researchers have reported that students and adults in highly individualistic cultures had a stronger tendency to perceive themselves as competent compared with those in collectivist cultures (Earley, Gibson, & Chen, 1999; Klassen, 2004). In the same cultural contexts, self-perceived competence regarding academic achievement has been found to be lower among Asian-American students than among American students who were not Asian (Eaton & Dembo, 1997). It has been suggested that individualism might contribute to the development of a sense of competency more strongly than does collectivism (see e.g., Klassen, 2004). Thus, as with other competencies, the information competency of Korean and American students is likely to differ.

Still, it is unclear whether or not Korean culture is solely collectivist. Although contemporary Korean culture is highly Westernized, and, therefore, more individualistic than in the past (Lim, Kim, & Kim, 2011), it may also be true that

Korean culture still holds a strong collectivist tradition rooted in Confucianism. Consequently, in the present study our examination of Korean culture and its influence on the relationship between information competency and personality traits was exploratory in nature.

We hypothesized that cultural differences in personality traits would exist between Korea and the US. Although scholars have demonstrated the universality of the Big Five personality traits (McCrae, Costa, Del Pilar, Rolland, & Parker, 1998), in further factor analyses substantial differences have been found in the weighted factor scores of personality traits between Korean and U.S. populations (McCrae, 2001) in that factor scores for Koreans were higher than those of Americans for neuroticism, openness to experience, and agreeableness, but lower for extraversion and conscientiousness.

The effects of cultural differences on the Big Five personality traits can be further substantiated by Hofstede's (1980) four dimensions of cultural characteristics: individualism, power distance, uncertainty avoidance, and masculinity. Hofstede proposed that cultures can be described by the degree to which they endorse behaviors on these dimensions. Hofstede classified Korea as a culture with low individualism and high uncertainty avoidance, the opposites of characteristics that he identified to describe American culture. It is important to note that individualism and uncertainty avoidance were identified as being closely related to the personality traits of extraversion and neuroticism, respectively (Hofstede & McCrae, 2004). Hofstede's description of Korean culture is indicative of differences between Korean and American cultures regarding the Big Five personality traits. Accordingly, in the present study our aim was to examine whether or not Koreans are less extraverted and more neurotic than people in the US and, if they are, whether these differences are related to differences in their self-perceived information competency.

In summary, our primary purpose in this study was to examine the relationship between the Big Five personality traits and information competency in two different cultural contexts – Korea and the US. Because every culture consists of unique combinations of various characteristics, we examined college students from each of these two cultures separately. Our research questions were:

(a) Do Korean and American students differ in information competency?

(b) Do Korean and American students differ in the Big Five personality traits?

(c) Does the influence of the Big Five personality traits on information competency differ between Korean and American college students?

## Method

### Participants and Procedure

The participants were 245 Korean (132 male, 113 female) and 185 American

(75 male, 110 female) undergraduate students who were enrolled at large urban universities in Seoul, Korea and Tampa, Florida, USA. Both Seoul and Tampa are large metropolitan areas and the students had had extensive exposure to computers. Convenience sampling was used to recruit students from various undergraduate classes. The mean age of the Korean sample was 21.82 (*SD* = 2.45) years and that of the American sample was 20.85 (*SD* = 4.20) years. Approximately two-thirds of the students were majoring in the humanities and social sciences, with the second most common major being sciences and arts, and the distribution of years in college was also broad in both samples. All Korean participants were East Asian and the majority of American participants were White (58.2%), followed by African American (19.2%), and Hispanic American (15.4%). Only six (3.3%) of the American students were of Asian descent. This sample distribution represents the diversity of the American population, as opposed to the homogeneity of Korea.

American participants completed two surveys measuring the Big Five personality traits and information competency, and Korean participants completed the two Korean versions of these surveys. The two surveys took approximately 20 minutes to complete and students received extra credit for their courses or a small gift in return for participation.

**Measures**

The Big Five personality traits were measured using a short version of the NEO-Five Factor Inventory (Costa & McCrae, 1992) that consists of 60 items. Participants rate each item on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. American students completed the original English version. A Korean language version translated and modified by several scholars (Min, Lee, & Chung, 1997; Shin & Chang, 2003) was used for the Korean students. The Korean version included 48 items after items that were not culturally appropriate and did not display good internal consistency were eliminated. Because the Korean version included fewer items, in both groups we calculated a mean composite score for each subscale instead of a sum of scores.

We also tested measurement invariance between the English and Korean versions of the Inventory using the mean composite scores of the five subscales. Results of multigroup factor analysis supported metric equivalence across the two groups (chi-square for measurement weight model = 23.46, *df* =14, *ns*), indicating the mean composite scores for the five personality traits were comparable between the two culture groups. Cronbach's alpha coefficients for the American and Korean samples were, respectively, .79 and .84 for extraversion, 86 and .85 for neuroticism, .77 and .77 for agreeableness, .71 and .77 for openness to experience, and .84 and .82 for conscientiousness.

The Information Competency Scale (Kwon, 2010) is a 10-item measure designed to evaluate personal sense of competency in searching and using information. Items in this scale are derived from the components listed in the Information Literacy Competency Standards for Higher Education (American Library Association, 2000), which include the most essential knowledge and skills for the information literacy education of college students. For instance, items include: "I am competent in determining the nature and extent of the information I need" and "I am competent in revising search results when I don't get what I want". Participants rate each item on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The researcher who developed the original version also translated this scale into Korean. The Korean participants in the present study completed the Korean translation of the Information Competency Scale. An exploratory factor analysis eliminated one item so that only nine items were used by both the American and Korean groups in this study. Reliability was high in both groups: alpha coefficients were .91 in the American sample and .87 in the Korean sample.

## Results

### Comparisons Between Korean and American Students Regarding Information Competency and the Big Five Personality Traits

Table 1 contains the means and standard deviations of information competency and the Big Five personality traits by sample. The results of *t* tests showed that American students reported significantly higher information competency than did Korean students. Additionally, American students reported a higher level of extraversion and conscientiousness than did Korean students. Korean students reported a higher level of neuroticism than did American students. No significant differences were found between the two cultures in terms of level of openness to experience and agreeableness.

Table 1. *Mean Differences in Information Competency and the Big Five Personality Traits in Korean and American Students*

|  | Korea | US |  |
| --- | --- | --- | --- |
|  | *M*   (*SD*) | *M*   (*SD*) | *t* test |
| Information competency | 31.04 (5.08) | 33.77 (5.66) | -5.25*** |
| Big Five personality traits |  |  |  |
| Extraversion | 3.40   (.60) | 3.55   (.54) | -2.66** |
| Neuroticism | 2.94   (.69) | 2.74   (.68) | 3.01** |
| Openness to experience | 3.39   (.52) | 3.33   (.50) | 1.01 |
| Agreeableness | 3.53   (.51) | 3.45   (.54) | 1.67 |
| Conscientiousness | 3.12   (.64) | 3.65   (.58) | -9.09*** |

*Notes:* ** $p < .01$, *** $p < .001$.

## Comparisons Between Korean and American Students in Terms of the Influence of the Big Five Personality Traits on Information Competency

We compared the influence of the Big Five personality traits on information competency in Korean and American students using a multiple regression technique. Because $t$ tests revealed sample differences for both variables, we conducted multiple regressions within each sample separately. Similarities and differences revealed between the two samples are shown in Table 2.

Table 2. *The Influence of the Big Five Personality Traits on Information Competency in Korean Versus American Students*

|  | Korea ($n = 245$) | | US ($n = 185$) | |
| --- | --- | --- | --- | --- |
|  | β | t | β | t |
| Extraversion | .06 | .85 | .17 | 2.32* |
| Neuroticism | -.10 | -1.58 | .07 | .88 |
| Openness to experience | .14 | 2.27* | .24 | 3.55*** |
| Agreeableness | -.05 | -.77 | -.01 | -.14 |
| Conscientiousness | .28 | 4.33*** | .35 | 4.41*** |
| $R^2$ | .15 | | .28 | |
| F | 8.42*** | 13.75*** | | |

*Notes:* * $p < .05$, *** $p < .001$.

Specifically, conscientiousness was the strongest predictor of information competency for both samples, followed by openness to experience. However, the influence of extraversion was significant as a predictor of information competency only for American students. Neuroticism and agreeableness were not significant predictors of information competency in either sample.

## Discussion

In the current study, we investigated the influence of the Big Five personality traits on information competency in Korean and American college students. American students reported greater information competency than did Korean students. However, this finding may not mean that Korean students are actually less competent than American students at finding information. Rather, this finding may indicate that Korean and American students differ in how they perceive their information competency. This result is in line with findings gained by previous competency researchers. People in Western cultures tended to report higher self-efficacy and self-confidence than did people in Asian cultures (Earley et al., 1999; Klassen, 2004). In this regard, it is significant that, in previous research, even American students of Asian descent, who had a record of excellent academic performance, reported lower self-competence compared to their counterparts from other cultural backgrounds (Eaton & Dembo, 1997).

Overall, those in Western cultures have been found to report higher levels of self-competency.

We are of the view that the characteristics of Western or non-Western cultures cannot be fully described in terms of a simple dichotomy between individualism and collectivism. Yet, it is recognized that Korean culture has more collectivistic characteristics than American culture (Hofstede, 1980). In individualistic cultures self-centered values and independence are emphasized, whereas in collectivistic cultures group-centered values and interdependence are emphasized (Triandis, 1989). People from Asian cultures are sensitive to the behaviors and opinions of others because of their collectivistic orientation. For example, Miyake and Yamazaki (1995) found that Japanese children were strongly encouraged to control their behaviors and emotions in order to be in harmony with others. Similarly, in Korean culture moderate expressions of self-confidence tend to be preferred in order to express modesty and politeness. Thus, it may be that the lower level of self-reported information competency of Korean students in the present study can be attributed to the influence of group-oriented interdependence in a collectivist culture.

Our results regarding the Big Five personality traits showed that American students were more extraverted and conscientious than were the Korean students, and that the Korean students were more neurotic than were the American group. Higher neuroticism in Korean students is consistent with the findings gained by previous researchers (McCrae, 2001). People following Asian cultural traditions have been reported as scoring higher in neuroticism than people from European cultural backgrounds in previous studies (Eap et al., 2008; McCrae, Yik, Trapnell, Bond, & Paulhus, 1998). Additionally, the dominance of extraversion and conscientiousness in American culture has also been well documented (McCrae, 2001). Although all cultures value extraverted social interactions to some extent, extraversion and conscientiousness are more prevalent in Western cultures, which are highly individualistic, socially active, and achievement-oriented.

Finally, we believe that the most important findings in our study were that there were both similarities and differences between Korean and American students in terms of the relationships between personality traits and information competency. Openness to experience and conscientiousness significantly predicted information competency in both Korean and American students. Conscientiousness was the strongest predictor of all.

In related studies, conscientiousness and openness to experience have been identified as the most important attributes of effective information users (Halder et al., 2010; Heinström, 2003, 2006). Conscientiousness includes the tendencies to be goal-oriented, careful, and persistent. Openness to experience reflects being tolerant of new ideas, being creative, being imaginative, and preferring variety (McCrae & Costa, 1990). Thus, people with high openness to experience

are likely to enjoy searching for, and collecting, various types of information and ideas. Such broad information seeking seems to be related to information competency to some extent (Heinström, 2003, 2005). In addition, conscientiousness has been found to be the most important trait for the explicit motive of achievement (Engeser & Langens, 2010). Assuming that a sense of competency is derived from successful achievement, we did not find it surprising that conscientiousness was the strongest determinant for self-perceived information competency in this study.

Even though Korean and American students differed in their levels of conscientiousness and neuroticism, these differences were not the only factors affecting their relationships to information competency within each culture. For example, neuroticism did not significantly derogate information competency in Korean students. American students reported greater conscientiousness than did their Korean counterparts, yet conscientiousness was significant in accounting for information competency in both cultures. Thus, the influential power of each personality trait may be different within different cultures.

Extraversion significantly accounted for information competency only for American students. This result is likely to be because of the high value placed on extraversion in Western cultures. Extraversion describes the degree to which an individual is assertive, sociable, active, and fun-loving. Extraverted individuals tend to enjoy social interactions and to express self-confidence more actively than do others. Extraversion has been positively correlated with individualism across various cultures and contexts (Hofstede & McCrae, 2004; Migliore, 2011). Although a positive correlation between extraversion and individualism has not always been replicated, it has been generally found that American culture is more individualistic and extraverted than Korean culture. Mooradian and Swan (2006) reported that people in highly extraverted cultures gained information from interpersonal sources more easily and more frequently than those in introverted cultures. That is, information competency may be increased when a culture has more extraverted interpersonal characteristics. Consequently, the greater prevalence of extraversion in American students may be responsible for the observed difference between Korean and American students in the relationship between extraversion and self-perceived information competency.

A limitation in this study was that the influence of extraversion, which we found in American but not in Korean students, was attributed to a stereotypical difference between these two cultures in the collectivism of Korean culture in contrast to the individualism of American culture. As increasing individualism has been reported among the younger generations in Korea, our attribution should be assessed by measuring the construct in a future study. In addition, we assessed information competency by means of a self-report scale. Thus, there might be a possible gap between an individual's perception of his or her own

competency and that person's actual competency. Future researchers may choose to assess information competency in real settings.

# References

American Library Association. (2000). *Information literacy competency standards for higher education*. Chicago, IL: Author.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Worth.

Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) manual*. Odessa, FL: Psychological Assessment Resources.

Eap, S., DeGarmo, D. S., Kawakami, A., Hara, S. H., Hall, G. C. N., & Teten, A. L. (2008). Culture and personality among European and Asian American men. *Journal of Cross Cultural Psychology*, *39*, 630-643. **http://doi.org/grg**

Earley, P. C., Gibson, C. B., & Chen, C. C. (1999). "How did I do?" versus "How did we do?" Cultural contrasts of performance feedback use and self-efficacy. *Journal of Cross-Cultural Psychology*, *30*, 594-569. **http://doi.org/grr**

Eaton, M. J., & Dembo, M. H. (1997). Differences in the motivation beliefs of Asian American and non-Asian students. *Journal of Educational Psychology*, *89*, 443-440. **http://doi.org/grs**

Engeser, S., & Langens, T. (2010). Mapping explicit social motives of achievement, power, and affiliation onto the five-factor model of personality. *Scandinavian Journal of Psychology*, *51*, 309-318. **http://doi.org/d7v5vg**

Halder, S., Roy, A., & Chakraborty, P. K. (2010). The influence of personality traits on information-seeking behavior of students. *Malaysian Journal of Library & Information Science*, *15*, 41-53.

Heinström, J. (2003). Five personality dimensions and their influence on information behaviour. *Information Research*, *9*, 165.

Heinström, J. (2005). Fast surfing, broad scanning and deep diving: The influence of personality and study approach on students' information-seeking behavior. *Journal of Documentation*, *61*, 228-247. **http://doi.org/fq2mzk**

Heinström, J. (2006). Psychological factors behind incidental information acquisition. *Library & Information Science Research*, *28*, 579-594. **http://doi.org/grt**

Hofstede, G. H. (1980). *Culture's consequences: International differences in work-related values*. Thousand Oaks, CA: Sage.

Hofstede, G., & McCrae, R. R. (2004). Personality and culture revisited: Linking traits and dimensions of culture. *Cross-Cultural Research*, *38*, 52-88. **http://doi.org/grv**

Jackson, L., Zhao, Y., Qiu, W., Kolenic, A., III, Fitzgerald, H., Harold, R., & von Eye, A. (2008). Culture, gender and information technology use: A comparison of Chinese and U.S. children. *Computers in Human Behavior*, *24*, 2817-2829. **http://doi.org/frt5b9**

Klassen, R. M. (2004). Optimism and realism: A review of self-efficacy from a cross-cultural perspective. *International Journal of Psychology*, *39*, 205-230. **http://doi.org/grw**

Kwon, N. (2010). *The Information Competency Scale*. Unpublished manuscript, University of South Florida, Tampa, FL, USA.

Lim, T.-S., Kim, S.-Y., & Kim, J. (2011). Holism: A missing link in individualism-collectivism research. *Journal of Intercultural Communication Research*, *40*, 21-38. **http://doi.org/grx**

McCrae, R. R. (2001). Trait psychology and culture: Exploring intercultural comparisons. *Journal of Personality*, *69*, 819-846. **http://doi.org/grz**

McCrae, R. R., & Costa, P. T., Jr. (1990). *Personality in adulthood* (1st ed.). New York: Guilford.

McCrae, R. R., & Costa, P. T., Jr., Del Pilar, G. H., Rolland, J.-P., & Parker, W. D. (1998). Cross-cultural assessment of the five-factor model: The Revised NEO Personality Inventory. *Journal of Cross-Cultural Psychology*, *29*, 171-188. **http://doi.org/gr2**

McCrae, R., Yik, M., Trapnell, P., Bond, M., & Paulhus, D. (1998). Interpreting personality profiles across cultures: Bilingual, acculturation, and peer rating studies of Chinese undergraduates. *Journal of Personality and Social Psychology*, *74*, 1041-1055. **http://doi.org/bcq3rc**

Migliore, L. A. (2011). Relation between Big Five personality traits and Hofstede's cultural dimensions: Samples from the USA and India. *Cross Cultural Management: An International Journal*, *18*, 38-54. **http://doi.org/gr5**

Min, B., Lee, K., & Chung, J. (1997). *The Korean version of NEO Personality Inventory* [In Korean]. Seoul: PSI Consulting.

Miyake, K., & Yamazaki, K. (1995). Self-conscious emotions, child rearing and child psycho-pathology in Japanese culture. In J. P. Tangney & K. W. Fischer (Eds.), *Self-conscious emotions: The psychology of shame, guilt, embarrassment, and pride* (pp. 488-504). New York: Guilford.

Mooradian, T. A., & Swan, K. S. (2006). Personality-and-culture: The case of national extraversion and word-of-mouth. *Journal of Business Research*, *59*, 778-785. **http://doi.org/gr3**

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, *128*, 3-72. **http://doi.org/gks**

Shin, H., & Chang, J. (2003). The relationship among personality characteristics, gender, job-seeking stress and mental health in college seniors [In Korean]. *The Korean Journal of Clinical Psychology*, *22*, 815-827.

Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological Review*, *96*, 506-520. **http://doi.org/gr4**