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Cross-cultural personality differences between East Asia and Northern Europe in IPIP-NEO

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Psychological differences between nations are part of the challenges of globalization. The present study provides benchmarks of personality traits across 12 nations in East Asia and Northern Europe (N = 23,268). Personality was measured with the IPIP-NEO-120, which is a comprehensive, open-source version of the Five Factor Model (FFM). East Asia scored low in Openness and Agreeableness as opposed to high in Europe. Similarly, Neuroticism was higher in East Asia than in Europe. The IPIP-NEO instrument was subjected to measurement equivalence testing, and invariance could not be fully ruled out as part of the explanation. The discussion centers on how to understand the size, the relevance, and the mechanisms of cross-cultural personality differences.

Keywords: personality, structure, measurement invariance, Five Factor Model

Cultural changes and migrations tend to revitalize interest in psychological differences across nations. National characteristics can to a degree be captured by personality traits (Allik & McCrae, 2004), and be related to societal outcomes, not only on the individual level, but also on the national level (Bartram, 2013). Personality traits represent regularities in thoughts, feelings, and behaviors, differentiate individuals from one another, and predict life outcomes from an early age (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). Almost 50% of the variance in personality traits can be explained by genetic influences (Polderman et al., 2015). The remaining 50% contains mostly unmapped influences from individuals' environments (Plomin, DeFries, Knopik, & Neiderhiser, 2016), which could include national culture. In the present study, the extent to which nations differ in population personalities is examined. The analysis focused on samples from Eastern Asia and Northern Europe. The idea is that these parts of the world historically have been distant from each other and that Eastern Asia has been characterized by isolation, which among other things can be implied by the different societal values concerning upbringing, schooling, and democratic climate (Hofstede, Hofstede, & Minkov, 1991).

The most used conceptualization of personality is today the Big Five or the Five Factor Model (FFM; Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness) (Goldberg et al., 2006; McCrae & Costa, 1997). Evidence for a cross-cultural FFM has been found (Yamagata et al., 2006). However, the FFM has not replicated in all cultures, and sometimes two- or three-factor structures are the most parsimonious ways to describe a nation's personality (De Raad et al., 2014). There is also ample evidence that personality traits vary, not only between individuals but also between geographical areas; for instance, the greater London districts differ in levels of FFM personality traits, with the more open-minded, extraverted, and less agreeable people living closer to the city center (Jokela, Bleidorn, Lamb, Gosling, & Rentfrow, 2015). Trait differences also exist between regions, such as in Great Britain, with lower agreeableness in large city-regions and higher agreeableness in rural areas (Rentfrow, Jokela, & Lamb, 2015). Corresponding findings have been reported in the US, with the West coast characterized by open-mindedness and low neuroticism, the Mid-west by agreeableness, and the East coast by uninhibition (Rentfrow et al., 2013). Moreover, personality traits are shown to vary across 56 nation borders (Schmitt, Allik, McCrae, & Benet-Martinez, 2007). One of the largest world-wide FFM surveys to date reported lower Openness and Agreeableness in East Asia compared to Europe (Bartram, 2013). East Asia has also been characterized by low Extraversion and high Neuroticism (Allik & McCrae, 2004). FFM personality measurement has also been shown to be largely equivalent across nations (Schmitt et al., 2007).

In the present study we attempted to replicate these findings with large national samples from each region using an available and comprehensive, open-source version of the FFM (IPIP-NEO; Johnson, 2014). Investigating personality at the national level may facilitate the understanding on how individuals influence nations and are being influenced by nations. In the present study, we first established the degree of instrument equivalence of the IPIP-NEO, which to our knowledge has not been reported before. Second, the main purpose of the present study was to provide evidence and benchmarks for differing national personalities between East Asia and Northern Europe.

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Table 1. Descriptive statistics for the five factors of personality by Nation

	Nation					Neuroticism			Extraversion			Openness			Agreeableness			Conscientiousness		
	N	Male	Female	Age	*SD*	*M*	*SD*	α	*M*	*SD*	α	*M*	*SD*	α	*M*	*SD*	α	*M*	*SD*	α
China	2,363	937	1,426	24.8	5.9	10.36	2.03	0.84	13.13	1.81	0.82	13.75	1.59	0.73	14.25	1.61	0.77	14.73	2.09	0.88
Hong Kong	1,570	773	797	24.8	7.4	11.05	2.29	0.89	13.22	1.99	0.86	13.59	1.59	0.74	14.05	1.67	0.81	14.38	2.22	0.90
Japan	1,013	491	522	26.6	7.1	11.02	2.37	0.88	12.85	2.19	0.87	13.85	1.81	0.77	13.92	1.86	0.81	14.21	2.12	0.86
Malaysia	1,672	592	1,080	24.5	6.3	11.43	2.28	0.88	13.37	2.01	0.85	13.56	1.61	0.72	14.34	1.79	0.82	14.46	2.36	0.91
Singapore	4,657	2124	2,533	22.7	5.2	11.47	2.33	0.89	13.47	2.03	0.87	13.56	1.75	0.80	14.42	1.89	0.85	14.08	2.17	0.89
South Korea	1,549	733	816	24.0	6.0	11.00	2.03	0.85	12.97	1.91	0.85	13.56	1.71	0.77	13.87	1.70	0.80	14.15	1.95	0.86
Finland	1,792	843	949	27.1	7.3	11.16	2.53	0.90	12.62	2.49	0.90	14.94	1.86	0.81	14.29	1.92	0.84	13.54	2.33	0.89
France	1,140	649	491	29.1	8.9	10.86	2.45	0.88	13.49	2.32	0.88	15.07	1.77	0.77	14.47	2.09	0.86	14.40	2.20	0.87
Germany	1,930	992	938	28.2	8.2	10.64	2.42	0.89	13.49	2.36	0.89	14.62	1.95	0.82	14.25	1.93	0.84	14.65	2.27	0.89
Netherlands	2,580	1,332	1,248	28.6	9.5	10.38	2.38	0.89	13.50	2.32	0.90	14.65	1.86	0.82	14.87	1.82	0.84	14.41	2.15	0.88
Norway	1,059	591	468	27.5	8.1	10.51	2.47	0.89	13.33	2.46	0.90	14.84	1.99	0.83	15.03	1.96	0.85	14.29	2.31	0.89
Sweden	1,943	1,005	938	29.6	9.3	10.53	2.49	0.89	13.23	2.51	0.90	14.86	1.91	0.81	14.99	2.12	0.88	14.32	2.30	0.89
Total	23,268	11,062	12,206	26.0	7.7	10.91	2.37	0.88	13.27	2.20	0.87	14.15	1.89	0.80	14.42	1.89	0.83	14.29	2.20	0.88

Note: East Asian countries are highlighted in dark grey, in contrast to the northern European countries.

METHOD

Sample and procedure

We used a sample (N = 23,268) of 19-69 year old respondents from across 12 nations based on a large personality internet survey, given in English (Johnson, 2014). Data was gathered via the university web-site dedicated to inform on personality psychology. The site could be found via search engines and word-of-mouth, and attracted volunteers with the promise of brief but instant feedback on 30 trait facets based on the Five Factor Model. A respondent was estimated to generally spend some 20-30 minutes on the site. The sample consisted of 42 % males and 58 % females, with an average age of 28.0 years (SD = 9.2). Country belonging was formulated as, "Please indicate the country to which you feel you belong the most, whether by virtue of citizenship, length of residence, or acculturation". No other demographic data were collected. We selected only nations that had samples N > 1,000, being the size needed for factor loadings starting to stabilize (Hirschfeld, Brachel, & Thielsch, 2014). The samples representing the East were from China, Hong Kong, Japan, Malaysia, Singapore, and South Korea (N = 12,824), and the samples representing Northern Europe were from Finland, France, Germany, The Netherlands, Norway, and Sweden (see Table 1).

Duplicates (people taking the test twice) and participants with repetitive patterns longer than 7 items were removed, which was less than 1% of the respondents. The missing data rate was < 1 % which was corrected by imputing item means. The survey was done anonymously, on voluntary basis, and no traceable data were collected. Every participant had to actively accept that the survey would be time-consuming, and that careless responding would invalidate the usefulness of the data. The data-set is publically available for researchers upon request.

Measurement

The self-report personality questionnaire, IPIP-NEO (Johnson, 2014), is an open-source representation of the original NEO-PI-R (McCrae & Costa, 1997). The IPIP-NEO contains 120 items, which are part of the research collaboration, International Personality Item Pool (IPIP; Goldberg et al., 2006). Six items each are summed into the thirty trait-facets, which in turn form the five trait factors. See Johnson (2014) for detailed information on the instrument. In the present study, the mean Cronbach's coefficient was high for all five trait factors (N = 0.90, E = 0.89, O = 0.81, A = 0.85, C = 0.90).

Statistical analyses

For the purpose of examining measurement invariance in the IPIP-NEO instrument, which is the degree of scale equivalence between nations, we used a multi-group confirmatory factor analysis (MG-CFA) in a structural equation modeling (SEM) framework, extracting estimates by Maximum Likelihood. The recommendation is to test invariance by comparing different models using different stages of constraints (configural, weak metric, strong scalar, and strict error residual; this corresponds to models 1-4 in Table 2 in the present study) and assess fit indices-changes (See Furnham, Guenole, Levine, & Chamorro-Premuzic, 2013, for details of the procedure). We examined change of model fit indices with the root mean square error approximation (RMSEA), which has the advantage of being more insensitive to large sample sizes (compared to, for instance, χ^2). RMSEA scores should preferably not be above .08 or .05, and should preferably not change more than ΔRMSEA .01 between models (Cheung & Rensvold, 2002). We also used the common fit indices using the Comparative Fit Index (CFI). A CFI above .90 or .95 is said to indicate adequate fit (Cheung & Rensvold, 2002), and a change of ΔCFI less than .01 is typically seen as an acceptable level of change (Cheung & Rensvold, 2002). However, cut-off points should always be interpreted carefully since measurements and samples can differ considerably in complexity, especially in comprehensive, hierarchical personality structures (Hopwood & Donnellan, 2010).

RESULTS

Table 1 contains the descriptive summary of the five trait factors reported separately for 12 nations (means, variability, and reliability). Overall, Neuroticism showed the lowest mean scores and the highest variability, while Agreeableness showed the highest mean scores and the lowest variability.

Measurement invariance of the IPIP-NEO

Before reporting on the nation scores of personality, we tested the NEO-IPIP for measurement invariance according to a recommended procedure which compares models with increasing constraints in a multi-group CFA framework (Furnham et al., 2013). The models 1-4 can be tracked with the help of Table 2. Each trait factor structure was modeled separately. The model fit was acceptable for all five trait structures in all stages of testing, as measured by RMSEA (< .05). However, before establishing complete measurement invariance, it is recommended to also analyze how ΔCFI changes. In model 1 we established an unconstrained baseline model with all parameters free (configural invariance). In model 2 we constrained all loadings from items on facets, which did not alter the model fits outside suggested limits (ΔCFI < .01). Thus, metric or weak invariance was attained for all five factors. In model 3 we fixed all item intercepts, which led to a notable change in ΔCFI, above the suggested limits, for the trait factors Openness to Experience and Agreeableness. Hence, scalar or strong invariance could not be established for these factors. Since these intercepts had different starting points across nations, this implied that general comparisons may be problematic (Mõttus et al., 2015). The remaining model 4 showed no noteworthy changes. In conclusion, overall model fits were fairly acceptable (Cheung & Rensvold, 2002), and Neuroticism, Extraversion, and Conscientiousness showed strict equivalence, while Openness and Agreeableness showed weak equivalence.

Table 2. Measurement equivalence testing for IPIP-NEO between nations for each of the five trait factors

	Neuroticism		Extraversion		Openness		Agreeableness		Conscientiousness	
Models	RMSEA	ΔCFI	RMSEA	ΔCFI	RMSEA	ΔCFI	RMSEA	ΔCFI	RMSEA	ΔCFI
1. Unconstrained (Configural)	.032		.032		.026		.029		.023	
2. Measurement weights (Weak metric)	.032	-.001	.031	-.006	.025	-.007	.028	-.005	.023	-.002
3. Measurement intercepts (Strong scalar)	.032	.005	.032	-.001	.027	.015	.030	.018	.024	.005
4. Measurement residuals (Strict)	.032	.003	.031	-.006	.027	.017	.030	.016	.024	.004

Note: df = 492. RMSEA show absolute model fit, and ΔCFI model fit changes, according to increasing constraints (model 1-4), compared to a baseline unconstrained model (model 1). Grayed out number indicate non-invariance (ΔCFI > .01; Cheung & Rensvold, 2002). The strictest form of variance, when constraining all item residuals in the models (7), did hold for Neuroticism, Extraversion, and Conscientiousness.

National differences

Figures 1 and 2 show the national differences between the East Asian and the European countries plotted onto two-dimensional coordinate grids, which map out the size and the relative position of respective standardized personality levels. First, the trait factors Neuroticism and Extraversion are shown in Figure 1. East Asian nations clustered on average slightly below average in Extraversion, thus being characterized more by introversion, while European nations clustered towards the low end of Neuroticism, thus characterized by emotional stability. In East Asia, China deviated from this pattern by scoring low on Neuroticism, and in Europe, Finland deviated by being very low on Extraversion. Second, the trait factors Openness and Agreeableness are reported in Figure 2. East Asian nations clustered in the lower ranges of both trait factors, while the European nations rather clustered in the opposite direction. The Asians and the Europeans seemed to differ along a typology with the higher end characterized by open-mindedness and trust towards others, and the lower end by close-mindedness and distrust. The relative positions of the fifth trait factor, Conscientiousness showed no clear national differences between East Asia and Europe (cf. Table 1).

DISCUSSION

The results imply that population personality levels differ between nations. The East Asian nations scored lower in Openness and in Agreeableness than Northern Europe. East Asia also scored higher in Neuroticism. However, both Agreeableness and Openness did not exhibit strict measurement equivalence, and it cannot be ruled out that parts of these differences are due to construct and scaling discrepancies (see Mõttus et al., 2015). For instance, approximately 20 % of the items in the respective FFM trait factors showed some differential item functioning (DIF) when comparing a Dutch and a US sample (Eigenhuis, Kamphuis, & Noordhof, 2015). Thus, caution should be taken when interpreting the magnitude of size and consequences of national personality differences.

The difference between Asia and Europe was sometimes found to be large, such as, for example, up to 0.80 standardized points lower in Agreeableness in Singapore compared to France (Figure 2). Another way to understand a standardized effect size (Cohen's *d*) is the proportion of people being higher in the measured variable in the one group compared to the other group (see Cohen, 1992). A conversion table translates *d* = .80 to 79 % of the people in France having higher levels of Agreeableness than in Singapore (Note that 50 % would be expected by chance)[1]. Similarly, according to Figure 2, Openness in Sweden compared to Singapore differed with approximately 0.70 standardized points, which translates into 76 % of the Swedes being higher in Openness. National differences such as these (Allik & McCrae, 2004; Bartram, 2013) have been confirmed both with self-reports and observer reports, and predicts nationally relevant outcomes, such as societal values and gross national product (McCrae & Terracciano, 2005).

Method limitations

One overall method concern was that internet surveys are characterized by no control over respondents. In the current study, participants actively found the website with feedback as a motivation. This means that despite the large number of respondents these may not be representative samples. An assumption is that due to self-selection, agreeable and open people are overrepresented (Vedel, 2016). Nevertheless, the similar age ranges, as well as the fairly similar proportions of males and females, speak for sufficiently similar sample characteristics. Another major concern with the online questionnaire was that only English-speaking participants were able to partake. First, this may imply higher socio-economic status in non-English speaking countries, which may lead to non-representative levels in certain trait factors. Second, the possible dissimilarities in English-speaking status between nation samples may imply lower validity – English is not the native language for many East Asian nations. Somewhat alleviating this threat, the IPIP is known for its brief and simple format items (e.g., "..yell at others, "..seek adventure", and "..tell the truth"). Also, it was in all respondents' own interests to understand the items as well as possible, in order to enhance the personality profile feedback.

The link between personality and nation

Personality differences between nations may be explained by aggregated individual differences from the bottom up. For instance, Eastern societies are still characterized by traditional and authoritative families and individuals, while Western societies are more characterized by instilling equality and rights from early upbringing. Concurrently, national differences in personality may be explained by nation states influencing individuals from the top down. For instance, low Neuroticism in Europe might be accentuated

[1] See visual graphs on Cohen's *d* calculations and percentage of differences between groups at http://rpsychologist.com/d3/cohend/.

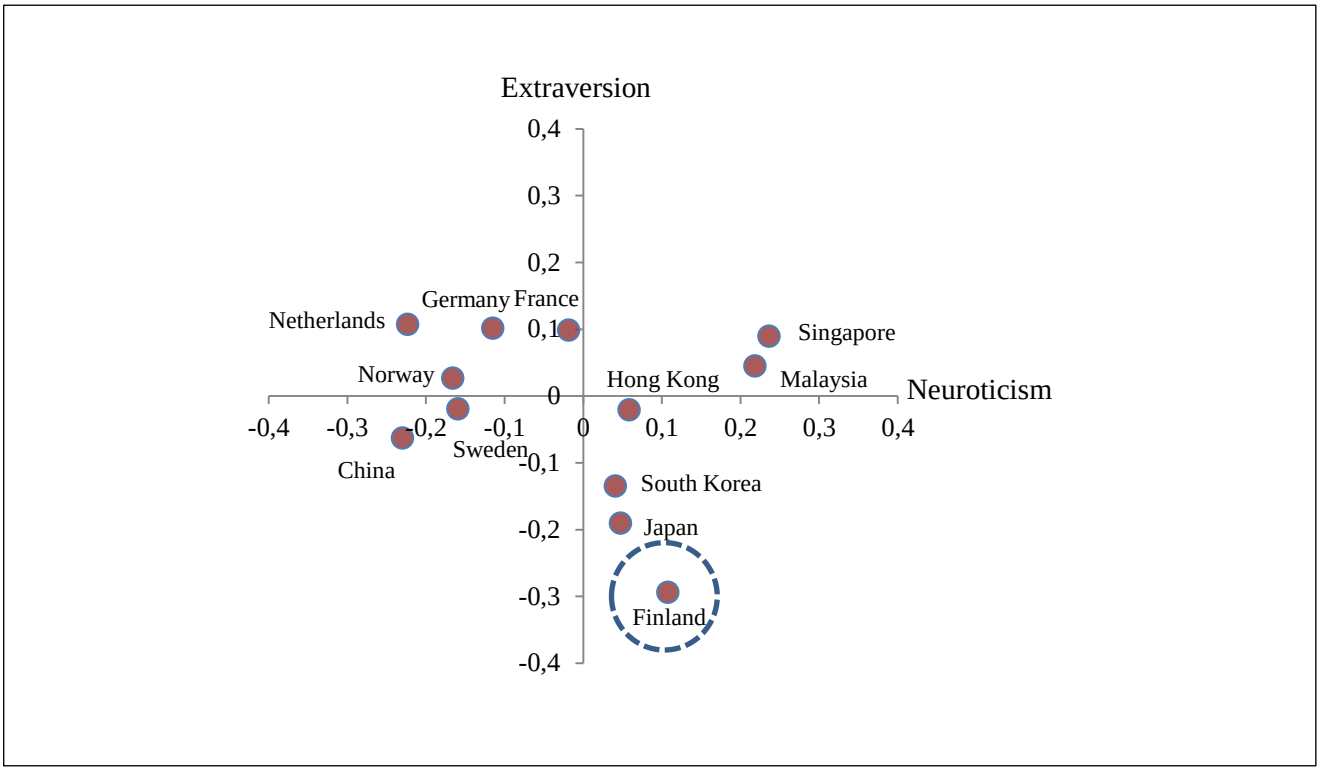

Figure 1. The standardized mean levels of Neuroticism and Extraversion across 12 nations in East Asia and Europe (N = 23,268), as compared by their relative positions. The Netherlands, for example, were low on Neuroticism and high on Extraversion. The marked circle (on Finland) illustrates the approximate size of the 95% confidence interval for the nations' sample sizes.

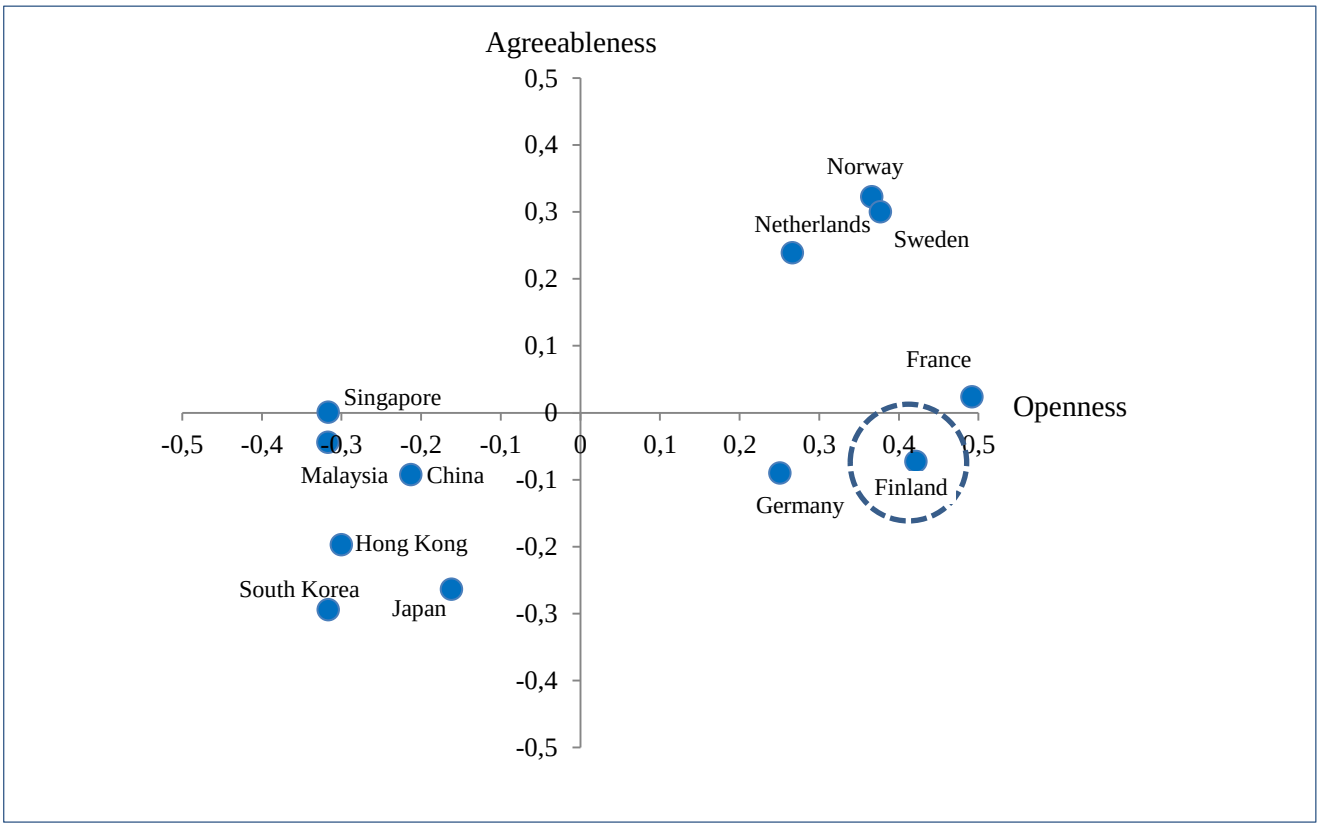

Figure 2. The standardized mean levels of Openness and Agreeableness in 12 nations in East Asia and West Europe (N = 23,268), compared by their relative positions. Norway, for example, was high on Openness and high on Agreeableness. The marked circle (on Finland) illustrates the approximate size of the 95% confidence interval for the nations' sample sizes.

in the population by functioning public institutions which may alleviate worries about living. This idea of cultural formation of personality traits is, however, largely unverified. National self-portraits have not converged with individual self-reports (Terracciano et al., 2005). Nevertheless, it may be informative for future research to, for instance, inquire whether a national level of Openness to Experience can predict a number of innovations, or whether a national level of Agreeableness indicate a level of tolerance towards immigrants. It should also be useful for future studies to use sufficiently large sample-sizes, with $N > 1{,}000$ (cf. Hirschfeld et al., 2014).

Concluding thoughts

There may be ugly events in history dampening enthusiasm for national differences and misuse has led many social science researchers to denounce psychological differences based on nationality. However, a responsible handling of variations in human universals such as personality traits can help describe, explain, and predict both individual as well as national behaviors. We suggest that modern technology and globalization has provided more room for appreciating differences across all corners of the planet and that personality characteristics may to a certain degree describe the psychological constitution of a nation. The present study may help future studies to acknowledge variance otherwise lost to unaccounted national influences.

REFERENCES

Allik, J., & McCrae, R. R. (2004). Toward a Geography of Personality Traits: Patterns of Profiles across 36 Cultures. *Journal of Cross-Cultural Psychology*, *35*, 13–28. http://doi.org/10.1177/0022022103260382

Bartram, D. (2013). Scalar Equivalence of OPQ32: Big Five Profiles of 31 Countries. *Journal of Cross-Cultural Psychology*, *44*, 61–83. http://doi.org/10.1177/0022022111430258

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating Goodness-of- Fit Indexes for Testing Measurement Invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, *9*, 233–255. http://doi.org/10.1207/S15328007SEM0902

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*, 155-159.

De Raad, B., Barelds, D. P., Timmerman, M. E., De Roover, K., Mlačić, B., & Church, A. T. (2014). Towards a Pan-cultural Personality Structure : Input from 11 Psycholexical Studies. *European Journal of Personality Psychology*, *28*, 497–510.

Eigenhuis, A., Kamphuis, J. H., & Noordhof, A. (2015). Personality Differences Between the United States and the Netherlands: The Influence of Violations of Measurement Invariance. *Journal of Cross-Cultural Psychology*, *46*, 549-564.

Furnham, A., Guenole, N., Levine, S. Z., & Chamorro-Premuzic, T. (2013). The NEO Personality Inventory-Revised: Factor Structure and Gender Invariance From Exploratory Structural Equation Modeling Analyses in a High-Stakes Setting. *Assessment*, *20*, 14–23. http://doi.org/10.1177/1073191112448213

Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. G. (2006). The international personality item pool and the future of public-domain personality measures. *Journal of Research in Personality*, *40*, 84–96. http://doi.org/10.1016/j.jrp.2005.08.007

Hirschfeld, G., Brachel, R., Von, & Thielsch, M. (2014). Selecting items for Big Five questionnaires: At what sample size do factor loadings stabilize? *Journal of Research in Personality*, *53*, 54–63.

Hofstede, G., Hofstede, G. J., & Minkov, M. (1991). *Cultures and organizations: Software of the mind (Vol. 2)*. London: McGraw-Hill.

Hopwood, C. J., & Donnellan, M. B. (2010). How Should the Internal Structure of Personality Inventories Be Evaluated? *Personality and Social Psychology Review*, *14*, 332–346. http://doi.org/10.1177/1088868310361240

Johnson, J. A. (2014). Measuring thirty facets of the Five Factor Model with a 120-item public domain inventory: Development of the IPIP-NEO-120. *Journal of Research in Personality*, *51*, 78–89. http://doi.org/10.1016/j.jrp.2014.05.003

Jokela, M., Bleidorn, W., Lamb, M. E., Gosling, S. D., & Rentfrow, P. J. (2015). Geographically varying associations between personality and life satisfaction in the London metropolitan area. *Proceedings of the National Academy of Sciences*, *112*, 725–730. http://doi.org/10.1073/pnas.1415800112

McCrae, R. R., & Costa, P. T. (1997). Personality trait structure as a human universal. *The American Psychologist*, *52*, 509–516. http://doi.org/10.1037/0003-066X.52.5.509

McCrae, R. R., & Terracciano, A. (2005). Personality profiles of cultures: aggregate personality traits. *Journal of Personality and Social Psychology*, *89*, 407–425. http://doi.org/10.1037/0022-3514.89.3.407

Mõttus, R., Realo, A., Allik, J., Esko, T., Metspalu, A., & Johnson, W. (2015). Within-trait heterogeneity in age group differences in personality domains and facets: Implications for the development and coherence of personality traits. *PLoS ONE*, *10*, e0119667. http://doi.org/10.1371/journal.pone.0119667

Plomin, R., DeFries, J. C., Knopik, V. S., & Neiderhiser, J. M. (2016). Top 10 Replicated Findings From Behavioral Genetics. *Perspectives on Psychological Science*, *11*, 3–23. http://doi.org/10.1177/1745691615617439

Polderman, T. J. C., Benyamin, B., de Leeuw, C. A., Sullivan, P. F., van Bochoven, A., Visscher, P. M., & Posthuma, D. (2015). Meta-analysis of the heritability of human traits based on fifty years of twin studies. *Nature Genetics*, *47*, 702–709. http://doi.org/10.1038/ng.3285

Rentfrow, P. J., Gosling, S. D., Jokela, M., Stillwell, D. J., Kosinski, M., & Potter, J. (2013). Divided we stand: three psychological regions of the United States and their political, economic, social, and health correlates. *Journal of Personality and Social Psychology*, *105*, 996–1012. http://doi.org/10.1037/a0034434

Rentfrow, P. J., Jokela, M., & Lamb, M. E. (2015). Regional Personality Differences in Great Britain. *Plos ONE*, *10*, e0122245. http://doi.org/10.1371/journal.pone.0122245

Roberts, B. W., Kuncel, N. R., Shiner, R., Caspi, A., Goldberg, L. R. (2007). The power of personality: The comparative validity of personality traits, socioeconomic status, and cognitive ability for predicting important life outcomes. *Perspectives on Psychological Science*, *2*, 313-345.

Schmitt, D. P., Allik, J., McCrae, R. R., & Benet-Martinez, V. (2007). The Geographic Distribution of Big Five Personality Traits: Patterns and Profiles of Human Self-Description Across 56 Nations. *Journal of Cross-Cultural Psychology*, *38*, 173–212. http://doi.org/10.1177/0022022106297299

Terracciano, A., Abdel-Khalek, A. M., Adam, N., Adamovova, L., Ahn, C. K., Ahn, H. N., ... & Avia, M. D. (2005). National character does not reflect mean personality trait levels in 49 cultures. *Science, 310 (5745)*, 96-100.

Vedel, A. (2016). Big Five personality group differences across academic majors: A systematic review. *Personality and Individual Differences*, *92*, 1–10.

Yamagata, S., Suzuki, A., Ando, J., Ono, Y., Kijima, N., Yoshimura, K., … Jang, K. L. (2006). Is the genetic structure of human personality universal? A cross-cultural twin study from North America, Europe, and Asia. *Journal of Personality and Social Psychology*, *90*, 987–998. http://doi.org/10.1037/0022-3514.90.6.987

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