

National Character Does Not Reflect Mean Personality Trait Levels in 49 Cultures

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Abstract

Most people hold beliefs about personality characteristics typical of members of their own and others' cultures. These perceptions of national character may be generalizations from personal experience, stereotypes with a "kernel of truth," or inaccurate stereotypes. We obtained national character ratings ($N = 3,989$) from 49 cultures and compared them to the average personality scores of culture members assessed by observer ratings and self-reports. National character ratings were reliable, but did not converge with assessed traits ($Mdn r = .04$). Perceptions of national character thus appear to be unfounded stereotypes that may serve the function of maintaining a national identity.

Beliefs about distinctive personality characteristics common to members of a culture are referred to as national character (1) or national stereotypes (2-4). National stereotypes include beliefs about social, physical, and mental characteristics, but the present article focuses on personality traits. Several factors are thought to influence these beliefs. They may be generalizations based on observations of the personality traits of individual culture members. They may be inferences based on the national ethos, as revealed in socio-economic conditions, history, customs, myths, legends, and values. They may be shaped by comparisons or contrasts with geographically close or competing cultures. Stereotypes are oversimplified judgments, but if they have some “kernel of truth” (5), national character should reflect the average emotional, interpersonal, experiential, attitudinal, and motivational styles of members of the culture.

There have been surprisingly few attempts to examine the accuracy of national stereotypes (3, 5-7), perhaps because researchers lacked appropriate criteria. However, recent advances in personality psychology and cross-cultural research make it possible to compare perceived national character to aggregate personality data (that is, the means of a sample of assessments of individuals) across a wide range of cultures.

Personality Traits and Aggregate Personality Profiles

National character may be a social construction, but personality traits are rooted in biology. Most personality psychologists today agree that the dimensions of the Five-Factor Model (FFM) of personality—Neuroticism versus Emotional Stability, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness—account for the covariation of most personality traits (8), and behavioral genetics studies (9) have shown that traits from all five factors are strongly heritable. As products (in part) of the human genome, traits are universal: Cross-cultural research suggests that the structure and development of personality traits is very similar in nations as dissimilar as India, Argentina, and Burkina Faso (10). In every culture examined, the five factors are hierarchically related to lower-order traits or facets. For example, the Extraversion factor in the Revised NEO Personality Inventory (NEO-PI-R) (11) is defined by Warmth, Gregariousness, Assertiveness, Activity, Excitement Seeking, and Positive Emotions facets.

Personality traits can be assessed with standardized instruments such as the NEO-PI-R, using either self-reports or observer ratings from knowledgeable informants. The reliability and validity of individual assessments made with the NEO-PI-R are well established (10, 11). Recent cross-cultural data also indicate that aggregate (or mean) NEO-PI-R scores can be validly used to describe cultures as a whole. In a study of self-report data from 36 cultures, culture-level scores were generalizable across age groups and gender, and aggregate scores showed meaningful patterns of convergent and discriminant validity with other culture-level variables such as Individualism-Collectivism (12). Geographically and historically related cultures (such as Germany and Austria or the United States and Canada) showed similar personality profiles (13). Most of these findings were replicated in a subsequent study using observer ratings from 51 cultures (10, 14), and aggregate self-reports were significantly correlated with aggregate observer ratings for most of the 30 NEO-PI-R facets. Assessed aggregate personality scores from these two studies can thus be used in a multimethod evaluation of the accuracy of perceptions of national character.

Accuracy of Stereotypes

There is a substantial literature on the evaluation of the accuracy of stereotypes (3),

showing that they may or may not reflect reality. For example, gender stereotypes depicting women as warm and men as assertive are widely held around the world (15). Cross-cultural studies using both self-reports and observer ratings have shown that women in fact score higher on measures of Warmth, whereas men score higher on measures of Assertiveness (10, 16). Assessed gender differences are small, but are largely consistent with gender stereotypes (17, 18), so those views appear to have a basis in the characteristics of individuals.

The available literature provides less support for the accuracy of beliefs about national character. The perceptions of a panel of experts in cross-cultural psychology did not match beyond chance assessed characteristics in a sample of 26 cultures (19). Church and Katigbak (20) identified raters who had lived in both the United States and the Philippines and asked them to compare the typical American with the typical Filipino on traits that paralleled the 30 NEO-PI-R facets. There was considerable consensus among the judges, but their judgments did not correspond to differences observed when mean American self-reports were compared to mean Filipino self-reports. Another study using the NEO-PI-R found no support for popular stereotypes of Northern and Southern Italians (21).

Here we examine whether national character, as described by culture members themselves (the in-group), are consistent with aggregate personality data. Aggregate scores from self-report and observer ratings on the NEO-PI-R provide the criteria, but measurement of perceived national character requires a new instrument.

Measuring National Character

We designed a short questionnaire, the National Character Survey (NCS), to describe the typical member of a culture (22). The NCS consists of 30 bipolar scales with two or three adjectives or phrases at each pole of the scale (see Appendix S1, on-line). For example, the first item asks how likely it is that the typical member of a culture is *anxious, nervous, worrying* vs. *at ease, calm, relaxed*. Each 5-point scale taps one of the 30 facets assessed by the NEO-PI-R, with six items for each of the five major dimensions of personality traits. Internal consistency and factor analysis of the NCS items (supporting online material) indicate that the scales have acceptable psychometric properties and successfully define the dimensions of the FFM. To the extent that the FFM is a comprehensive model of personality, the NCS should capture the essential features of national character.

Data were gathered from 49 cultures or subcultures from six continents, using translations into 27 languages from Indo-European, Hamito-Semitic, Sino-Tibetan, Uralic, Malayo-Polynesian, and Altaic families. Most cultures corresponded to nations; however, where subcultures could be identified on the basis of history (e.g., England vs. N. Ireland) or language (e.g., French- vs. German-speaking Switzerland), they were treated as separate samples. In each sample, we asked college students to complete the NCS to describe the typical member of their culture or subculture, and then, as a common basis of comparison, the typical American.

Analyses of the NCS data in the full sample ($N = 3,989$) and in selected subsamples supported the reliability, generalizability, and validity of the NCS as a measure of perceived national character (supporting online text). Interjudge reliability between single raters showed there is only modest agreement between individual judgments of national character, with coefficients ranging from .09 to .30 ($Mdn = .17$). This is roughly half the size of typical agreement between two judges on a single person they both know well (23). However, by aggregating the judgments of an average of 81 raters per culture, highly reliable means were obtained, with reliability coefficients ranging from .96 to .97 for the five factors, and from .89 to

.97 (*Mdn* = .94) for the 30 facets. These aggregate values correspond to the shared portion of individuals' perceptions. Men and women provided essentially the same profile of the typical member of their culture: When mean scores for female subsamples were correlated with mean scores for male subsamples matched on culture, correlations for the five factors ranged from .80 to .90 ($N = 49$; all $ps < .001$).

Additional analyses comparing NCS profiles across groups used *T*-scores ($M = 50$, $SD = 10$) based on the grand means and standard deviations across all raters and samples for the 30 NCS items. Profile agreement is calculated as the intraclass correlation (ICC) across the 30 facets using the double-entry method (24). Intraclass correlations are similar to Pearson correlations, but are sensitive to both the shapes of the profiles and differences in elevation, and are thus an appropriate metric for assessing profile similarity. With 30 profile elements, ICCs above .57 are significant at $p < .001$.

Several comparisons suggested that NCS means were robust. In Ethiopia and Italy, samples of adults were used as raters in addition to college students and yielded similar profiles (ICCs = .62 and .90, respectively). In some cultures student data from multiple sites were available, and intraclass correlations between these different sites ranged from .76 to .94 (25). This is illustrated for Canada and the U.S.A. by the dotted lines in Figure 1 (26).

Mean NCS scores for the 49 cultures are available on-line, Table S1; the highest and lowest scoring cultures for each factor are listed in Table 1. It is perhaps not surprising that Australians see themselves as Extraverts, German Swiss believe they are typically high in Conscientiousness, and Canadians describe themselves as Agreeable. But many of the other entries are nations with which most readers are not familiar, and it is difficult to judge the plausibility of these ratings. In any case, individual judgments of national character—including the reader's—have low reliability. The data suggest that aggregate values accurately reflect the way in-group members perceive the personality of the typical member of their culture.

Comparing National Character and Aggregate Personality Traits

The primary question this study was designed to address is whether these in-group perceptions of national character accurately reflect aggregate judgments of individual personality traits. A first examination of the data shows one respect in which they are clearly different: There is a much greater range of variation across cultures in perceived traits than in assessed traits. For example, the typical German-speaking Swiss is thought to score 28 *T*-score points higher on Conscientiousness than the typical Indonesian, but the largest difference on observer-rated Conscientiousness between any two cultures was only 8 *T*-score points. Thus, if national stereotypes are accurate at all, they clearly exaggerate real differences.

We first examined agreement of trait profiles within cultures, correlating NCS facet scores with assessed mean facet values from NEO-PI-R observer ratings ($N = 11,479$) in 47 cultures (10) and self-reports ($N = 25,732$) in 30 cultures (12, 22). ICCs between NCS and the NEO-PI-R observer rating profiles ranged from $-.57$ for England to $.40$ for Poland (*Mdn* = .00), and there was a significant positive correlation in only four cultures (New Zealand, Australia, Poland, and Lebanon). Examples of these findings are shown in Figure 1, in which the solid lines, representing mean observer rated NEO-PI-R profiles, deviate markedly from the perceptions of national character, especially with regard to Agreeableness facets. ICCs between NCS and mean NEO-PI-R self-report profiles ranged from $-.46$ for Russia to $.46$ for Poland (*Mdn* = $-.02$), and only Poland and Japan showed significant positive correlations (see Table S1, on-line). Thus, only for Poland were the observer rating findings replicated. Overall, there is

little support for the view that perceptions of national character profiles are accurate in any culture.

However, it is possible that agreement exists for some factors. To determine the degree of agreement for each trait, NCS domain and facets scores were correlated with NEO-PI-R observer rating and self-report across 47 and 30 cultures, respectively. For the five factors, correlations with observer ratings ranged from $-.23$ to $.13$, and those with self-reports ranged from $-.34$ to $.30$ (Table S2, on-line), indicating that there is no relation between aggregate NEO-PI-R data and the NCS on any of the five major dimensions. (This finding is illustrated in Table 1, where cultures scoring high versus low on the five NCS factors do not differ systematically on mean NEO-PI-R *T*-scores.) There are eleven significant correlations at the facet level, five of which are negative. The median of the 70 correlations was $.04$. The only replicated effect is a significant negative correlation with Openness to Feelings: In cultures where people have a sensitive and rich emotional life, they perceive that their typical compatriot is emotionally impoverished. These analyses, too, provide little reason to trust national stereotypes (27).

Discussion

Comparisons across cultures are always challenging, and several factors may have limited the association between NCS and NEO-PI-R profiles, including problems in translation, response biases such as acquiescence (a yea-saying tendency)(29), and the unfamiliarity of respondents in some cultures with the use of rating scales (10). Comparisons would have been more direct if the full NEO-PI-R had been used to assess national character. Yet the mean NCS scores were reliable and generalizable across sites and types of rater and showed the hypothesized factor structure. Future studies might use more representative raters, although student and adult samples gave similar results when both were available.

In the case of gender differences, widely held stereotypes are consistent with—although they may exaggerate—assessed personality differences between men and women (16-18). That kernel-of-truth hypothesis does not appear to apply to national character. Correspondence between perceived national character traits and the average levels of traits of individual members of each culture was found neither within nor across cultures. Perceptions of national character are not generalizations about personality traits based on accumulated observations of the people with whom one lives; instead, they appear to be social constructions that may serve different functions altogether. Correlations of NCS scores with culture-level variables might be informative about these functions. Whatever their origins, stereotypes may be perpetuated by information processing biases in attention/perception, encoding, and integration of information (2, 30). They become cultural phenomena, transmitted through media, hearsay, education, history, and jokes.

But national character also has a much darker side. When stereotypes of national or ethnic groups are unfavorable they can lead to prejudice, discrimination, or persecution, of which history and the world today are full of tragic examples. The classic analysis of stereotypes depicted them as the product of authoritarian (31) or prejudiced personalities (32); more recent approaches have considered them as the result of general cognitive processes (2). Though social scientists have long been skeptical about the accuracy of national stereotypes, the present study offers the best evidence to date that in-group perceptions of national character may be informative about the culture, but they are not descriptive of the people themselves.

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25. By contrast, distinct cultures within countries showed different profiles. In the UK, the profiles of England and Northern Ireland showed no resemblance ($ICC = -.01$). Similarly, in the PRC, the profiles of China and Hong Kong showed no resemblance ($ICC = -.25$). There is some resemblance between Czech and Slovakian ($ICC = .43, p < .05$), and Serbian and Croatian ($ICC = .43, p < .05$) profiles; the separation of those nations is relatively recent.
26. Additionally, we compared NCS scores from the Philippines to ratings made by bicultural raters in an earlier study (20). Because Church and Katigbak used comparative judgments, we created new NCS scores by subtracting Filipino ratings of the typical American from Filipino ratings of the typical Filipino. The correlation of these 30 difference scores with the Church and Katigbak ratings was $.76, p < .001$.
27. Different standards of evaluation across cultures might have affected the results—that is, raters from some cultures may have been more generous or critical in their ratings than raters from other cultures, distorting the comparison across cultures. On the assumption that such biases would affect ratings both of one's own compatriots and of Americans, we calculated difference scores by subtracting each judge's rating of the typical American from his or her rating of the typical compatriot for each NCS item. Assuming that cultures agree on the typical American, this procedure in effect subtracts the bias plus a constant, and leaves a potentially better estimate of national character. We standardized the differences as *T*-scores, using difference score normative

values from the worldwide sample, excluding the US. The difference scores were highly correlated with NCS scores ($r_s = .65$ to $.91$, $p < .001$), and provided essentially the same results. ICCs between difference scores and NEO-PI-R observer ratings ranged from $-.44$ for England to $.48$ for Lebanon ($Mdn = .03$). ICCs between difference scores and NEO-PI-R self-reports ranged from $-.47$ for Russia to $.53$ for Poland ($Mdn = .01$). For the five factors, correlations with observer ratings across cultures ranged from $.08$ to $.23$, and those with self-reports ranged from $-.37$ to $.23$. These results suggest that the lack of correspondence between NEO-PI-R and NCS profiles is not simply due to different standards of evaluation in different cultures. A different issue concerns the reference-group effect (28), according to which self-reports and observer ratings of individuals are implicitly made by reference to the distribution of scores in the rater's culture. Such an effect would tend to make aggregate personality scores uniform for all cultures, and the failure to find correlations with NCS factors would be due to a lack of variation in aggregate NEO-PI-R means. But NEO-PI-R means in fact vary systematically across cultures and show strong correlations across methods and with other culture-level variables (12, 14). Thus, the reference-group effect cannot explain the failure to find correlations with NCS scales.

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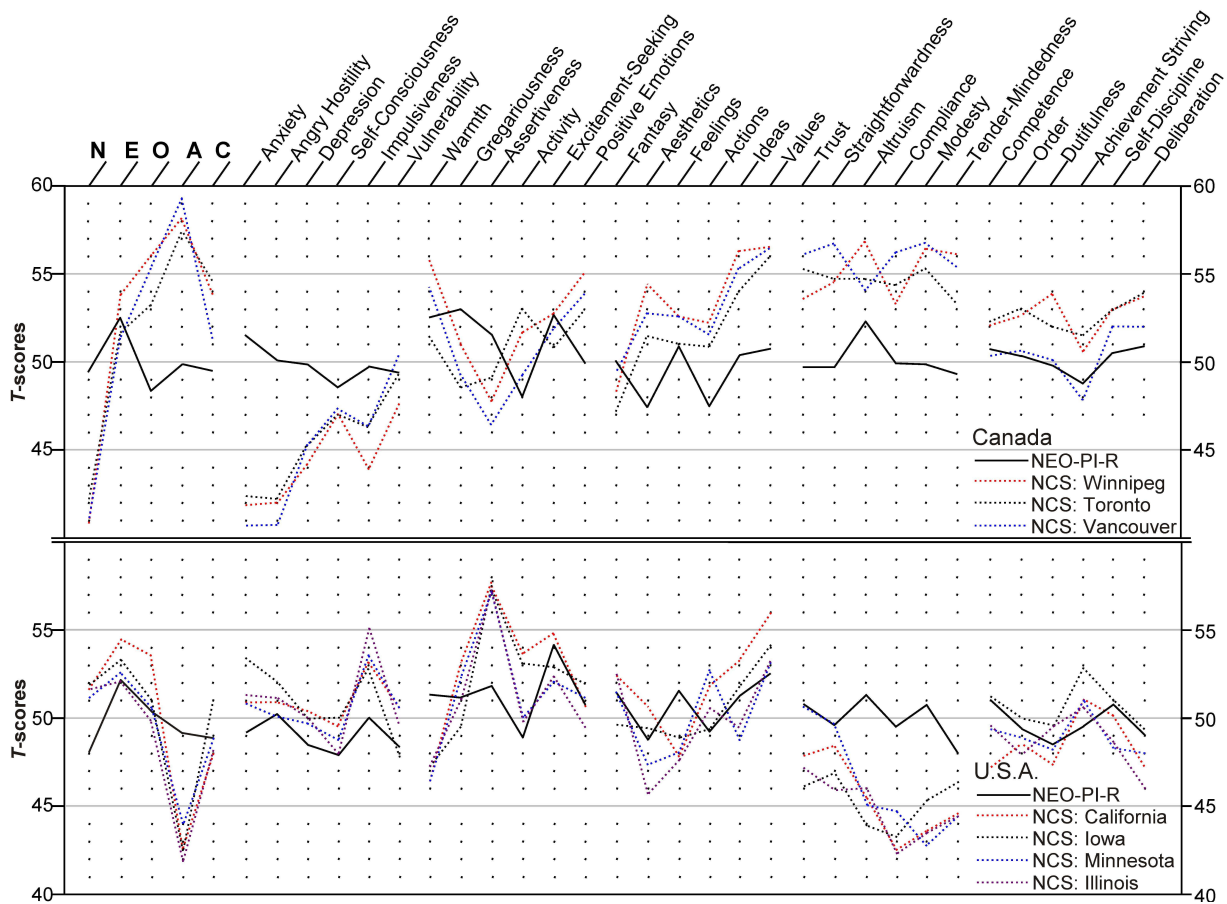
Table 1
Cultures Scoring Highest and Lowest on Five National Character Survey (NCS) Factors, with
Observer-Rated Revised NEO Personality Inventory (NEO-PI-R) Factor Mean *T*-Scores

| Highest NCS Scores | | Lowest NCS Scores | |
|--------------------------|--------------------------|--------------------|--------------------------|
| Culture | NEO-PI-R <i>T</i> -Score | Culture | NEO-PI-R <i>T</i> -Score |
| <i>Neuroticism</i> | | | |
| Indonesia | 50.0 | The Philippines | 48.3 |
| Nigeria | 47.8 | Canada | 49.5 |
| Turkey | 51.4 | New Zealand | 47.9 |
| Poland | 50.7 | Australia | 48.6 |
| Japan | 50.7 | Burkina Faso | 53.1 |
| <i>Extraversion</i> | | | |
| Puerto Rico | 51.6 | Slovenia | 49.5 |
| Australia | 53.8 | Indonesia | 45.4 |
| Spain | 50.4 | French Switzerland | 51.0 |
| New Zealand | 52.4 | Japan | 49.4 |
| Serbia | 49.3 | Estonia | 52.1 |
| <i>Openness</i> | | | |
| Russia | 49.7 | P. R. China | 50.1 |
| India | 48.8 | Estonia | 46.8 |
| Nigeria | 49.1 | Chile | 51.8 |
| Kuwait | 47.6 | Turkey | 48.2 |
| Puerto Rico | 49.7 | Japan | 51.2 |
| <i>Agreeableness</i> | | | |
| Burkina Faso | 51.3 | Czech Republic | 54.2 |
| India | 51.7 | Lebanon | 46.4 |
| Canada | 49.9 | United States | 49.1 |
| Botswana | 48.0 | Argentina | 50.6 |
| Russia | 50.3 | Hong Kong | 46.9 |
| <i>Conscientiousness</i> | | | |
| German Switzerland | 53.5 | Spain | 51.3 |
| Sweden | 45.7 ^a | Turkey | 51.4 |
| Germany | 52.3 | Croatia | 50.3 |
| Burkina Faso | 49.7 | Chile | 52.2 |
| Estonia | 50.0 | Indonesia | 49.6 |
| <i>Mdn</i> | 50.0 | | 49.6 |

^aObserver rating data were unavailable for Sweden; self-report data are shown (12).

Figure 1.

T-scores for NCS and NEO-PI-R factor and facet scales. On the left the scores for the five factors are plotted; toward the right are the 30 facets, grouped by the factor they define. Dotted lines show the NCS profile of the typical Canadian (top panel) and American (bottom panel) as perceived by students from three Canadian and four American sites, respectively. High profile similarity can be observed among the Canadian sites (ICCs = .89 to .92) and among the American sites (ICCs = .76 to .89), suggesting consensus on national character. Solid lines show mean observer rated NEO-PI-R profiles. In both Canada (ICC = -.03) and the USA (ICC = .23), in-group perceptions of national character across all sites do not reflect aggregate assessments of individual personality traits. The distinction between national character and mean trait levels can also be seen by comparing top and bottom panels: The NEO-PI-R profiles of the USA and Canada are similar (ICC = .66), whereas there is no agreement between their national character ratings (ICC = -.53). N = Neuroticism. E = Extraversion. O = Openness to Experience. A = Agreeableness. C = Conscientiousness.



Supporting online material

Materials and Methods

Participants

Participation was voluntary and anonymous, and, as anonymous survey research, the project was ruled exempt from IRB review. Across cultures, a total of 4,170 individuals completed the NCS. Using exclusion criteria described below, 181 (4.3%) surveys were excluded, leaving 3,989 valid assessments. Sample sizes for each culture ranged from 39 to 351 (see Table S1). The proportion of male respondents was higher in less affluent and lower among European countries. With the exception of Sweden, the mean ages are within the range of college student samples.

In most cultures participants were students, but in a few cases data from adults were also collected. In Sweden and Hungary the samples were mixed. In Ethiopia a non-student sample was recruited in addition to the student sample. In Italy one student sample and two adult samples were recruited. In Brazil ($n = 3$), Canada ($n = 3$), New Zealand ($n = 2$), and the United States ($n = 4$) we collected samples from multiple sites.

Aggregated NEO-PI-R assessments based on observer rating data were obtained from 51 cultures (1), 47 of which overlap with the cultures assessed using the NCS. Self-report data from 36 cultures (2) were supplemented by data provided by J. Rossier from Burkina Faso and French-speaking Switzerland, and by J. Siuta from Poland; 30 of these 39 cultures were also assessed using the NCS.

National Character Survey

The NCS consisted of 30 items (Appendix S1), each corresponding to a facet of the NEO-PI-R. Item order was rotated through the five factors, and to control for acquiescence, half the items for each factor had the positive pole on the right side, whereas the other half had the positive pole on the left side. Scores for the five factors were the sum of the six relevant items after reflecting negatively-keyed items.

The survey was translated from English into 26 other languages. Translations were made by the co-authors into their native languages. Translators were instructed to choose words or phrases that best conveyed the intended construct, using as a reference the description of the 30 facets from the NEO-PI-R *Manual* (3). Translators were instructed to find a bilingual colleague to provide an independent back-translation into English. The first and senior authors independently examined these back-translations, and any items that appeared problematic were reconsidered by the co-authors/translators.

Procedure

In each culture respondents rated a typical member of their own culture or subculture and the typical American. To reduce contrast effect biases, the survey was administered in two steps, and raters were not aware that they would be asked about Americans until the first step was completed. Respondents were tested in groups, and instructions stated that:

We are interested in your opinions on _____s. You are to judge the likelihood of 30 characteristics for the typical _____. At each end of the scale, a description is written. Your task is to place a mark on each scale to describe _____s,

where blanks were filled in with the name of their culture's members.

When everyone in the group was finished, respondents from countries other than the United States turned to the last page, and the administrator said:

“Now we would like to learn about your opinions of another group, Americans. Have any of you visited or lived in the United States? If so, please check *yes* on at the top of the page. If not, check *no*. Please write “Americans are likely to be” at the top of the page. Then complete the survey just as you did before. When you are finished, please turn the survey in. Please do not discuss this survey with other students who may participate in the study later. Thank you for your help.”

Separate analyses of raters who had ($n = 942$) and had not ($n = 2,368$) been in the United States showed little difference. ICC between American profiles for the two groups was .91.

Protocol Validity

We assessed the validity of individual protocols using rules that paralleled those used for the NEO-PI-R (3). We excluded as invalid questionnaires with more than five missing responses to the 30 items describing the participant's own culture or which showed patterns of random, repetitive responding, specifically, more than ten consecutive *equally likely* responses, or more than five consecutive *very unlikely*, *unlikely*, *likely*, or *very likely* responses. Across samples, seven cases were eliminated because of missing items and 174 were eliminated by the repetitive responses criteria. Ratings of the typical American by other cultures' members were excluded from the analysis involving such ratings when deemed invalid according to the same criteria. Missing items in valid protocols were replaced with the neutral value.

Psychometric Evaluation of the NCS scales

Internal consistency. Analyses of the 3,989 individual responses from the worldwide sample indicated that Cronbach's alpha for the five factor scales were .58, .64, .57, .69, .77 for Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness, respectively. These reliability coefficients are acceptable for six-item scales. None of the items showed negative corrected item/total correlations, but six facets (N4: Self-Consciousness, N5: Impulsiveness, N6: Vulnerability, E3: Assertiveness, O1: Fantasy, and O3: Feelings) showed correlations lower than .30.

Analyses at the culture level using the means of all respondents in each culture ($N = 49$) indicated that Cronbach's alphas for the five factor scales were .77, .84, .75, .83, .93 for Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness, respectively. The only facet with a corrected item/total correlation lower than .30 was N5: Impulsiveness.

Factor structure. A principal components analysis was conducted on the 30 items in the entire sample of 3,989 subjects. The first six eigenvalues were 5.5, 3.5, 2.5, 1.3, 1.2, and .9, and parallel analysis (4) indicated that five factors should be retained. The five-factor solution explained 47% of the variance.

The NCS factor structure was rotated toward the American normative NEO-PI-R factor structure to evaluate fit with the target structure (5). As indicated by the total and factor congruence coefficients in Table S2, the NCS factor solution replicates the intended target, according to Haven and ten Berge's .85 criterion (6). This is noteworthy given that only a single

item assesses each facet. The departures from the target structure are all consistent with salient secondary loadings in the target structure; for example, N5: Impulsiveness shows a large (and meaningful) negative secondary loading on the Conscientiousness factor in the target matrix.

Interjudge reliability. Intraclass correlation coefficients (7) for the five factors and the 30 facets are reported in Table S2. Intraclass correlations provide estimates of the reliability of single raters [$ICC(1,1) = BMS - WMS / BMS + (k-1)WMS$] and of the culture-average ratings [$ICC(1,k) = (BMS - WMS) / BMS$], where k is the mean number of raters per culture, BMS is the between-subject mean square, and WMS is the within-subject mean square from an ANOVA with cultures as the independent variable.

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Table S1

Sample Description, National Character Survey Factor Scale Means, and Intraclass Correlations with NEO-PI-R Aggregate Observer Ratings and Self-Reports

| Culture | Language | Raters | | | Mean NCS Factor Scale | | | | | ICC _R | ICC _S |
|----------------|------------|----------|--------|--------------|-----------------------|----------|----------|----------|----------|------------------|------------------|
| | | <i>n</i> | % Male | <i>M</i> Age | N | E | O | A | C | | |
| Argentina | Spanish | 51 | 27.5 | 28.1 | 56.2 | 52.6 | 52.3 | 42.4 | 42.0 | -.08 | — |
| Australia | English | 52 | 26.9 | 23.3 | 40.2 | 58.1 | 50.5 | 54.1 | 49.7 | .38* | — |
| Belgium | Flemish | 82 | 6.2 | 20.9 | 48.9 | 48.4 | 48.2 | 49.9 | 55.4 | -.45* | -.17 |
| Botswana | English | 81 | 30.3 | 21.4 | 44.3 | 48.4 | 52.4 | 57.9 | 50.6 | -.11 | — |
| Brazil (3) | Portuguese | 149 | 12.8 | 23.2 | 47.5 | 56.7 | 55.1 | 53.0 | 48.2 | .00 | — |
| Burkina Faso | French | 50 | 63.3 | 25.6 | 38.6 | 54.2 | 51.6 | 59.9 | 58.6 | -.16 | -.40* |
| Canada (3) | English | 238 | 37.6 | 21.7 | 41.1 | 52.2 | 55.1 | 58.6 | 52.7 | -.03 | .19 |
| Chile | Spanish | 49 | 34.7 | 18.7 | 56.9 | 43.2 | 42.6 | 48.9 | 38.4 | -.33 | — |
| China | Chinese | 47 | 61.7 | 22.1 | 43.1 | 41.6 | 43.5 | 51.1 | 51.0 | -.02 | -.02 |
| Croatia | Croatian | 49 | 8.2 | 21.1 | 55.1 | 47.5 | 43.9 | 47.5 | 40.8 | -.16 | .11 |
| Czech Republic | Czech | 71 | 26.8 | 21.8 | 54.6 | 44.3 | 46.2 | 45.2 | 49.2 | -.16 | .20 |
| Denmark | Danish | 63 | 15.9 | 27.7 | 46.5 | 46.6 | 46.2 | 47.6 | 55.5 | -.40* | -.01 |
| Estonia | Estonian | 48 | 12.5 | 22.9 | 51.0 | 38.1 | 43.3 | 45.3 | 55.9 | -.10 | -.08 |
| Ethiopia (2) | English | 97 | 69.1 | 27.4 | 50.2 | 46.2 | 51.2 | 55.9 | 49.1 | -.09 | — |
| France | French | 65 | 12.3 | 24.2 | 54.6 | 46.9 | 51.5 | 46.9 | 50.0 | .27 | .35 |
| Germany | German | 86 | 17.4 | 23.3 | 50.9 | 44.7 | 43.7 | 45.8 | 59.5 | -.04 | -.18 |
| Hong Kong | Chinese | 93 | 26.1 | 19.5 | 55.9 | 48.0 | 45.5 | 42.4 | 53.0 | .29 | -.05 |
| Hungary | Hungarian | 49 | 55.1 | 23.3 | 57.3 | 42.0 | 46.4 | 46.0 | 45.9 | — | .24 |
| Iceland | Icelandic | 192 | 50.5 | 25.9 | 52.7 | 51.3 | 54.8 | 45.7 | 49.4 | -.06 | — |
| India | English | 49 | 51.0 | 19.2 | 43.6 | 55.5 | 59.5 | 59.3 | 55.1 | -.06 | -.05 |
| Indonesia | Indonesian | 64 | 32.8 | 19.5 | 60.6 | 41.3 | 44.1 | 52.6 | 34.3 | .06 | .05 |
| Italy (3) | Italian | 197 | 45.2 | 26.9 | 51.3 | 55.2 | 54.4 | 50.8 | 44.0 | .05 | -.01 |
| Japan | Japanese | 50 | 40.0 | 24.1 | 57.5 | 39.5 | 40.8 | 53.5 | 53.7 | .05 | .41* |
| Kuwait | Arabic | 66 | 56.1 | 20.5 | 48.9 | 55.4 | 56.4 | 56.5 | 53.0 | -.07 | — |
| Lebanon (2) | English | 103 | 34.7 | 19.6 | 51.9 | 53.4 | 52.6 | 44.6 | 45.2 | .39* | — |
| Malaysia | Malay | 85 | 22.0 | 23.3 | 50.7 | 47.7 | 51.9 | 55.9 | 48.5 | .13 | .31 |
| Malta | English | 49 | 28.6 | 22.2 | 52.7 | 53.2 | 44.3 | 48.6 | 48.3 | .25 | — |
| Morocco | English | 60 | 51.7 | 20.9 | 50.7 | 48.4 | 47.5 | 48.6 | 44.5 | .25 | — |

| | | | | | | | | | | | |
|-------------------|------------|-----|------|------|------|------|------|------|------|--------|--------|
| New Zealand (2) | English | 164 | 16.5 | 20.3 | 41.0 | 57.2 | 54.1 | 53.9 | 50.5 | .36* | — |
| Nigeria | English | 43 | 44.2 | 22.7 | 59.3 | 56.2 | 57.3 | 46.2 | 49.5 | -.12 | — |
| Peru | Spanish | 47 | 25.5 | 22.2 | 54.9 | 51.0 | 47.9 | 47.8 | 43.0 | .13 | .07 |
| Philippines | Filipino | 47 | 23.4 | 20.5 | 43.0 | 55.3 | 53.3 | 53.9 | 52.3 | .14 | -.18 |
| Poland | Polish | 49 | 49.0 | 21.9 | 58.0 | 47.2 | 46.5 | 45.3 | 46.8 | .40* | .46** |
| Portugal | Portuguese | 46 | 32.6 | 21.6 | 49.6 | 52.6 | 47.1 | 55.5 | 46.2 | -.01 | -.19 |
| Puerto Rico | Spanish | 39 | 52.6 | 24.1 | 47.1 | 60.6 | 56.2 | 52.7 | 48.4 | .10 | — |
| Russia | Russian | 50 | 38.0 | 19.6 | 45.2 | 56.6 | 61.6 | 56.5 | 45.9 | -.35* | -.46** |
| Serbia | Serbian | 69 | 24.6 | 21.4 | 52.0 | 56.8 | 47.1 | 45.5 | 44.7 | .08 | -.02 |
| Slovakia | Slovak | 47 | 48.9 | 20.5 | 54.9 | 47.3 | 45.6 | 55.6 | 48.2 | .14 | — |
| Slovenia | Slovene | 88 | 14.8 | 20.8 | 54.7 | 41.4 | 44.2 | 46.9 | 55.6 | .25 | — |
| South Korea | Korean | 53 | 20.8 | 21.3 | 49.4 | 49.2 | 49.2 | 55.7 | 51.6 | -.09 | -.21 |
| Spain | Spanish | 48 | 18.8 | 21.3 | 45.5 | 57.8 | 50.8 | 50.2 | 41.9 | -.10 | -.18 |
| Sweden | Swedish | 48 | 30.4 | 53.9 | 44.7 | 43.7 | 47.2 | 54.0 | 59.8 | — | .11 |
| Switzerland | French | 68 | 22.1 | 22.7 | 48.9 | 40.8 | 43.9 | 48.3 | 54.9 | -.29 | -.29 |
| Switzerland | German | 199 | 19.7 | 25.8 | 50.2 | 42.2 | 44.5 | 49.1 | 62.7 | .06 | -.18 |
| Turkey | Turkish | 59 | 55.2 | 20.3 | 58.2 | 45.9 | 42.3 | 50.6 | 41.6 | .00 | -.09 |
| Uganda | English | 41 | 46.3 | 26.2 | 50.8 | 52.2 | 52.5 | 47.8 | 47.7 | .28 | — |
| UK: England | English | 52 | 23.1 | 24.9 | 50.7 | 43.9 | 45.8 | 46.5 | 52.9 | -.57** | — |
| UK: N. Ireland | English | 46 | 6.5 | 20.2 | 49.8 | 53.2 | 47.1 | 47.4 | 50.7 | .29 | — |
| United States (4) | English | 351 | 31.0 | 20.2 | 51.6 | 52.9 | 51.0 | 42.5 | 48.6 | .23 | -.01 |

Note. Multiple sites for a culture are indicated in parentheses. Mean NCS scales are expressed as *T*-scores using across-culture normative values. Dashes indicate missing data. N = Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness; NCS = National Character Survey; NEO-PI-R = Revised NEO Personality Inventory; ICC_R = intraclass correlation between mean NCS scores and corresponding aggregate NEO-PI-R observer ratings across 30 facets; ICC_S = intraclass correlation between mean NCS scores and corresponding aggregate NEO-PI-R self-reports across 30 facets. * $p < .05$; ** $p < .01$ (with Bonferroni correction for 30 profile elements, $|r|$ s greater than .56 are significant at $p < .05$).

Table S2.

Descriptive Statistics, Factor Structure of National Character Scales (NCS) after Targeted Rotation, Intraclass Correlations, and NCS/NEO-PI-R Correlations

| <i>NCS Scale</i> | Mean | SD | Factor | | | | | VC | ICC(1,1) | ICC(1,k) | NEO-PI-R | |
|------------------------|-------|------|------------|-------------|------------|-------------|-------------|------------------|----------|----------|----------|-------|
| | | | N | E | O | A | C | | | | r_R | r_S |
| N: Neuroticism | 11.49 | 3.49 | | | | | | | .25 | .96 | .10 | -.07 |
| E: Extraversion | 14.49 | 3.76 | | | | | | | .29 | .97 | .13 | -.08 |
| O: Openness | 12.24 | 3.69 | | | | | | | .21 | .96 | -.23 | -.31 |
| A: Agreeableness | 12.93 | 3.90 | | | | | | | .25 | .96 | .10 | .30 |
| C: Conscientiousness | 13.76 | 4.18 | | | | | | | .30 | .97 | .09 | -.34 |
| N1: Anxiety | 2.23 | 1.07 | .67 | -.07 | -.05 | -.31 | .16 | .85 | .24 | .96 | -.06 | .06 |
| N2: Angry Hostility | 1.96 | 1.04 | .58 | .00 | -.12 | -.37 | -.09 | .98 ^b | .20 | .95 | .10 | -.15 |
| N3: Depression | 1.89 | 1.02 | .52 | -.35 | -.09 | -.20 | -.09 | .84 | .14 | .93 | -.02 | -.27 |
| N4: Self-Consciousness | 1.67 | 0.99 | .39 | -.52 | -.05 | .05 | -.09 | .78 | .12 | .91 | -.05 | -.10 |
| N5: Impulsiveness | 2.13 | 1.06 | .17 | .36 | .13 | -.31 | -.44 | .86 ^a | .23 | .96 | .34* | -.04 |
| N6: Vulnerability | 1.61 | 1.00 | .32 | -.37 | .09 | .07 | -.38 | .82 | .09 | .89 | .39** | .17 |
| E1: Warmth | 2.52 | 1.12 | -.08 | .61 | .07 | .39 | -.07 | .96 ^b | .25 | .96 | -.33* | -.24 |
| E2: Gregariousness | 2.62 | 1.04 | -.12 | .63 | .06 | -.05 | -.07 | .98 ^b | .17 | .94 | .06 | -.08 |
| E3: Assertiveness | 2.05 | 1.07 | -.27 | .18 | .22 | -.46 | .20 | .90 ^a | .17 | .95 | -.11 | .12 |
| E4: Activity | 2.44 | 1.00 | -.20 | .30 | .23 | -.19 | .46 | .88 ^a | .11 | .91 | .10 | -.22 |
| E5: Excitement-Seeking | 2.46 | 1.06 | -.17 | .49 | .44 | -.21 | .01 | .82 | .24 | .96 | .47** | .10 |
| E6: Positive Emotions | 2.40 | 1.01 | -.26 | .60 | .21 | .19 | -.02 | .92 ^a | .22 | .96 | -.09 | -.21 |
| O1: Fantasy | 1.86 | 1.12 | .23 | .30 | .32 | .06 | -.35 | .87 ^a | .22 | .96 | -.18 | -.37* |
| O2: Aesthetics | 2.22 | 1.12 | .11 | .10 | .56 | .27 | .26 | .95 ^b | .12 | .92 | .19 | -.08 |
| O3: Feelings | 2.53 | 1.01 | .13 | .60 | .19 | .37 | .07 | .70 | .16 | .94 | -.37* | -.42* |
| O4: Actions | 1.59 | 1.11 | -.28 | .09 | .61 | -.13 | .00 | .94 ^b | .14 | .93 | -.16 | -.27 |
| O5: Ideas | 2.31 | 1.08 | -.18 | .18 | .50 | .04 | .42 | .84 | .12 | .92 | .40** | .22 |

| | | | | | | | | | | | | |
|--------------------------|------|------|------------------|------------------|------------------|------------------|------------------|------------------|-----|-----|------|-------|
| O6: Values | 1.73 | 1.12 | -.35 | .00 | .65 | -.03 | -.01 | .92 ^a | .18 | .95 | .10 | .11 |
| A1: Trust | 1.95 | 1.05 | -.17 | .13 | .14 | .45 | -.15 | .93 ^a | .13 | .92 | -.01 | .09 |
| A2: Straightforwardness | 2.11 | 1.04 | -.33 | .00 | .18 | .44 | .22 | .74 | .16 | .94 | .23 | -.07 |
| A3: Altruism | 2.34 | 1.10 | -.10 | .45 | .13 | .53 | .09 | .95 ^b | .19 | .95 | -.05 | .09 |
| A4: Compliance | 1.87 | 1.04 | -.07 | -.17 | .07 | .64 | -.01 | .98 ^b | .16 | .94 | .34* | .19 |
| A5: Modesty | 2.14 | 1.03 | -.07 | .00 | -.04 | .63 | .24 | .77 | .17 | .95 | -.17 | .03 |
| A6: Tender-Mindedness | 2.53 | 0.98 | .03 | .37 | .24 | .54 | .22 | .93 ^a | .12 | .92 | .15 | .40* |
| C1: Competence | 2.57 | 1.01 | -.16 | .12 | .10 | -.01 | .61 | .95 ^b | .13 | .93 | .22 | .07 |
| C2: Order | 2.10 | 1.05 | -.13 | -.26 | .08 | .10 | .65 | .82 | .25 | .97 | .16 | .04 |
| C3: Dutifulness | 2.38 | 0.99 | -.18 | -.07 | .00 | .17 | .62 | .99 ^b | .17 | .95 | .29 | -.16 |
| C4: Achievement Striving | 2.30 | 1.02 | -.09 | .00 | .16 | -.14 | .69 | .96 ^b | .18 | .95 | -.07 | -.45* |
| C5: Self-Discipline | 2.28 | 1.03 | -.21 | .07 | .01 | .06 | .65 | .98 ^b | .15 | .94 | .06 | .12 |
| C6: Deliberation | 2.14 | 1.03 | -.02 | -.25 | -.08 | .25 | .57 | .95 ^b | .20 | .95 | .06 | -.13 |
| Factor Congruence | | | .87 ^b | .89 ^b | .85 ^b | .91 ^b | .93 ^b | .89 ^b | | | | |

Note: $N = 3,989$. These are principal components targeted to the American normative structure. N = Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness; VC = Variable congruence coefficient; factor and total congruence coefficient in the last row; r_R = correlation between mean NCS scores and corresponding aggregate NEO-PI-R observer ratings, $N = 47$; r_S = correlation between mean NCS scores and corresponding aggregate NEO-PI-R self-reports, $N = 30$. ^aCongruence higher than that of 95% of rotations from random data. ^bCongruence higher than that of 99% of rotations from random data. * $p < .05$; ** $p < .01$ (with Bonferroni correction for 35 NSC scales, none of the correlations is significant). Loadings above .4 are given in bold.

Appendix S1

The National Character Survey

| | | |
|--|-------|----------------------------------|
| 1. Anxious, nervous, worrying | _____ | At ease, calm, relaxed |
| 2. Friendly, warm, affectionate | _____ | Cold, aloof, reserved |
| 3. Imaginative, a dreamer | _____ | Practical, down-to-earth |
| 4. Trusting, gullible, naive | _____ | Suspicious, skeptical, cynical |
| 5. Capable, efficient, competent | _____ | Inept, unprepared |
| 6. Even-tempered, easy-going | _____ | Irritable, angry, touchy |
| 7. Solitary, shy, avoids crowds | _____ | Gregarious, sociable, outgoing |
| 8. Unartistic, uninterested in art | _____ | Sensitive to art and beauty |
| 9. Crafty, sly, manipulative | _____ | Frank, sincere, straightforward |
| 10. Disorganized, sloppy | _____ | Organized, neat, methodical |
| 11. Depressed, sad, pessimistic | _____ | Contented, optimistic |
| 12. Assertive, forceful, dominant | _____ | Submissive, a follower |
| 13. Emotionally sensitive, passionate | _____ | Unfeeling, unempathic |
| 14. Generous, giving, considerate | _____ | Selfish, stingy, greedy |
| 15. Dutiful, scrupulous | _____ | Unreliable, undependable |
| 16. Poised, comfortable with others | _____ | Self-conscious, awkward, timid |
| 17. Slow, lethargic, unenergetic | _____ | Active, vigorous, busy |
| 18. Habit-bound, prefers routine | _____ | Innovative, prefers variety |
| 19. Aggressive, competitive, stubborn | _____ | Compliant, cooperative, docile |
| 20. Lazy, unambitious, aimless | _____ | Ambitious, workaholic |
| 21. Impulsive, yielding to temptation | _____ | Controlled, self-restrained |
| 22. Adventurous, fun-loving, risk-taking | _____ | Avoids excitement, stimulation |
| 23. Intellectually curious, open-minded | _____ | Narrow interests, bored by ideas |
| 24. Modest, humble, self-effacing | _____ | Arrogant, conceited |
| 25. Disciplined, persistent, strong-willed | _____ | Procrastinating, quitting, weak |
| 26. Resilient, copes well with crises | _____ | Vulnerable, fragile, helpless |
| 27. Somber, dull, sober | _____ | Happy, cheerful, joyous |
| 28. Dogmatic, traditional, conservative | _____ | Liberal, free-thinking |
| 29. Ruthless, hard-headed, unsentimental | _____ | Sympathetic, humanitarian |
| 30. Spontaneous, careless, thoughtless | _____ | Cautious, reflective, careful |

