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

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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 of 3989 people from 49 cultures and compared them with 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. 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 socioeconomic 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 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 with aggregate personality data (that is, the means of a sample of assessments of individuals) across a wide range of cultures.

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.

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 the 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.

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. For example, the first item asks how likely it is that the typical member of a culture is anxious, nervous, and worrying versus at ease, calm, and relaxed. Each five-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 [22] 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 versus Northern Ireland) or language (e.g., French- versus 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 ($N = 3989$) and in selected subsamples supported the reliability, generalizability, and validity of the NCS as a measure of perceived national character [22]. Interjudge reliability between single raters showed there is only modest agreement between individual judg-

ments of national character, with coefficients ranging from 0.09 to 0.30 (median, 0.17). 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 0.96 to 0.97 for the five factors, and from 0.89 to 0.97 (median, 0.94) 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 0.80 to 0.90 ($N = 49$; all $Ps < 0.001$).

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

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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 0.57 are significant at $P < 0.001$.

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 = 0.62 and 0.90, respectively). In some cultures, student data from multiple sites were available, and intraclass correlations between these different sites ranged from 0.76 to 0.94 (25). This is illustrated for Canada and the United States by the dotted lines in Fig. 1 (26).

Mean NCS scores for the 49 cultures are in 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.
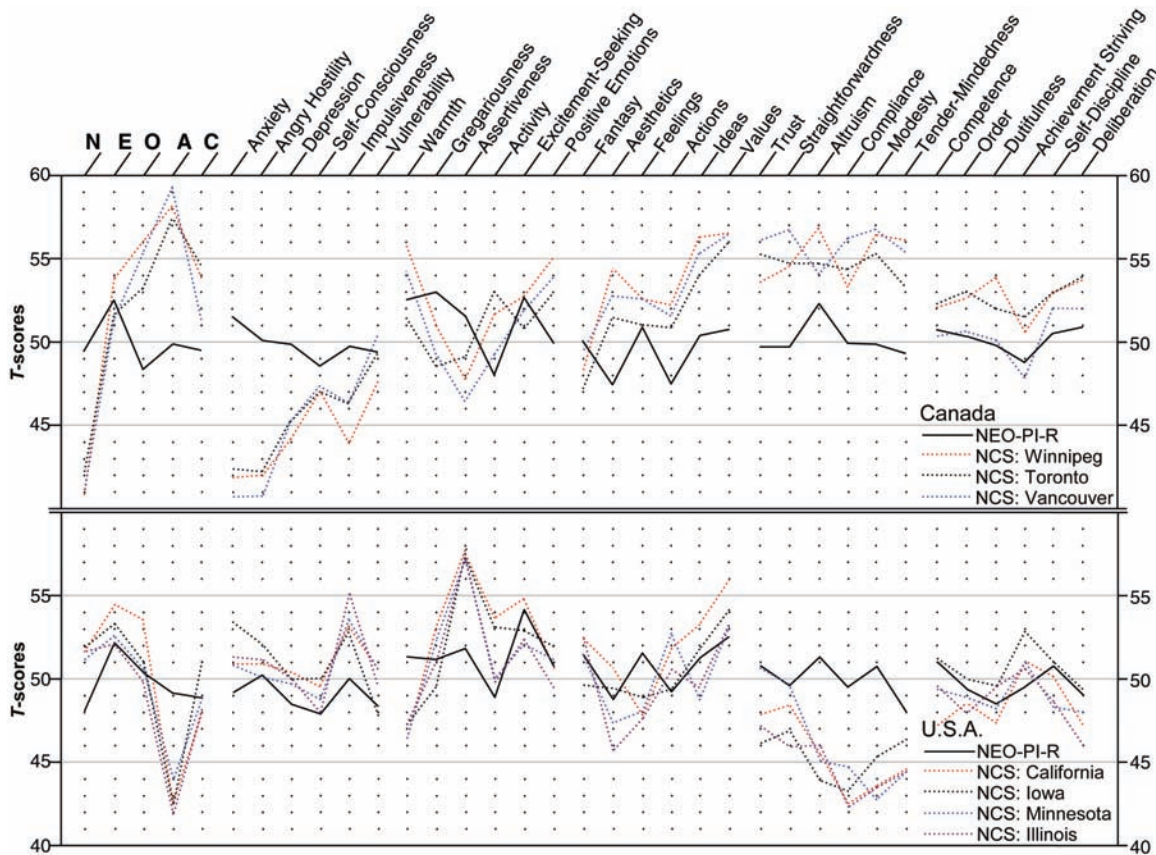
The primary question this study was designed to address is whether these in-group perceptions of national character accurately reflect aggregate judgments of individual personality traits. A first examination of the data shows one respect in which they are clearly different: There is a much greater range 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 –0.57 for England to 0.40 for Poland (median, 0.00), and there was a significant positive correlation in only four cultures (New Zealand, Australia, Poland, and Lebanon). Ex-amples of these findings are shown in Fig. 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 –0.46 for Russia to 0.46 for Poland (median, –0.02), and only Poland and Japan showed significant positive correlations (table S1). 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 facet scores were correlated with NEO-PI-R observer ratings and self-reports across 47 and 30 cultures, respectively. For the five factors, correlations with observer ratings ranged from –0.23 to 0.13, and those with self-reports ranged from –0.34 to 0.30 (table S2), which indicates 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

Fig. 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 = 0.89 to 0.92) and among the American sites (ICCs = 0.76 to 0.89), suggesting consensus on national character. Solid lines show mean observer-rated NEO-PI-R profiles. In both Canada (ICC = –0.03) and the United States (ICC = 0.23), 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 United States and Canada are similar (ICC = 0.66), whereas there is no agreement between their national character ratings (ICC = –0.53). N, neuroticism; E, extraversion; O, openness to experience; A, agreeableness; C, conscientiousness.

scores.) There were 11 significant correlations at the facet level, 5 of which were negative. The median of the 70 correlations was 0.04. The only replicated effect was 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).

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.

However, 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 (32) personalities; more recent approaches have considered them as the result of general cognitive processes (2). Although 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 = –0.01). Similarly, in the PRC, the profiles of China and Hong Kong showed no resemblance (ICC = –0.25). There is some resemblance between Czech and Slovakian (ICC = 0.43, P < 0.05), and Serbian and Croatian (ICC = 0.43, P < 0.05) 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 0.76, P < 0.001.
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

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 *T* score	Culture	NEO-PI-R *T* score
Neuroticism			
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
Extraversion			
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
Openness			
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
Agreeableness			
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
Conscientiousness			
German Switzerland	53.5	Spain	51.3
Sweden	45.7*	Turkey	51.4
Germany	52.3	Croatia	50.3
Burkina Faso	49.7	Chile	52.2
Estonia	50.0	Indonesia	49.6
Median	50.0		49.6

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

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 United States. The difference scores were highly correlated with NCS scores (rs = 0.65 to 0.91, P < 0.001) and provided essentially the same results. ICCs between difference scores and NEO-PI-R observer ratings ranged from −0.44 for England to 0.48 for Lebanon (median, 0.03). ICCs between differences scores and NEO-PI-R self-reports ranged from −0.47 for Russia to 0.53 for Poland (median, 0.01). For the five factors, correlations with observer ratings across cultures ranged from 0.08 to 0.23, and those with self-reports ranged from −0.37 to 0.23. 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. However, 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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Transoceanic Migration, Spatial Dynamics, and Population Linkages of White Sharks

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The large-scale spatial dynamics and population structure of marine top predators are poorly known. We present electronic tag and photographic identification data showing a complex suite of behavioral patterns in white sharks. These include coastal return migrations and the fastest known transoceanic return migration among swimming fauna, which provide direct evidence of a link between widely separated populations in South Africa and Australia. Transoceanic return migration involved a return to the original capture location, dives to depths of 980 meters, and the tolerance of water temperatures as low as 3.4°C. These findings contradict previous ideas that female white sharks do not make transoceanic migrations, and they suggest natal homing behavior.

Great white sharks (*Carcharodon carcharias*) occupy the apex of most marine food webs in which they occur. Their major centers of abundance are in the coastal waters of California–Baja California, Australia–New Zealand, South Africa, and, formerly, the Mediterranean Sea (1–3). Management and conservation of this threatened species (4, 5) have been limited, partly because its space utilization and migrations and the linkages between populations were poorly understood and difficult to research until the development of sophisticated telemetry instruments and high-resolution genetic markers for the species (6–9). Long believed to primarily be shelf inhabitants, white sharks are now known to be more pelagic and to travel from California to Hawaii (6). Males are assumed to move between distant populations, whereas females have been assumed to be nonroving and philopatric (9).

We tagged white sharks off the Western Cape of South Africa between June 2002 and November 2003 with pop-up archival satellite-transmitting (PAT) tags (n = 25), near-real-time satellite tags (from here onward, "satellite tags") (n = 7), and acoustic tags (n = 25) in order to study their spatial dynamics (table S1). Using high-resolution photographic identification techniques, we have recorded the daily presence or absence of individual white sharks off Gansbaai (34°39′S, 019°24′E; Western Cape) since October 1997 (10).

Electronic tagging and photographic identification records reveal complex spatial dynamics in white sharks, which we categorized into four behavioral patterns: rapid transoceanic return migrations, frequent long-distance coastal return migrations, smaller-scale patrolling, and site fidelity. A white shark performed a previously unknown fast transoceanic return migration spanning the entire Indian Ocean, swimming coast-to-coast from South Africa to Australia and back. This ~380-cm total length (TL; measured as a straight line from the tip of the snout to the end of the upper caudal lobe) female shark (number P12), PAT-tagged on 7 November 2003 off Gansbaai, traveled in 99 days to a location 2 km from shore and 37 km south of the Exmouth Gulf in Western Australia (22°01′05″S, 113°53′13″E; Fig. 1A). This shark's course of ~11,100 km (11) entailed a counterclockwise displacement of more than 750 km off the southern tip of Africa, followed by a remarkably direct path toward northwestern Australia, indicating that white sharks do not need oceanic islands as gateways for transoceanic migrations, as previously hypothesized (12). Shark P12 traveled at a minimum speed of 4.7 km hour^{-1} during its migration to Australia (13), which is the fastest sustained long-distance speed known among sharks (14–17) and comparable to

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

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