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# Human nature and culture: A trait perspective

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## Abstract

The relation of the individual to society has always been a central concern of personality psychologists. Building on recent empirical and conceptual advances in trait psychology, I propose a new approach to personality and culture. The fact that trait structure, age and gender differences, and cross-observer agreement are all universal supports the view that traits are biologically based characteristics of the human species. After discussing ethical and scientific issues, I provide preliminary data consistent with the view that aggregate levels of traits may lead to features of cultures, such as Individualism/Collectivism. I discuss alternative interpretations and future directions for research and conclude that the trait perspective holds exceptional promise for understanding human nature and culture.

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## 1. Introduction

The interaction—the intersection—of the individual with society has always been a core concern of personality psychologists. In the first half of the 20th Century, anthropologists like Ruth Benedict, Ralph Linton, and Clyde Kluckhohn pursued the study of culture and personality, with fascinating if dubious results. Sadly, anthropologists abandoned the topic in the 1960s (LeVine, 2001). Personality psychologists have also shown a recurring interest in this issue, inspiring such classics as *Childhood and Society* (Erikson, 1950), *The Authoritarian Personality* (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950/1969), and *The Achieving Society* (McClelland, 1967). A survey of the major works dealing with the interrelationships between the individual and society shows that they were written by influential thinkers who

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were not afraid to tackle large issues and construct grand theories. And although they come from a variety of perspectives, including psychoanalysis, learning theory, humanistic psychology, evolutionary psychology, and socioanalysis, none of these works was based on a trait approach to personality.

This body of literature on the individual and society suggests three conclusions. First, the subject matter of personality-and-culture studies—the relation of human nature to culture—is and ought to be one of the central concerns of personality psychology; personality psychologists simply cannot abandon it as anthropologists did. Second, the issues it involves are large, and must be approached with intrepid theorizing as well as rigorous research. And third, because none of the other perspectives has provided a wholly satisfactory approach, it is time to consider culture from the perspective of trait psychology.

### *1.1. Advances in trait psychology*

This is an opportune time to try a trait approach, because there has been great progress in trait psychology in the past 20 years. The most celebrated achievement is a general, if not quite universal (see, e.g., Cheung & Leung, 1998), consensus on the Five-Factor Model (FFM) as a reasonably comprehensive taxonomy of personality traits. Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness (A), and Conscientiousness (C) appear to be the basic factors underlying both English language trait adjectives and theoretically based personality scales (McCrae & John, 1992). To the extent that this taxonomy is comprehensive, we know the range of trait variables that need to be considered in personality-and-culture studies.

We also know now that traits are not cognitive fictions, but real psychological structures. The evidence has come from studies of consensual validation (Funder, Kolar, & Blackman, 1995), the prediction of life outcomes (Soldz & Vaillant, 1999), longitudinal stability (Roberts & DelVecchio, 2000), and heritability (Bouchard & Loehlin, 2001).

We have learned that traits are important for a wide range of applications. Widiger and Costa (2002) recently reviewed 56 studies that demonstrated the utility of an FFM perspective on personality disorders. Barrick and Mount (1991) revitalized I/O psychology by showing the importance of personality traits for the prediction of job performance. Hoyle (2000) edited a Special Issue of *Journal of Personality* linking personality traits to problem behaviors such as drug abuse and unsafe sex.

Finally, it is no longer the case that trait psychology can be reviled as dustbowl empiricism. There are well-articulated theoretical perspectives on the Five-Factor Model (Wiggins, 1996), including Five-Factor Theory (FFT; McCrae & Costa, 1999), which might provide the basis for a new approach to personality-and-culture studies (McCrae, 2000).

### *1.2. A new approach to personality-and-culture*

Any attempt to revive personality-and-culture studies should not, of course, repeat the errors of the past (Bock, 2000). The old school was dominated by psychoanalysis;

that was the era when enterprising researchers ventured to the ends of the Earth, equipped with Rorschach inkblots, expecting to find a uniform modal personality shaped by culturally prescribed child-rearing practices.

The new approach I will describe applies current knowledge of trait psychology and trait assessment to problems of personality-and-culture, adopts more sophisticated statistical models, and acknowledges the fundamental role of genetics in shaping personality traits (McCrae, 2000). In the present article I will also offer as a working hypothesis the claim that culture does not affect personality, but that personality traits, in the aggregate, may in some circumstances affect culture. The claim that traits are completely unaffected by the environment is extreme, and ultimately will probably be shown to be incorrect. FFT, however, offers it as a parsimonious model that explains a good deal and provides new directions for research. It can be tested in cross-cultural research.

The radical reversal of the usual causal direction between culture and personality makes sense within the framework of FFT. In simplified form, FFT can be represented by Fig. 1, in which causal pathways between biology, culture, traits, characteristic adaptations, and behavior are indicated. The only unfamiliar term here is *Characteristic Adaptations*. These are all the psychological structures that people acquire in the course of life for getting along in the world. They include knowledge, skills, attitudes, goals, roles, relationships, schemas, scripts, habits, even the self-concept. Characteristic adaptations comprise the bulk of the phenomena that psychologists are concerned with, but they do not include personality traits, which FFT depicts as deeper structures, basic tendencies that are grounded in biology. Characteristic adaptations are shaped by the interaction of personality traits and the environment. For example, people who are by nature extraverted are likely to be talkative, but whether they speak Danish or Telugu or Korean depends on the linguistic environment in which they live.

One distinctive feature of FFT is the postulate that the basis of traits is solely biological: there are no arrows connecting culture to personality traits. That postulate was suggested to us by two sources of evidence. First, behavior genetic studies have repeatedly shown strong heritability of adult personality traits, but virtually no influence of the shared environment (Bouchard & Loehlin, 2001). Behavior genetic studies always have another component—the non-shared environment—and it is sometimes argued that it is precisely the experiences that are unique to each child

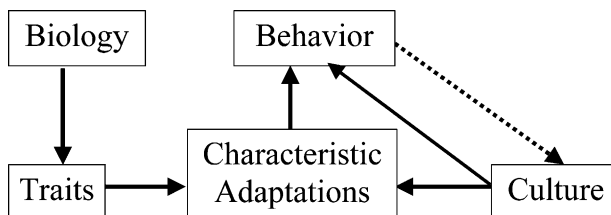


Fig. 1. A simplified representation of components of the personality system and their interrelations, according to Five-Factor Theory.

in a family that shape personality. But the most ambitious investigation to date provided “a very disappointing yield for a study designed to ferret out non-genetic, non-shared effects” (Reiss, Neiderhiser, Hetherington, & Plomin, 2000, p. 307). In fact, the non-shared environment is simply the residual that cannot be accounted for by genes or shared environment, and therefore includes not only random error (which can be assessed as unreliability), but also systematic bias that cannot be detected in mono-method studies. When Riemann, Angleitner, and Strelau (1997) supplemented self-reports with peer ratings, the estimated heritabilities of the five factors ranged from 66 to 79%. FFT would attribute the remaining variance to other biological causes, such as intrauterine environment, disease, and aging.

A second basis for postulating a solely biological basis for traits is taken from longitudinal studies of adults. A large body of research shows remarkable stability of individual differences over long time periods despite a multitude of intervening life events (McCrae & Costa, 2003). These longitudinal findings make sense if one assumes that personality traits are only influenced by biology, which changes very slowly in healthy adults. There are, to be sure, occasional reports of personality change related to life experience, but these findings are causally ambiguous. For example, Roberts, Caspi, and Moffitt (2003) showed that occupational variables at age 26 were associated with personality trait change from age 18 to age 26. But it is not clear which was cause and which effect: for all we know, the changes in personality may have occurred at age 19 and contributed to the later occupational outcomes.

In Fig. 1 there is also a path from personality traits, through characteristic adaptations and behavior, into culture. Usually the model in Fig. 1 is applied to individuals, and the pathway from traits to culture would suggest that individuals sometimes express their personality in ways that reshape society. For example, Jean-Jacques Rousseau’s Openness to Experience was arguably one of the causes of the French Revolution (McCrae, 1996), with all the cultural changes that introduced.

However, the model might also be applied to social groups. One might, for example, hypothesize that a society of introverts would develop different customs and institutions than a society of extraverts. Clearly, it is not the case that personality traits are the chief or sole influences on culture, but they might, over long periods of time, leave their mark. Because this possibility is speculative at present, the link between (collective) behavior and culture is indicated by a dashed line.

## 2. Cross-cultural tests of Five-Factor Theory

Because characteristic adaptations reflect the influence of both traits and culture, FFT predicts that the expression of traits will vary across cultures. For example, Benet-Martínez and John (2000) showed that in Spain, Openness to Experience is chiefly expressed in terms that suggest a bohemian or unconventional lifestyle. Again, the same level of dutifulness would be expressed by very different specific actions in Iran and Denmark. These examples illustrate the sense in which FFT is an interactive model, in which the person and environment jointly shape psychological features and the flow of behavior.

But FFT also makes more controversial predictions. According to FFT, traits are not affected by culture, but are instead shaped solely by biology, which is the common heritage of the human species. In consequence, their characteristic properties ought to be universal. Again, FFT points to the possibility that traits may affect culture, and thus that the mean levels of traits may be associated across cultures with features of culture. FFT does not assert that traits must affect culture, or even that there will be variations in mean trait levels across cultures. Those are empirical questions, but from the perspective of FFT it is meaningful to ask them.

### *2.1. Tests of universality*

In 1997, McCrae and Costa reported data from six cultures—Portugal, Germany, Israel, China, Japan, and South Korea—that supported the universality of the FFM structure. Subsequent studies in Iceland, Estonia, Malaysia, the Philippines, Turkey, India, Russia, Zimbabwe, and many other cultures have continued to support this hypothesis (see McCrae & Allik, 2002). Although the case for additional, indigenous factors is still made by some writers (e.g., Cheung & Leung, 1998), it seems likely that the FFM itself can be found in any culture.

A series of cross-cultural studies have also examined adult development. In the United States, both longitudinal and cross-sectional studies have shown that between late adolescence and old age both men and women decline in levels of N, E, and O, and increase in A and C. Cross-sectional studies show similar trends in Germany, Portugal, Croatia, South Korea, Russia, Estonia, Japan, the Czech Republic, Great Britain, Spain, Turkey, and China (McCrae & Costa, 2003). Considering the very different recent histories these countries have had, it is unlikely that these age differences are due to birth cohort effects. Instead, they seem to represent intrinsic paths of human development.

Costa, Terracciano, and McCrae (2001) examined gender differences in 26 cultures. They found that women in almost every culture were higher than men in N and A, and that men were higher on a few specific facets, including Openness to Ideas, Assertiveness, and Excitement Seeking. Curiously, these effects were largest in progressive, Western cultures that emphasized equality of the sexes, perhaps because respondents attributed masculine and feminine qualities to sex roles rather than traits in traditional cultures.

Finally, a recent study extends the claim of universality to cross-observer agreement (McCrae et al., in press). It has sometimes been proposed that traits are truly meaningful only in individualistic cultures like the US, where identity is defined by the individual rather than the social group. If that were true, neither self nor external observers ought to pay much attention to traits in collectivistic cultures, and their agreement would presumably be substantially lower.

The data, however, are more consistent with FFT. Across a range of cultures, agreement between self-reports and single observer ratings ranged from about .4 to .5; the same level of agreement was seen in North America and in studies from such countries as China and Russia.

## 2.2. *Ethical and scientific considerations in seeking trait effects on culture*

FFT allows that, in the aggregate, traits might shape cultural customs, institutions, and value systems. A clear demonstration of that process would be extremely difficult, because we cannot manipulate trait levels in a culture. But we can begin to evaluate the hypothesis by looking for associations between mean levels of personality traits and features of culture.

Before even attempting that, however, it is necessary to consider both ethical and scientific obstacles. Associations between aggregate traits and features of culture can only be found if there are cultural variations in the mean levels of traits—if, say, Norwegians are more extraverted than Hong Kong Chinese. But FFT claims that trait levels are determined solely by biological bases. Together, those two premises imply that there may be biological, perhaps genetic, differences in personality between different ethnic groups, and that kind of claim has a sad history as the basis of discrimination and worse.

Psychologists could deny there is even a possibility of genetic differences in personality between groups, but that does not seem scientifically defensible. We could simply avoid research on the topic to escape moral responsibility. Or we can face the issue and learn as a discipline how to deal responsibly with it. The human genome has been mapped, and there are already published reports of ethnic differences in the population frequencies of alleles purportedly related to personality traits (e.g., Gelernter, Kranzler, Coccaro, Siever, & New, 1998). Someone is going to ask about the behavioral and social implications of such findings, and we personality psychologists ought to be prepared to give thoughtful answers.

One way to deal ethically with this issue is to make sure that findings are communicated accurately. Scientists are always required to make qualified conclusions, but here we need to be especially careful. When claims for cultural differences in the mean levels of traits are made, it seems essential to:

- (1) Note the magnitude of the differences, which are rather small in the present analyses;
- (2) Remind readers that even at the level of the individual, traits tend to be weak predictors of specific behaviors, and that is even more likely to be true at a cultural level;
- (3) Point out that there is a wide range of individual differences within all cultures, and that ascription of a single trait level to all members of a group is unjustifiable stereotyping; and
- (4) Carefully specify the limitations of the research and alternative interpretations of the data.

There is a long list of the potential scientific problems that arise when researchers want to compare personality scores across cultures (van de Vijver & Leung, 1997). The translation, even if it accurately conveys the constructs, may be more or less “difficult” than the original, so raw scores could have different meanings in the two versions. Cultures may differ in their susceptibility to response biases, such as acquiescence or social desirability. They may have different rules of self-presentation,

or different standards of comparison. Unless national probability samples are used, there is always concern about the comparability and representativeness of samples. There are additional concerns with the representativeness of the sample of cultures. Still, it may be possible to deal with all these issues satisfactorily (McCrae, 2002).

Before proceeding to the data, another reminder is in order. Behavior genetic studies are designed to explain the sources of variation in phenotypic traits *in a population*. They do not speak to sources of variation across populations. Even if traits were 100% heritable within a culture, it might be the case that they are substantially influenced by differences between cultures. As we will see, there is one acculturation study suggesting that this is so.

### 2.3. Intercultural comparisons: An example

The data I discuss here were provided by researchers from 36 cultures or subcultures from five continents and several language families (McCrae, 2002). In each case, the NEO-PI-R was translated and administered to samples, which were classified as student or adult in order to control for the universal age differences. All these samples are normal volunteers; data from patients and from employment screenings were omitted.

These are samples of convenience, but analyses showed that results were generalizable across age and gender subgroups, and across samples collected by different investigators in a few of the cultures. For most samples, the full-scale equivalence of the translations was not assessed, but where bilingual studies were conducted, translation seems to have had little or no effect on observed mean levels. Although this is not an ideal data set, it may be useful for initial, exploratory analyses (McCrae, 2002). I standardized the data using American norms for college-age and adult men and women and used an unweighted average across subsamples to obtain factor scores for each culture, expressed as *T* scores. About three-fourths of these mean values lay within the average range ( $T = 45\text{--}55$ ), but all five factors showed a range of at least one standard deviation across cultures.

These means can be used as culture-level scores on the five personality factors; with what feature of culture might they be correlated? The most influential dimensions of culture are those proposed by Geert Hofstede (2001), who extracted four factors from work value surveys completed by IBM employees around the world. Although this would not seem to be a very promising basis for divining dimensions of culture, his ratings have been used in hundreds of studies, and have an impressive list of culture-level correlates. *Power Distance* refers to attitudes toward authority and status; it contrasts hierarchical with egalitarian societies. The highest recorded levels of Power Distance were found in a sample of military recruits (Ottati, Triandis, & Hui, 1999), who had volunteered to join the bottom rung of a rigidly hierarchical organization. *Uncertainty Avoidance* describes cultures that seek to minimize the threat of unstructured situations by adopting rules and limiting innovation. *Individualism*, the most heavily researched of these dimensions, is high in countries like the US where people put their own concerns ahead of their group's. *Masculinity*, as used

by Hofstede, refers to egoistic work goals, based upon getting ahead rather than getting along.

Each of the five factors was significantly associated with one or more of Hofstede's dimensions. Power Distance was associated with low E ( $r = -.58$ ), low O ( $-.40$ ), and high C (.52), suggesting that most of the people in strongly hierarchical cultures report themselves to be docile and dutiful. Uncertainty Avoidance was associated with high N (.58) and low A ( $-.56$ ). Individualism was associated with E (.64) and O (.34), and Masculinity with N (.55) and O ( $r = .37$ ; McCrae, 2002).

It is possible to interpret these results in terms of FFT, which claims that personality can affect culture, but not vice-versa. Suppose a society consisted chiefly of people who were introverted, closed, and conscientious. What kind of social structure would they evolve? There would be few natural leaders among them, so the few would easily rise to positions of authority and keep them, and the rest would passively accept their dominance. Because most people in such a society are, *ex hypothesi*, conscientious, they would dutifully obey the orders they received; the system would be stable and productive. Widespread introversion and conscientiousness could create high Power Distance cultures.

Again, suppose a group of people were by temperament anxious and quarrelsome. Every new decision would be likely to provoke stress and conflict. For such a volatile group to succeed, there would need to be strong social controls in place, rigidly maintaining the status quo. Aggregate personality traits related to high Neuroticism and low Agreeableness could thus give rise to Uncertainty Avoidance.

Although the causal ordering suggested here is arguable (Hofstede & McCrae, in press), it does appear that there are meaningful associations between mean personality traits and dimensions of culture. NEO-PI-R scales, when translated by competent psychologists and administered to reasonably large samples, can apparently measure the personality profiles of different cultures. In theory, translation can affect trait scores, but in practice it seems not to have much effect (Piedmont, Bain, McCrae, & Costa, 2002). In theory, differences in sampling procedures could distort comparisons across nations, but experience to date suggests that this is not a major concern (McCrae, 2002). Perhaps the difficulties of comparing personality traits across cultures have been exaggerated, and we are now in a position to explore all kinds of links between personality and culture. If so, we can create new maps of the world, based not on rainfall or population density, but on personality trait levels. Fig. 2, for example, represents the Old World distribution of Extraversion. Data here are taken from McCrae (2002), with the addition of college student data from Burkina Faso (J. Rossier, personal communication, December 7, 2001).

In this Figure, the darker the shading, the higher is the Extraversion score (the US would fall between the two darkest categories). Notice the light gray in Taiwan, Korea, and Japan, in India, and in all three African nations. This map is quite clear: Asia and Africa are introverted, Europe extraverted. Europeans as a group also tend to be higher in Openness to Experience and lower in Agreeableness and Conscientiousness (Allik & McCrae, in press).

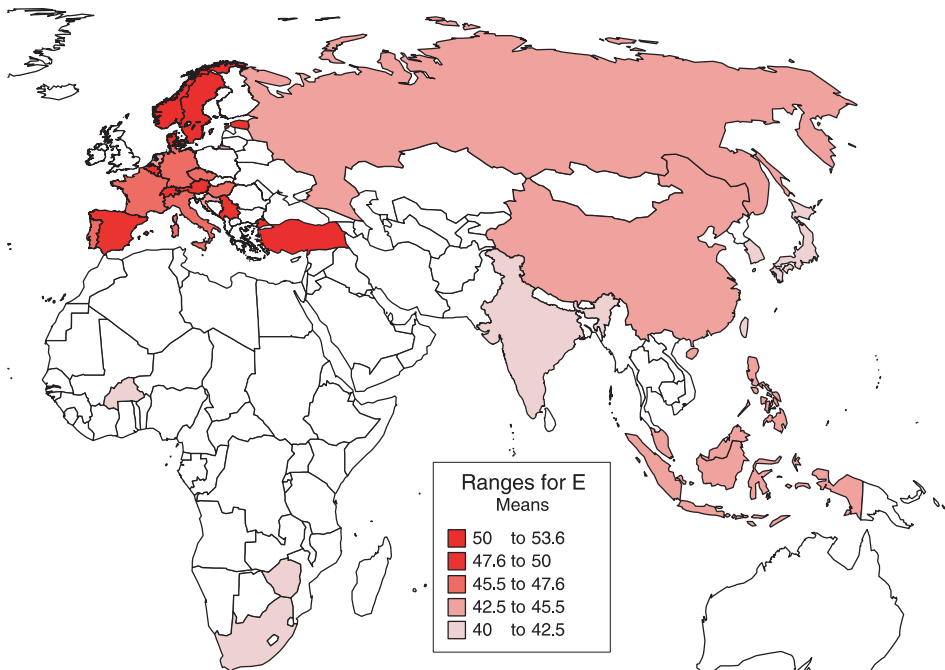


Fig. 2. Distribution of mean Extraversion factor scores in Old World nations. Burkina Faso data are from 57 female and 120 male students aged 18–25 who completed the French NEO-PI-R, standardized on American college-age within-sex norms. Data from other nations are from McCrae (2002); the score for South Africa is taken from the Black South African sample; the score for India is the mean of Telugu- and Marathi-speaking samples. Countries with no shading have missing data.

### 3. Alternative interpretations

But before pondering these maps too deeply, it is well to consider some cautions in interpreting the data. In this area there are still many lively disputes in progress that can stimulate research for years to come.

I have argued that mean personality scores are veridical—that Europeans really are more extraverted than Asians. But some writers, examining the same evidence, are not persuaded. Poortinga, van de Vijver, and van Hemert (2002) believe the best working hypothesis is that all cultures have the same levels of personality traits, and that observed differences are due to biases in self-report measures.

One reason to be suspicious of these culture-level scores is that they do not, in general, concur with national stereotypes. For example, Church and Katigbak (2002) found no agreement between personality judgments of the “typical” Filipino and American made by a panel of judges who had lived in both countries, and mean scores on the NEO-PI-R in those two countries.

And I myself have contributed data that complicate the interpretation of these scores (McCrae, Yik, Trapnell, Bond, & Paulhus, 1998). Working with colleagues

in Vancouver in the mid-1990s, I examined personality profiles for Canadian-born Chinese, long-term immigrants from Hong Kong, and recent immigrants. There were some striking similarities in the profiles, but also noticeable differences. In particular, Canadian-born Chinese scored higher in Extraversion, Openness, and Agreeableness than did Hong-Kong born Chinese. This seems like a simple acculturation effect, but it presents a serious challenge to the ideas advanced here. If FFT is true and culture cannot affect personality, then there should be no differences in true personality scores between these groups of ethnic Chinese. Because the observed scores are different, FFT suggests that NEO-PI-R *responses* must be non-equivalent in these groups. Canadian-born Chinese may have learned that it is more socially desirable in Canada to present oneself as open and agreeable, and thus the difference is one of social desirability norms rather than personality. We can save FFT by assuming cultural biases in responding.

But that interpretation casts into doubt the meaning of scores plotted in Fig. 2, which may simply be artifacts of cultural differences in social desirability norms or response styles. Alternatively, perhaps FFT is wrong, and culture really can affect personality—a possibility that few would find surprising. Then one could interpret culture-level scores as accurate, and infer that growing up in Canada affects basic personality traits.

There is, however, another possibility that is consistent with both FFT and the veridicality of NEO-PI-R scores: Selective immigration. In 1996, recent immigration to Canada was fueled by the imminent take-over of Hong Kong by the People's Republic of China, and personality may have been irrelevant. But the earlier generations of Chinese immigrants—those whose descendants were our Canadian-born Chinese—may have come for personal reasons. In particular, people who voluntarily left behind a familiar world and explored a new culture may have been particularly high in Openness to Experience. If so, they may have passed on the relevant genes to their children, who then appeared more open than recent immigrants.

But before we adopt any of these interpretations, it must be noted that this seems to be the only acculturation study of its kind, and such complex and momentous issues cannot be decided on the basis of a single study. It is a simple design, using college students of a single ethnic group but different years of residence in the culture. We do not need to venture into the jungles of New Guinea to get these crucial data: surely we could do dozens of studies with Hispanics, Vietnamese, or Russians, here in the US. That would be an invaluable addition to the growing research on trait psychology and culture that would help us understand personality assessment and the origins of personality traits.

#### 4. Conclusion

Acculturation studies are only one of several categories of research needed for a full understanding of trait-psychology-and-culture. Studies of culture-level correlates, longitudinal trait development, psychiatric epidemiology, and response artifacts across cultures are all obvious next steps. Antonio Terracciano and I have

recently begun a new cross-cultural project that addresses the correspondence of mean trait levels and perceived national character by collecting data on observer-rated personality traits and national stereotypes in about 60 countries. That study will also provide the first multimethod assessment of culture-level personality profiles.

A trait perspective on human nature and culture offers great intellectual promise. It addresses fundamental issues with the widest possible applicability; it has already produced provocative findings; and it inspires a rich agenda for future research. In my own case, it has also led to collaborations with enthusiastic and generous colleagues all over the world, to whom I am indebted for the substance of this article. The long tradition of research and theory on culture and personality can now be sustained by trait psychology.

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