
Statewide Differences in Personality

Toward a Psychological Geography of the United States

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There is overwhelming evidence from research in the regional sciences that the attitudes, values, and behaviors of Americans are geographically clustered. Psychologists, however, have historically had little to say about regional differences. This article aims to redress that neglect. In so doing, I provide evidence that there are statewide personality differences across the United States, offer potential explanations for those differences, and show that regional personality differences are linked to a variety of important social indicators. I also explain how a regional perspective can inform research in a variety of areas in psychology and suggest ways in which researchers can study regional differences in their own work. Ultimately, this work is intended to raise awareness in psychology about the value that a regional perspective can add to theory and research.

Keywords: geography, personality, regional differences, social indicators

Even though Americans speak the same language, cast ballots for the same presidential candidates, and are informed by the same news outlets, their attitudes, values, and behaviors are geographically clustered. Scholars—from Alexis de Tocqueville and Frederick Jackson Turner to David Hackett Fischer and Robert Putnam—have long recognized this clustering. One need not be a student of history or the social sciences to know that people in different parts of the nation are psychologically different. American folklore and popular culture are filled with images of what people in certain parts of the country are like. Everybody knows that New Yorkers are outspoken, neurotic, and always in a hurry, that Californians are laid-back, superficially charming, and only interested in talking about themselves, and that Texans are slow talking, friendly, and proud members of the National Rifle Association. Such widely held characterizations are certainly based on stereotypes (Berry, Jones, & Kuczaj, 2000; Schneider, 2007), but they raise the question of whether there really are psychological differences across the United States. Curiously, very little research in psychology speaks to this point.

As I outline in this article, there are good reasons for psychologists to consider the role of regional differences in their work. Research in the regional sciences shows that particular ethnic minority groups are clustered in certain parts of the country, that there are interstate differences in political attitudes, that some states contribute more to the

nation's economy than do others, and that disease prevalence and mortality vary across states. And research in psychology has shown that individual differences in personality are linked to, among other things, attitudes about minority groups, political orientation, occupational performance, and health. Taken together, these bodies of work provide a foundation on which to base a discussion about the relevance of geography for psychology. In this report, I answer several questions aimed at initiating that discussion.

Are There Regional Personality Differences in the United States?

In 1973, Krug and Kulhavy published what may be the first piece of empirical evidence that regional personality differences exist. They used data from approximately 6,400 U.S. residents who completed Cattell's Sixteen Personality Factor Questionnaire (Cattell, Eber, & Tatsuoka, 1970). Their analyses focused on six multistate regions and revealed regional differences on traits associated with energy, work ethic, and creativity. The second investigation to provide evidence for regional personality differences came nearly three decades after Krug and Kulhavy's (1973) report. In 2002, Plaut, Markus, and Lachman reported regional differences in self-construal, measured in terms of the Big Five personality domains (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness; Goldberg, 1992; Lachman & Weaver, 1997). Their analyses compared the responses of approximately 3,000 U.S. residents from nine multistate regions. Recently, Rentfrow, Gosling, and Potter (2008) published the third piece of evidence suggesting that regional personality differences exist. Unlike the authors of the two previous studies, my colleagues and I examined statewide differences. Our analyses were based on responses from approximately 620,000 Internet respondents who completed the Big Five Inventory (BFI; John & Srivastava, 1999) between 1999 and 2005.

Table 1 summarizes the regional personality differences reported by Krug and Kulhavy (1973), Plaut et al. (2002), and Rentfrow et al. (2008). An examination of the

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results across regions for each trait reveals surprisingly consistent geographical patterns for Neuroticism and Openness. As can be seen in the top panel of Figure 1, Neuroticism tends to be high in the Northeast and Southeast and

low in the Midwest and West. And as can be seen in the bottom panel of Figure 1, Openness tends to be high in the New England, Middle Atlantic, and Pacific regions and comparatively lower in the Great Plains, Midwest, and Southeastern states. There is some consistency for Agreeableness, which tends to be high in the Southern regions and low in the Northeast, and for Extraversion, which tends to be high in the Northeast and low in the West. Conscientiousness shows the least degree of consistency and tends to be high in the Mountain and West North Central regions and low in the Pacific and West South Central regions. Looking across traits, one finds that the most consistent patterns of results appear for the Southeast and Western regions, followed by the Northeast and Midwest regions.

Although the results are not identical across the three investigations, the degree of overlap is remarkable considering that the studies were conducted over a span of more than 30 years, that very different personality measures were administered, that each study relied on different sampling strategies, and that different data collection procedures were used.

How Might Regional Personality Differences Emerge?

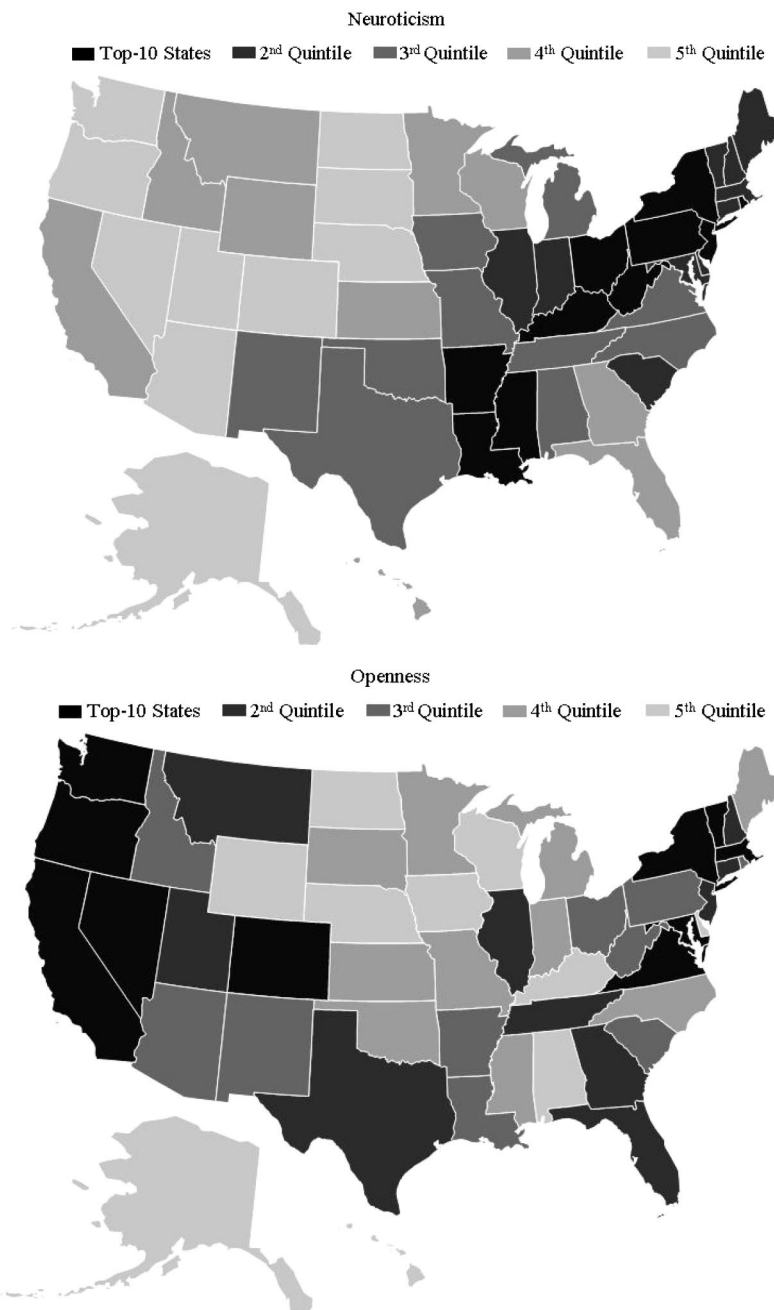
Several empirical reports have been published in the past few years that provide convincing evidence for cross-national differences in personality (McCrae, 2001; McCrae et al., 2005; Schmitt, Allik, McCrae, & Benet-Martínez, 2007). Explana-

Table 1
Summary of Regional Personality Differences in Three Studies

Personality domain	Region								
	Pacific	Mountain	West North Central	West South Central	East North Central	East South Central	Middle Atlantic	South Atlantic	New England
Extraversion									
Krug & Kulhavy, 1973		–					+		+
Plaut et al., 2002	–	0	–	+	–	0	0	+	+
Rentfrow et al., 2008	–	–	+	0	+	0	+	0	–
Agreeableness									
Plaut et al., 2002	–	0	–	+	0	+	0	+	–
Rentfrow et al., 2008	0	–	+	0	+	+	–	0	–
Conscientiousness									
Krug & Kulhavy, 1973	–		+	–	+				
Plaut et al., 2002	0	+	0	–	–	–	+	0	+
Rentfrow et al., 2008	–	+	+	0	0	+	–	0	–
Neuroticism									
Plaut et al., 2002	0	–	0	–	+	+	+	0	–
Rentfrow et al., 2008	–	–	–	0	0	+	+	0	+
Openness									
Krug & Kulhavy, 1973	+					–	+	–	+
Plaut et al., 2002	+	0	–	+	–	–	0	0	+
Rentfrow et al., 2008	+	0	–	0	–	–	+	0	+

Note. + = high, 0 = moderate, – = low. Krug and Kulhavy (1973) reported partial results for U.S. Census regions. Plaut, Markus, and Lachman (2002) reported results for U.S. Census divisions. Rentfrow, Gosling, and Potter (2008) reported results for all 50 states and Washington, DC.

Figure 1
State-Level Maps of Neuroticism (Top) and Openness (Bottom)



Note. Maps are from "A Theory of the Emergence, Persistence, and Expression of Geographic Variation in Psychological Characteristics" by P. J. Rentfrow, S. D. Gosling, and J. Potter, 2008, *Perspectives on Psychological Science*, 3, pp. 353, 354. Copyright 2008 by the Association for Psychological Science.

tions for these differences range from culture and climate to migration patterns and genetics (Heine & Buchtel, 2009; Hofstede & McCrae, 2004; Jokela, 2009; Jokela, Elovainio, Kivimäki, & Keltikangas-Järvinen, 2008; Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006). But just as nations

vary in terms of culture, ecology, ethnic diversity, and health, so too do regions within nations. Therefore, one may draw from previous research on cross-national differences to develop hypotheses about how regional personality differences might emerge.

One hypothesis is that regional personality differences result from selective migration patterns—that people migrate to places that satisfy and reinforce their basic psychological needs. For instance, people who are open and enjoy new experiences may decide to move away from their humdrum hometowns to places where their interests in diversity and their desires for varied experiences can be satisfied. In the same way, minority group members may decide to live in places where residents are thought to be open-minded and tolerant of diversity, because such places would provide an atmosphere where they could be free to be themselves. There is indirect support for this hypothesis from research indicating that individuals seek and create social and physical environments in which their personalities and self-views can be expressed (Buss, 1987; Florida, 2002; Gosling, Ko, Mannarelli, & Morris, 2002; Swann, Milton, & Polzer, 2000; Swann, Rentfrow, & Guinn, 2002). Furthermore, there is evidence that people high in Openness and Extraversion are more likely to migrate than are people low on those traits (Jokela, 2009) and that people high in Agreeableness are less inclined to move from their home region than are people low in Agreeableness (Boneva et al., 1998). Thus, people who share certain personality traits may be more likely to settle in a particular area, and as a result, the traits common to them may become prevalent in that area.

A second hypothesis is that regional personality differences emerge as a result of social influence—individuals' thoughts, feelings, and behaviors are affected by the people around them. This hypothesis has received a fair amount of attention in cross-cultural psychology (e.g., Hofstede, 2001; Hofstede & McCrae, 2004; Nisbett, 2003; Triandis & Suh, 2002). The basic idea is that the traditions, customs, lifestyles, and daily practices common to an area affect social norms, which in turn affect people's attitudes and behaviors. Through socialization, such influence could lead people to acquire the personality traits that are valued in the region, which would result in disproportionately large numbers of people possessing those traits. That is the argument supported by many cultural psychologists (e.g., Hofstede, 2001; Triandis & Suh, 2002). Research on attitude change and emotional contagion indicates that individuals' attitudes and emotions are affected by the attitudes, emotions, and behaviors of the people in their immediate social environments (Bourgeois & Bowen, 2001; Hatfield, Cacioppo, & Rapson, 1993; Huckfeldt & Sprague, 1995; Joiner & Katz, 1999; Latané, 1981). For example, Fowler and Christakis (2008) showed that being surrounded in a social network by happy individuals significantly affects one's own level of happiness and that this spreading of affect extends up to three degrees of separation so that the friends of one's friends' friends are affected. It thus seems reasonable to argue that differential socialization and social influence contribute to regional psychological differences.

A third hypothesis is that regional personality differences are a result of ecological influence—aspects of the physical environment affect how people interact as well as the types of activities in which they can engage. In a fascinating line of research, Schaller and colleagues

(Fincher, Thornhill, Murray, & Schaller, 2008; Schaller, 2006; Schaller & Duncan, 2007; Schaller & Murray, 2008) have developed and tested the hypothesis that geographic variation in personality is linked to the prevalence of infectious diseases. Specifically, in regions where rates of infectious diseases are high, it is argued that people have acquired psychological traits that limit their exposure to disease-causing pathogens, such as low Extraversion and low Openness, because those traits are associated with increased social contact and risky behavior. Consistent with that prediction, Schaller and colleagues have found that Extraversion, Neuroticism, Openness, and individualism are lower in countries with historically high rates of infectious diseases (Fincher et al., 2008; Schaller & Murray, 2008). Most of the other evidence for ecological influence is indirect. For example, research suggests that limited exposure to sunlight in the winter leads to symptoms of depression (Kasper, Wehr, Bartko, Gaist, & Rosenthal, 1989), that depression is high in areas with poor-quality housing and where basic necessities such as hospitals and markets are far away (Cutrona, Wallace, & Wesner, 2006), and that heat is associated with high rates of violence (Anderson, 1989). Thus, it is conceivable that certain aspects of the environment could influence the expression and hence prevalence of certain personality dispositions.

Of course, these three hypotheses are not mutually exclusive but probably work in concert. For example, Kitayama and colleagues (2006) recently developed and tested the hypothesis that residents of frontier regions are more agentic than are people who live in more developed regions. The underlying idea is that original settlers of the frontier possessed a mental state of freedom, independence, autonomy, and novelty seeking because the frontier attracted people with such qualities and those qualities were necessary for survival. As the frontier developed, norms and institutions were established that effectively reinforced those psychological qualities. Consequently, direct descendants of the original settlers or people who were socialized in the frontier should display more independent agency than people not immersed in frontier culture. Accordingly, Kitayama and colleagues (2006) predicted that residents of newly settled frontier regions (i.e., the United States and Hokkaido, Japan's northern frontier) would be higher in independent agency than would residents of regions with older histories of settlement (i.e., mainland Japan). As they predicted, residents of Hokkaido and the United States derived significantly more happiness from personal accomplishments and made more dispositional attributions than did residents of mainland Japan. This research nicely illustrates how selective migration, social influence, and ecological influence could each contribute to regional psychological differences.

Are Regional Personality Differences Related to Anything Important?

Below, I present results from previous studies as well as new evidence showing significant relationships between regional aggregates of personality and important outcomes.

Social Capital

Over the past decade, sociologists and public health researchers have devoted a considerable amount of attention to *social capital*, or the degree to which people feel connected to family, friends, and neighbors. Putnam (2000) found that social capital in the United States is declining, as reflected in reduced levels of community involvement, interpersonal trust, and social cohesion, and that states vary in social capital, with the Southeast and Middle Atlantic states showing low levels and the West North Central and Mountain states showing high levels. Research also indicates that social capital is negatively associated with crime rates and positively related to indicators of psychological and physical health (Kawachi, 1999; Kawachi, Kennedy, & Glass, 1999; Subramanian, Kawachi, & Kennedy, 2001; Veenstra, 2000).

Social capital is defined by variables (e.g., social support, interpersonal trust) that are linked to personality (e.g., Extraversion, Agreeableness), so it is reasonable to suppose that statewide differences in social capital might reflect differences in personality. Rentfrow et al. (2008) found positive relationships between state-level Extraversion and Agreeableness and state-level indicators of social involvement. For instance, Extraversion was positively related to hosting dinner parties, attending social functions, and going to public events, and Agreeableness was positively related to entertaining guests at home and spending time with friends but negatively related to attending public events. These findings provide indirect evidence for a connection between state-level personality and social capital.

For a more direct examination, I correlated the state-level personality scores¹ reported in Rentfrow et al. (2008) with Putnam's (2000) social capital index. The results indicated that social capital was positively related to state-level Agreeableness ($r = .35, p < .05$) and Extraversion, albeit weakly ($r = .15, ns$), and negatively related to state-level Conscientiousness ($r = -.44, p < .05$) and Neuroticism ($r = -.52, p < .05$). Thus, it appears that people who live in regions with high rates of social capital tend to be sociable, expressive, trusting, informal, and relaxed compared with people living in regions with less social capital.

The connections between personality and social capital raise an important question: Are places high in social capital because the residents who live there are dispositionally inclined to trust and help one another, or do people become more trusting and helpful as a result of living in an area with high social capital? The answers to this question will not only inform theory and research in psychology but will also provide useful information for social and health policies designed to foster social capital.

Political Orientation

An impressive and growing amount of research suggests that political orientation is related to personality. For example, Jost and colleagues (Carney, Jost, Gosling, & Potter, 2008; Jost, 2006; Jost, Federico, & Napier, 2009) have presented compelling evidence that self-identified conser-

vatives, compared with liberals, score higher on measures of Conscientiousness and needs for order, structure, and closure and lower on measures of Openness and integrative complexity.

Considering that recent U.S. presidential elections have consistently revealed statewide differences in voting patterns, it is tempting to suppose that regional differences in political preferences might reflect differences in personality. To test that idea, Rentfrow, Jost, Gosling, and Potter (2009) examined the connections between state-level personality scores and voting patterns in the 1996, 2000, and 2004 U.S. presidential elections. The percentage of votes cast for Democratic candidates was positively related to mean levels of Openness and negatively related to state-level Conscientiousness, a finding consistent with individual-level research. In contrast, the percentage of votes cast for Republican candidates was negatively related to Openness and positively related to Conscientiousness. To follow up on those findings, I correlated state-level Openness and Conscientiousness scores from Rentfrow et al. (2008) with the difference in percentages of votes cast for Obama versus McCain in the 2008 U.S. presidential election. The results indicated that residents of left-leaning states were higher in Openness ($r = .64, p < .05$) and lower in Conscientiousness ($r = -.37, p < .05$) than were residents of right-leaning states. Because research in political geography has found that statewide differences in education, income, the proportion of Blacks and African Americans, and the proportion of females are significant predictors of statewide voting patterns (Erikson, Wright, & McIver, 1993), I ran additional analyses to control for those socio-demographic variables. The results indicated that Openness remained a significant predictor of voting patterns but that Conscientiousness did not. These findings suggest that a macro-level psychological perspective may be useful for understanding the American political divide.

Health

An overwhelming amount of research has investigated the social and psychological determinants of health. Results from numerous studies consistently show a positive linear relationship between socioeconomic status (SES) and health, such that levels of psychological and physical well-being improve as SES increases (Adler et al., 1994; Adler, Marmot, McEwen, & Stewart, 1999; Gallo & Matthews, 2003). Furthermore, recent studies indicate that neighborhood levels of SES have a significant impact on the psychological and physical health of residents (Cutrona et al., 2006; Fauth, Roth, & Brooks-Gunn, 2007; Leventhal & Brooks-Gunn, 2000; Meier, Slutske, Arndt, & Cadoret, 2008; Wilson, Ainsworth, & Bowles, 2007). For example, Chen and Paterson (2006) found comparatively high body mass index scores and low levels of basal cortisol among

¹ To ensure that the correlations between a state-level personality dimension and a social indicator were not contaminated by the effects of the other personality dimensions, I first residualized each of the state-level personality estimates to statistically remove any shared variance with the other four dimensions.

adolescents living in low-SES neighborhoods, even after controlling for family SES. And, using multilevel modeling techniques, Cutrona and colleagues (2005) found that neighborhood SES significantly predicted the onset of major depression among African American women, even after controlling for individual-level demographic characteristics. Thus, SES at both the individual and aggregate levels appears to be a strong determinant of health.

There is also evidence that personality is linked to health-related behaviors and life expectancy. For example, Extraversion is positively associated with having large social support networks, and perhaps as a result, it is also related to long life expectancy (Berkman, Glass, Brissette, & Seeman, 2000; Ozer & Benet-Martínez, 2006). Low Agreeableness has been linked to cardiovascular illnesses and short life expectancy (Miller, Smith, Turner, Guíjarro, & Hallet, 1996; Smith & Spiro, 2002). Conscientiousness is positively related to health-promoting behaviors, such as exercising, and negatively related to health-damaging behaviors, including heavy drinking and drug use (Bogg & Roberts, 2004; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). And Neuroticism is negatively related to markers of morbidity and mortality (Mroczek, Spiro, & Turiano, 2009; Roberts et al., 2007; Ozer & Benet-Martínez, 2006). Furthermore, results from a recent meta-analysis revealed that the effects of personality on mortality are on the same order of magnitude as the effects of SES and cognitive ability on mortality (Roberts et al., 2007).

Given the links between personality and mortality and that features of the environment affect individual health outcomes, it is worth considering whether regional variation in personality is related to state-level health indicators. Rentfrow et al. (2008) observed state-level relationships between personality and health that were partially consistent with previous research. Specifically, the state-level relationships were inconsistent for Extraversion, which was not significantly related to any of the health indicators, which suggests that the protective effects of Extraversion do not emerge at the state level. Nor were relationships consistent for Conscientiousness, which was negatively related to life expectancy. Why might residents of states with high Conscientiousness have a shorter lifespan? It is reasonable to suppose that in regions where Conscientiousness is high, as opposed to low, there are higher standards and greater emphasis placed on self-discipline, conformity, and rules. As a consequence, such places might become stressful areas in which to live. Although this is a very tentative interpretation, it may nevertheless provide a fruitful path for future research.

The state-level relationships were consistent for Agreeableness, which was positively related to life expectancy and remained significant after sociodemographic variables were controlled. The links between state-level Agreeableness and life expectancy suggest that there may be health benefits associated with living in places where people are friendly, warm, and generous. The most consistent and compelling findings that emerged were for state-level Neuroticism, which was positively related to deaths due to all forms of cancer and heart disease and negatively cor-

related with life expectancy. The connections between Neuroticism and health remained substantial in size even after state-level sociodemographic variables (e.g., income, education, percentage of Blacks and African Americans) were controlled. Considering that race and SES are factors known to affect health (e.g., Adler et al., 1994, 1999; Gallo & Matthews, 2003; Jemal et al., 2003), these findings are encouraging and could potentially inform our understanding of regional health disparities.

How Should We Interpret Links Between Regional Personality Variables and Social Indicators?

When working with variables that can be measured at different levels of analysis, it is necessary to interpret the results at the level at which the data were analyzed because the different levels are logically independent. This logical disconnect is referred to as the *ecological fallacy* (Robinson, 1950). A classic example of it can be found in Durkheim's (1897/1952) work on suicide, in which he found that aggregate rates of suicide were higher in countries with larger Protestant than Catholic populations. On the basis of those aggregate-level results, he inferred that suicide was a practice endorsed by the social conditions produced by Protestantism. Yet that conclusion is not entirely warranted because none of the countries Durkheim studied were completely Protestant and the religious views of the suicide victims were not known. It could have been non-Protestants living in predominantly Protestant regions who were committing suicide. This example illustrates why, in the absence of individual-level data, making inferences about individuals on the basis of aggregate data is not entirely justified.

A similar type of error, called the *individualistic fallacy* (Inglehart & Welzel, 2003; also called the *reverse-ecological fallacy* by Hofstede, 2001, and the *compositional fallacy* by Pettigrew, 1997), occurs when findings from the individual level of analysis are assumed to generalize to the aggregate level. For instance, this would occur if one assumed, in the absence of aggregate data, that states with high average levels of Conscientiousness produced more economic output because there is individual-level research showing that Conscientiousness positively predicts workplace productivity. Although it would seem reasonable to make a prediction about the associations between aggregate-level variables on the basis of individual-level research, one cannot assume that the results will generalize. In point of fact, state-level Conscientiousness as reported by Rentfrow et al. (2008) was negatively associated with per capita gross state domestic product in 2007 ($r = -.19$; U.S. Bureau of Economic Analysis, 2009).

Another issue to consider when working with aggregate-level data is the reference-group effect. Research by Heine and colleagues indicates that when individuals complete self-report measures, they compare themselves against implicit standards from their culture (Heine, Buchtel, & Norenzayan, 2008; Heine, Lehman, Peng, & Greenholtz, 2002). Such comparison raises potential concerns

about the verisimilitude of cross-national comparisons that are based on aggregate self-reports. If self-ratings are based on comparisons with other people from the same culture, then national personality means based on self-reports reflect how people see themselves relative to their compatriots, not how they see themselves relative to people around the world. The reference-group effect is less of a concern for comparisons within nations because respondents share the same implicit cultural standards and referents (Heine et al., 2008).

Unlike experimental research, in which extraneous variables are usually identified and controlled, large-scale survey studies that examine relations among aggregate variables are susceptible to a number of confounding variables. Of course, it is good practice to be mindful of potential confounds and to statistically partial them out, but when one is working at the geographical level, which is clearly not the norm in psychology, it may not be immediately clear which variables to control. Research in the regional sciences consistently finds that state levels of education, income, racial diversity, gender, and urbanization are important predictors of several regional differences (e.g., Axelrod, 1986; Brooks & Manza, 1997; Erikson, Wright, & McIver, 1993; Heppen, 2003; Hero, 1998; Huckfeldt & Sprague, 1995). Therefore, when interpreting correlations among geographical factors, it is important to consider the potential effects of sociodemographics on those factors. However, even after sociodemographic variables are statistically controlled, unanticipated correlations sometimes emerge that are not immediately interpretable. Such correlations may be spurious, but sometimes they may be true relationships that just do not fit with current psychological theory and research. Although one needs to exercise caution toward such findings, one should not dismiss them just because they do not immediately make sense. Repeated studies will help determine whether such associations are real and deserve attention.

Most of the research to date on geographic variation in personality has looked only at the aggregate level of analysis. None of the studies have reported results from multilevel models. Research concerned with regional variation in personality that examines personality and outcomes at the individual level of analysis will allow for multilevel modeling techniques that can separate individual- and group-level effects. Such techniques will help reveal whether the patterns of relationships between personality and the outcome variables vary across levels of analysis.

How Can a Regional Perspective Inform Theory and Research in Personality Psychology?

There is much debate about the origin of cross-cultural differences in personality (Benet-Martínez & Oishi, 2008; Church, 2000; Hofstede & McCrae, 2004; Triandis & Suh, 2002). This debate rests largely on the distinction between genotypic and phenotypic personality traits. Proponents of the genotypic perspective (e.g., McCrae & Costa, 1996) conceptualize personality traits as inherited basic tenden-

cies that are rooted in biology and independent of culture. As such, any personality differences observed between cultures are interpreted as reflections of genetic differences (see Hofstede & McCrae, 2004, pp. 74–78). In contrast, proponents of the phenotypic perspective (e.g., Saucier & Goldberg, 1996) view personality as reflecting regularities in behavior that are based on both genetic dispositions as well as adaptations to the social environment. As such, cross-cultural differences in personality may reflect genetic differences as well as cultural differences (see Hofstede & McCrae, 2004, pp. 70–74). On the basis of these two perspectives, one may hypothesize that if personality traits are unaffected by life experience, then personality should be considered among the primary causes of geographic differences in attitudes, values, and behavior (or culture). On the other hand, if the environment does have an effect on personality, then culture and society may be considered key causes of geographic personality differences.

Because Americans move frequently (Perry, 2006) and there are numerous social indicators available in the United States, a regional perspective could provide an effective way to test those competing hypotheses. Specifically, if personality is a cause of differences in culture, as measured by social indicators (e.g., crime rates, public opinion), then changes in the prevalence of certain personality traits, resulting from migration patterns, should eventually lead to changes in certain geographical variables. However, if large-scale social structural variables evoke changes in personality, then societal changes should lead to changes in the prevalence of certain personality traits over time. These ideas seem reasonable, as many social policy initiatives are based on the notion that changes in the environment will affect residents (either by attracting certain people or changing residents' behavior).

Much of the research concerned with cross-cultural differences compares a group of people from one region of a country to a group of people in a region in another country. In light of the evidence presented, it would be sensible to pay attention to the characteristics of the regions sampled in the different countries. Are the regions equivalent in terms of social diversity, wealth, density, and climate? If not, any differences observed may not reflect national culture solely but could reflect differences in the local environments. The research mentioned previously by Kitayama and colleagues (2006) corroborates this point. Additional support comes from a study by Kashima et al. (2004), which obtained evidence suggesting that cultural differences in individualism–collectivism are moderated by urbanization. Specifically, Kashima et al. found that Japanese participants living in a rural or urban area were, on average, higher in collectivism than were Australian participants living in either area. However, participants from rural locales were higher in collectivism than were those living in urban cities. Kashima et al.'s work provides evidence from two different countries that cross-national differences may not solely reflect differences between national cultures but may also reflect differences between regional cultures. Thus, by examining multiple regions

within the same nation, researchers interested in culture will be able to develop more precise estimates of the effects of culture on basic psychological processes.

A regional perspective could also inform our understanding of a variety of psychological constructs, from racial prejudice and gender roles to prosocial behavior and stress. To illustrate, consider a recent series of studies concerned with personality and racial prejudice (Flynn, 2005). In three studies, Flynn found that people high in Openness, compared with those low in Openness, scored lower on a measure of explicit racial prejudice, had more positive perceptions of a fictitious Black person, and made more favorable evaluations of a Black interviewee. Although the results are consistent with conceptualizations of Openness (McCrae & Sutin, 2009), it is interesting to consider whether the location in which the research was conducted might have influenced the findings: All three studies were conducted at Columbia University in New York City, 27% of New York City's population is Black and African American (U.S. Census Bureau, 2000), and New York state ranks second on Openness (Rentfrow et al., 2008). What might the relationship between Openness and prejudice look like in racially homogeneous areas where people have little contact with minority group members? Might the effects of Openness on prejudice be weaker in regions where racism is socially tolerated? More broadly, are the effects of personality on behavior superseded by the social norms in a region? These questions are in no way intended as criticisms of Flynn's work; they are merely intended to illustrate how considering a broad regional perspective can raise new and important questions about the myriad factors underlying social behavior.

How Can Psychologists Examine Regional Differences in Their Own Research?

Most of the research presented thus far has relied on large-scale surveys of college students, probability samples, or Internet users. Those approaches have generated useful and interesting results, but there are a variety of other methods and data sources available to psychologists interested in studying regional differences in personality and various psychological processes.

There is an enormous amount of demographic, political, health, crime, and labor statistics available from governmental agencies that can be used to study regional psychological differences. Vandello and Cohen (1999) made use of such data to examine statewide differences in individualism–collectivism. Specifically, they created an index of individualism–collectivism by aggregating Census statistics (e.g., the percentage of residents living alone, the percentage of households with grandchildren living in them, the percentage of self-employed residents) and validated that index against the percentage of Asians living in each state. That work provides a creative example of how Census statistics can be used to develop and test hypotheses about regional psychological differences.

Several polling organizations and research institutes also have data that allow for studying regional psychological differences. For example, the American National Election Studies project has regional data on Americans' political attitudes dating back to 1948. Since 1972, the General Social Survey administered by the National Opinion Research Center has measured Americans' attitudes about government, religion, race, and the arts. And the Centers for Disease Control and Prevention regularly conducts national surveys of health behavior. These agencies provide much of the data used by political scientists, economic geographers, and public health researchers. For example, Rentfrow, Mellander, and Florida (2009) used the Gallup Organization's Well-Being Index to examine links between happiness and state-level indicators of wealth, class structure, social diversity, and personality.

There are other, less conventional, ways to study regional differences. For example, Zelinsky (1974) examined cultural differences in the United States using magazine subscriptions obtained from publishing companies, and in *The Clustering of America*, Weiss (1988) examined regional differences in consumer behavior using market research data. Although such data are not available in the public domain and can be very expensive to obtain, there is a wealth of data available on the Internet that can be utilized. For instance, Rentfrow and Gosling (2003) gathered music-preference data for several hundred people across the United States from a music file-sharing service that published users' online music collections on its website. And Chung, Allison, Gediman, and Pennebaker (2009) recently examined statewide differences in Americans' beliefs by performing text analyses on over 37,000 essays submitted to National Public Radio's *This I Believe* weekly radio program.

Experiments can also be used to investigate regional psychological differences. Considering the vast number of psychological studies that have already been conducted in the United States, another option is to perform regional meta-analyses in which the region where a study was conducted is treated as an independent variable. Such an approach would reveal whether effect sizes vary systematically from one region to another. Furthermore, including regional data from other sources (e.g., U.S. Census Bureau, 2000) could shed light on the demographic or social structural factors underlying any observed differences.

Research on the culture of honor provides a beautiful illustration of how several of the aforementioned methods and data sources can be combined to study regional differences in rates of aggression (Cohen, 1996, 1998; Cohen & Nisbett, 1997; Nisbett & Cohen, 1996). Using evidence from surveys, social indicators (e.g., crime statistics, voting records), and experiments, that work provides a compelling argument for why violence in the service of honor is higher among men from the South than among men from the North (for an alternative interpretation, see Anderson & Anderson, 1996).

Conclusion

My aim in this article was to raise awareness about the potential contribution that a regional perspective could add to theory and research in psychology. Toward that end, I presented evidence that there are regional personality differences in the United States, that there are empirically valid explanations for how such differences could emerge, and that regional personality differences are linked to important social indicators. I also provided suggestions for how relations between regional psychological variables and social indicators should be interpreted, how a regional perspective could inform our understanding of various psychological phenomena, and how psychologists could adopt a regional approach in their own work. Even if the evidence and suggestions made here fail to motivate psychologists to adopt a regional perspective, I hope that they inspire at least some to consider the extent to which regional differences might inform their research. As I see it, expanding our research foci to include a regional perspective will help situate psychology in a larger context and inform our understanding of the broader social, historical, political, and economic factors that shape behavior.

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