

Singapore Management University Institutional Knowledge at Singapore Management University

Research Collection School of Social Sciences

School of Social Sciences

3-2004

Cross-Situational Consistency of Affective Experiences across Cultures

Shigehiro OISHI

University of Minnesota - Twin Cities

Ed DIENER

University of Illinois at Urbana-Champaign

Christie N. SCOLLON

Singapore Management University, cscollon@smu.edu.sg

Robert Biswas-DIENER

University of Oregon

DOI: <https://doi.org/10.1037/0022-3514.86.3.460>

Follow this and additional works at: https://ink.library.smu.edu.sg/sooss_research

Part of the [Multicultural Psychology Commons](#), [Personality and Social Contexts Commons](#), and the [Social Psychology Commons](#)

Citation

OISHI, Shigehiro, DIENER, Ed, SCOLLON, Christie N., & Biswas-DIENER, Robert. (2004). Cross-Situational Consistency of Affective Experiences across Cultures. *Journal of Personality and Social Psychology*, 86(3), 460-472.

Available at: https://ink.library.smu.edu.sg/sooss_research/926

This Journal Article is brought to you for free and open access by the School of Social Sciences at Institutional Knowledge at Singapore Management University. It has been accepted for inclusion in Research Collection School of Social Sciences by an authorized administrator of Institutional Knowledge at Singapore Management University. For more information, please email libIR@smu.edu.sg.

Cross-Situational Consistency of Affective Experiences Across Cultures

Shigehiro Oishi¹

University of Minnesota, Twin Cities Campus

Christie Napa Scollon

University of Illinois at Urbana–Champaign

Ed Diener

University of Illinois at Urbana–Champaign and The Gallup
Organization

Robert Biswas-Diener

University of Oregon

¹ Shigehiro Oishi, Department of Psychology, University of Minnesota, Twin Cities Campus; Ed Diener, Department of Psychology, University of Illinois at Urbana–Champaign, and The Gallup Organization, Princeton, New Jersey; Christie Napa Scollon, Department of Psychology, University of Illinois at Urbana–Champaign; Robert Biswas-Diener, Department of Psychology, University of Oregon.

Portions of these data that examine the structure of affect (Scollon, Diener, Oishi, & Biswas-Diener, in press-b) and memory for affective experiences (Scollon, Diener, Oishi, & Biswas-Diener, in press-a) have been reported elsewhere. However, these articles are concerned with conceptually distinct issues from the one discussed in the present article, and therefore there is no conceptual overlap.

We thank Mark Snyder, Auke Tellegen, and David Funder for their invaluable comments on drafts of this article. We also thank Hideki Okabayashi of Meisei University and Kaoru Nishimura of International Christian University for their help in data collection in Japan.

Correspondence concerning this article should be addressed to Shigehiro Oishi, Department of Psychology, University of Minnesota, 75 East River Road, Minneapolis, MN 55455. E-mail: soishi@tc.umn.edu

Cross-Situational Consistency of Affective Experiences Across Cultures

This study examined cross-situational consistency of affective experiences using an experience-sampling method in Japan, India, and the United States. Participants recorded their moods and situations when signaled at random moments for 7 days. The authors examined relative (interindividual) consistency and absolute (within-person) consistency. They found stable interindividual differences of affective experiences across various situations (mean $r = .52$ for positive affect, $.51$ for negative affect) and cultural invariance of the cross-situational consistency of affective experiences. Simultaneously, the authors found a considerable degree of within-person cross-situational variation in affective experiences, and cultural differences in within-person cross-situational consistency. Thus, global affective traits exist among non-Western samples, but the degree to which situations exert an influence on the absolute level of affective experience varies across cultures.

Journal of Personality and Social Psychology 2004, 86(3), 460–472. doi: [10.1037/0022-3514.86.3.460](https://doi.org/10.1037/0022-3514.86.3.460)

This article may not exactly replicate the final version published in the APA journal. It is not the copy of record.

As indicated by recent special issues of *Journal of Personality* (2001), *American Behavioral Scientist* (2000), and *Journal of Cross-Cultural Psychology* (1998), culture and personality has become a popular topic again in psychology. Unlike earlier research on national character (Benedict, 1946; see LeVine, 2001; McCrae, 2000, for a review), recent research on culture and personality has examined the replicability of factor structure of personality using indigenous person descriptors (Almagor, Tellegen, & Waller, 1995; Benet-Martinez & Waller, 1997; see Saucier & Goldberg, 2001, for a review) as well as the translated versions of personality scales (see Church & Lonner, 1998; McCrae & Costa, 1997, for a review). The factor-analytic research established important cultural equivalence of covariation among basic personality variables.

Because most recent studies on culture and personality have focused on structural issues, however, two basic questions remain unanswered. First, to what extent is between-persons variability in personality generalized across different situations in daily contexts in non-Western cultures? As Church (2000; Church & Katigbak, 2000) recognized, there is no direct evidence at this point for cross-situational consistency of affect across cultures. Second, do within-person processes vary by culture? Personality researchers have illuminated important individual differences in within-person processes such as mood (Eid & Diener, 1999) and self-esteem stability (Greenier et al., 1999). Although the importance of within-person processes in the development of any comprehensive theory in personality is widely recognized (Allport, 1937, 1961), few studies have examined within-person processes in the context of culture and personality.

In the spirit of the integrated view of personality (Fleeson, 2001), the purpose of this article was to examine both between-persons and within-person variability of affective experiences across cultures. We examined affective experiences because they are linked to major personality traits such as extraversion and neuroticism (Tellegen, 1985). We assessed everyday affective experiences over time, which allowed us to investigate the two remaining questions in culture and personality.

Cross-Cultural Personality Research: Three Critiques From Cultural Psychology

Despite the robust evidence on cultural comparability of factor structure of personality, some cultural psychologists are still unconvinced of the universality of traits. Evaluating the culture and personality literature, Shweder (1991) deemed the following question fundamental: How widely do the thoughts, emotions, and actions of a person or a people generalize across diverse stimuli, contexts, or domains? He reviewed many null findings of cross-situational consistency (e.g., Newcomb, 1929) and concluded that cross-situational consistency does not exist at global levels and that in order to find cross-situational consistency, a target behavior must be defined in a narrowly context-dependent fashion (e.g., a tendency for children to ask their mothers to watch them build things). On this ground, Shweder questioned the utility of global personality traits and the effort to find meaningful individual differences in global traits across cultures. Furthermore, Shweder viewed the factor-analytic research summarized above as demonstrating cross-cultural similarities in conceptual affiliations (e.g., “talkative” and “cheerful” are similar) and exclusions (e.g., “talkative” and “depressed” are not similar) rather than the existence of stable individual differences along global dimensions of personality across cultures.

From the cultural psychology perspective, Markus and Kitayama (1998) also rejected the factor-analytic findings on cross-cultural comparability of the structure of personality as evidence for a universal aspect of human behavior. They maintained that

it is one thing to comprehend such a semantic structure and another entirely different thing to claim that this semantic space captures the actual structure of personalities prevalent in a given cultural group, especially when the measurement of personality requires something that is for the most part culturally untenable (i.e., think of the person in the abstract, separated from others in specific situations). (Markus and Kitayama, 1998, p. 80)

Markus and Kitayama contended that the valid measurement of personality in East Asia would require the measurement of personality in specific situations. From a similar cultural psychology perspective, Cross and Markus (1999) called personality psychology “an ‘indigenous psychology’ of Western Europeans and North Americans rather than a universal psychology of human behavior” (p. 382) and regarded the extant cross-cultural research on personality to be inadequate. These researchers argued that Asian views of the person and personality are embedded in specific situations and that Mischel and Shoda’s (1995) framework (i.e., “if . . . then” patterns of relations between specific situations and behavioral-affective outcomes) should be utilized in place of global, context-free personality (see also Hong & Chiu, 2001).

In short, three major critiques of extant cross-cultural research on personality center on (a) the *alleged* lack of evidence for cross-situational consistency at global levels in the United States, (b) the lack of research efforts to measure personality in specific life contexts across cultures, and (c) the lack of research attention to “if . . . then” patterns of relations between specific situations and behavioral–affective outcomes across cultures.

An Examination of the Three Critiques of Cross-Cultural Research on Personality

Although Shweder (1991) and Mischel (1968; Mischel & Shoda, 1995) emphasized the lack of cross-situational consistency of global traits, there are quite a few published articles that report substantive levels of cross-situational consistency. Moskowitz (1982), for instance, observed 56 children in a nursery school for 8 weeks and found that cross-situational consistency between the children’s aggregated dominant behavior toward adults and aggregated dominant behavior toward their same-gender peer was .62. Similarly, Funder and Colvin (1991) observed college students in three different laboratory situations and computed cross-situational consistency coefficients based on independent judges’ ratings of the videotaped behaviors in the laboratory sessions. Out of the 12 possible cross-situational consistency coefficients, 11 were significant among four global factors, with the mean of .46. Whereas Shweder assumed that cross-situational consistency could be found only with behavior in narrowly defined situations, Funder and Colvin found substantial levels of cross-situational consistency with global behaviors (e.g., withdrawal).

Compared with explicit behaviors (e.g., dominance), affect is hard to observe. Thus, cross-situational consistency of affect has been examined using self-reports rather than observational data. Diener and Larsen (1984), for example, had college students record their moods and situations they were in when signaled at random moments over 6 weeks. They found that the cross-situational consistency for positive affect was .58 between social and alone situations, .67 between novel and typical situations, and .70 between work and recreational situations. Likewise, using an experience-sampling method, Penner, Shiffman, Paty, and Fritzsche (1994) found that the cross-situational consistency of mood was .51 between eating and working situations among 54 American adults. Watson (2000) further replicated the earlier findings with a much larger sample of 339 college students: $r = .83$ for negative affect (NA) and .75 for positive affect (PA) between social and alone situations. In sum, a number of studies have found a substantial degree of cross-situational consistency in affect and behaviors in the United States.

The second critique, that previous cross-cultural personality research did not measure personality in specific contexts, is by and large valid. Indeed, most studies employed a one-shot questionnaire data collection method, using context-free items. One notable exception is Watson, Clark, and Tellegen’s (1984) daily diary study of mood in Japan. These researchers collected daily reports of moods using indigenous terms for 90 consecutive days. Watson et al.’s daily diary method provides an approach that overcomes the weakness of the most frequently used method in cross-cultural personality research, namely, global context-free self-reports (see also Mesquita &

Karasawa, 2002; Oishi, 2002). Finally, the third critique, that previous cross-cultural personality research did not examine within-person “if . . . then” patterns of relations between situations and trait-relevant behaviors, is valid, because to our knowledge, none of the published work has examined such processes across cultures.

Toward the Process-Oriented Cross-Cultural Personality Research

In addition to addressing the three chief critiques against the existing cross-cultural personality research, the investigation of cross-situational consistency of affective experiences provides a prime opportunity to test key assumptions in cultural theories of the self and emotion: context dependency in conceptions of personality and individual differences (e.g., Fiske, Kitayama, Markus, & Nisbett, 1998; Markus & Kitayama, 1991; Triandis, 1995). The contextual nature of the self-concept has been examined previously using the Twenty Statement Test (e.g., Cousins, 1989; Kanagawa, Cross, & Markus, 2001). Also, the idea that cognitive consistency is not as important among Japanese as among North Americans has been demonstrated using a cognitive dissonance paradigm (Heine & Lehman, 1997).

More pertinent to the current investigation, Suh (2002) examined cross-situational consistency in self-perception among European Americans and Koreans. He asked participants to rate themselves in several different hypothetical situations. For example, participants rated how emotional, cheerful, and friendly they typically were when with a close friend, parents, a stranger, and so forth. As expected, European Americans viewed themselves as more consistent across different situations than did Koreans. Namely, European Americans who perceived themselves to be cheerful with a close friend perceived themselves to be cheerful with parents, as well. By contrast, Koreans who perceived themselves to be cheerful with a close friend did not necessarily perceive themselves to be cheerful with their parents.

To our knowledge, Suh’s (2002) research was the first to test cross-cultural differences in consistency of self-concept, and it advanced our understanding of self-concept and well-being beyond the previous literature. Given that Suh’s (2002) studies relied on global self-reports in hypothetical situations, however, there is still the possibility that despite their self-reported consistency, European Americans may in real-life contexts be as inconsistent as East Asians across different situations. Responses to global questions and hypothetical scenarios may be informed by implicit cultural theories about consistency (Ross, 1989). It is critical, then, to test for cross-situational consistency in real-life contexts.

Two Types of Cross-Situational Consistency

We tested whether an individual who reported happiness in alone situations would also report a greater degree of happiness in other situations, such as when with friends and family members. This is the cross-situational consistency coefficient typically used in previous research (e.g., Epstein, 1979; Mischel & Peake, 1982), and it concerns the *relative consistency* at the inter-individual level (Magnusson & Endler, 1977). We expanded on previous research by including Hispanic, Japanese, and Indian respondents. The relative cross-situational consistency of affective experiences in our samples provides an important test as to whether there are trait-like stable inter-individual differences in affective experiences in so-called collectivist cultures.

There is another important type of cross-situational consistency at the within-person level. For instance, Funder and Colvin (1991) found substantive differences in the mean level of behaviors across the three laboratory sessions mentioned above, even in the behaviors that showed a very high level of relative consistency. That is, even though individuals who “behaved in a fearful or timid manner” at Session 1 behaved in a fearful or timid manner at Session 2 ($r = .65$), the degree to which individuals showed fearfulness decreased significantly at Session 2. This result indicates, on the one hand, that even when situational effects are strong, there could exist strong individual differences. On the other hand, even when there are strong individual differences, there could exist strong situational effects. Thus, situational effects and individual differences are independent phenomena. Nevertheless, in the literature on culture and self, it is incorrectly assumed that there cannot be stable individual differences in a culture with strong contextual effects.

Within-person cross-situational consistency, or what Magnusson and Endler (1977) called *absolute consistency*, becomes particularly important in the context of cultural comparisons, because even when two cultures have exactly the same relative cross-situational consistency coefficient of happiness (e.g., $r = .50$), Culture A might show a small average absolute cross-situational difference in happiness between two situations (e.g., .25 difference in mean happiness ratings in two situations), whereas Culture B might show a very large average absolute cross-situational difference in happiness (e.g., 1.50 difference). In this case, there are no cultural differences in the relative cross-situational consistency between Cultures A and B, yet affective experiences among people in Culture B vary to a larger extent, depending on situations, than among people in Culture A. Cultural comparisons in the within-person cross-situational consistency of affective experiences provide a strong test for the predominant cultural theory of self and emotion (Markus & Kitayama, 1991), as this theory postulates that affective experiences of interdependent persons should be much more context-dependent than those of independent persons. If this assumption is true, we should observe larger absolute cross-situational variation among interdependent persons than among independent persons. As reviewed earlier, however, the direct data bearing on this claim are noticeably missing in the literature.

In sum, the present research investigates two crucial issues in personality and cultural psychology: (a) whether inter-individual difference in the mean affective experiences in one situation will be predicted from another situation in interdependent cultures (e.g., Japanese, Indians, Hispanic Americans) and (b) whether social contexts have a stronger impact on within-person variation in affective experiences in interdependent than in independent cultures.

Method

Participants

In total, 371 college students from three nations (the United States, Japan, and India) completed at least 20 random moment reports. Participants were recruited at university campuses through flyers and class announcements. All materials were originally prepared in English. The materials used in Japan were translated into Japanese by Shigehiro Oishi. Except in Japan, all materials were administered in English. Following completion of the study, participants received \$25 compensation (or the equivalent).

Americans in Illinois. Ninety-two students (72 women, 20 men) at the University of Illinois at Urbana–Champaign participated in this study. Out of the 92 students, 45 were self-identified as European American (38 women, 7 men), 31 as Asian American (20 women, 11 men), 7 as African American (6 women, 1 man), and 4 as Latino/Latina (3 women, 1 man); 5 other students (all women) did not specify their race. Their mean age was 20.65 ($SD = 3.34$) years. We treated these racial groups as a reference group in our investigation for two reasons. First, we did not have enough data to treat African American and Latino American samples separately. In the analysis on relative cross-situational consistency, there were fewer than five observations for six pairs of situations for Asian Americans, which did not allow for reliable statistical analyses. Second, when there were enough observations for Asian Americans, we conducted each analysis with Asian Americans and the others separately. The patterns of results were very similar between two groups in these analyses. Finally, although the demographics of Illinois students might have changed over the last 15 years, our Illinois participants could serve as a reference group, as the original study on cross-situational consistency of affect (Diener & Larsen, 1984) was conducted at the University of Illinois.

Hispanics in Fresno, California. Sixty-eight students (14 men, 52 women, 2 unknown) from California State University–Fresno participated. They were recruited only if they “spoke Spanish at home.” Their mean age was 21.33 ($SD = 4.75$) years.

Japanese. Eighty students (50 women, 28 men, 2 unspecified) participated from the International Christian University and Meisei University. Both universities are private schools located in the western suburb of Tokyo. Their mean age was 20.29 ($SD = 2.36$) years.

Indians. One hundred thirty-one students (85 women, 46 men) were recruited from Utkal University in Bhubaneswar, a city in the state of Orissa, and several universities in and around Calcutta, a city in the state of West Bengal, such as the Indian Institute of Management, President’s College, Jadavpur University, the Indian Institute of Social Welfare and Business Management, Calcutta University–Raja Bazaar, St. Xavier’s College, and the Ramakrishna Mission at Narendrapur. Their mean age was 21.4 ($SD = 2.6$) years. Given India’s diversity of

languages and the fact that English is one of the country's official languages, translation of materials was not necessary.

Procedure and Measures

With the exception of our Indian participants, participants carried a handheld computer during their waking hours (either 9 a.m. to 9 p.m. or 10 a.m. to 10 p.m.) for 7 days. The computer was programmed to sound an alarm at random moments five times a day. When signaled, participants completed a mood form directly on the computer. Participants were asked to report how they were feeling "right before the alarm went off." We emphasized the time right before the alarm to remove any reactive effects of the alarm itself. Although in most instances respondents were able to complete the mood form immediately after being signaled, if it was impossible to do so at the moment (e.g., during a test), participants were allowed to complete the form up to, but no later than, 30 min after the alarm sounded.

Participants in India completed identical forms in a paper-and-pencil format. Our Indian participants carried a watch that was preprogrammed to sound an alarm roughly once every 2–3 hr, five times a day. In addition, all watches were set for unique times, which allowed participants to exchange watches with one another daily, thereby obtaining a different alarm schedule each day. This procedure ensured that respondents would not anticipate the alarms, and it gave us an ecological sampling of their daily affect and situations encountered. Participants in the Indian sample turned in their mood forms each day. We chose to use a watch rather than a handheld computer in India because handheld computers were not as widely used as in the United States or Japan.

When signaled, participants recorded to what degree they were feeling the six positive (affectionate, calm, happy, joy, pleasant, and proud) and five negative moods (guilt, irritation, sadness, unpleasant, and worry) on a scale from 0 (*not at all*) to 6 (*with maximum intensity*). These moods were selected to represent the major facets of PA and NA (Diener, Smith, & Fujita, 1995) and served as a compromise between an exhaustive list of emotions and a quick, short list for the experience-sampling nature of the study. Cronbach's alpha for PA was .85 for Americans in Illinois, .87 for Hispanics in Fresno, .84 for Japanese, and .79 for Indians. Cronbach's alpha for NA was .77 for Americans in Illinois, .77 for Hispanics in Fresno, .80 for Japanese, and .81 for Indians (see Scollon, Diener, Oishi, & Biswas-Diener, in press-b, for the relation between PA and NA).²

In addition, participants answered a question regarding the nature of the situation in terms of whom they were with. There were six options (i.e., alone, with a friend, with a classmate/coworker, with a romantic partner, with a stranger, and with a family member). These options were displayed as check boxes. We defined a *classmate/coworker* as someone in your class or at work with whom you are not well acquainted. Because in some situations, participants could be with a friend and a romantic partner or a friend and family members, they were instructed to check multiple boxes in such situations. Later, we coded each random moment in terms of six situations. When one type of situation was checked, this moment was coded as 1 in terms of that type of situation. For instance, when a participant checked "with a friend" only, this moment was coded as 0 in terms of "alone," "classmate," "romantic partner," "stranger," and "family" and 1 in terms of "friend." Situations involving more than one situation option (e.g., a situation with a "friend" and a "classmate") were coded separately and not included in the main analyses. Table 1 shows the number of unique situations for each sample.

On average, participants completed 39.48 mood reports ($SD = 11.81$), of which 30.30 reports ($SD = 11.85$) involved unique situations. The Illinois sample completed an average of 47.16 reports ($SD = 6.27$), of which 43.38 ($SD = 10.50$) were unique. The Hispanic sample completed an average of 43.46 reports ($SD = 11.71$), of which 22.46 ($SD = 9.41$) were unique. Japanese completed an average of 43.65 reports ($SD = 12.23$), of which 24.28 ($SD = 11.04$) were unique. Indians completed an average of 29.36 reports ($SD = 4.89$), of which 28.79 ($SD = 4.84$) were unique.³

² Cronbach's alpha was computed according to the total number of unique situations for each sample (e.g., 4,000 observations for Americans in Illinois).

³ The lower overall response rate among Indians might be caused by use of the paper-and-pencil method

Table 1
Number of Unique Situations for Each Sample

Situation	Americans in Illinois	Hispanic Americans	Japanese	Indians
Alone	2,150 (.54)	557 (.36)	1,056 (.54)	697 (.18)
With friend	729 (.18)	253 (.17)	284 (.15)	1,309 (.35)
With classmate	532 (.13)	238 (.16)	118 (.06)	329 (.09)
With partner	247 (.06)	94 (.06)	120 (.06)	47 (.01)
With stranger	269 (.07)	72 (.05)	170 (.09)	260 (.07)
With family	73 (.02)	313 (.20)	194 (.10)	1,130 (.30)
Total	4,000	1,527	1,942	3,772

Note. The number inside the parentheses indicates the proportion of time spent on each unique situation.

Results

Relative Cross-Situational Consistency of PA

To examine relative cross-situational consistency of affective experiences, we first computed the average positive moods and negative moods in each of the six situations for each individual. For instance, if Participant A was in alone situations 10 times, we first computed the average of each mood on these 10 random moments, then computed the mean of the six positive moods and the five negative moods in these 10 random moments. We repeated this for each situation. Thus, cross-situational consistency coefficients between situations were based on aggregated PA and NA over multiple occasions.

Next, we computed the relative cross-situational consistency of PA for each sample for each pair of situations. We used only unique situations for this and the rest of the analyses to avoid spurious correlations involving multiple situations. Table 2 shows some interesting cross-situational inconsistency of PA. For instance, Hispanics and Japanese who felt more PA when with family did not feel more PA when with classmates/coworkers. However, the main story of Table 2 is that the overwhelming majority of cross-situation pairs, indeed, 49 out of 60, or 81.67%, showed statistically significant relative cross-situational consistency of PA.

Table 2
Relative Cross-Situational Consistency of Aggregated Positive Affect

Variable	Friend	Classmate	Partner	Stranger	Family
Americans in Illinois					
Alone	.72** (85)	.85** (78)	.71** (41)	.77** (77)	.55** (33)
Friend		.68** (75)	.50** (36)	.63** (71)	.51** (32)
Classmate			.61** (35)	.68** (66)	.53** (27)
Partner				.57* (32)	.25 (17)
Stranger					.37* (28)
Hispanic Americans in California					
Alone	.67** (51)	.51** (52)	.47** (32)	.39** (36)	.43** (50)
Friend		.42** (43)	.46* (24)	.36† (28)	.25 (41)
Classmate			.30 (26)	.45* (28)	.07 (40)
Partner				.56* (18)	.29 (23)
Stranger					.23 (28)
Japanese					
Alone	.62** (69)	.56** (36)	.69** (30)	.63** (47)	.73** (37)
Friend		.38* (32)	.50** (26)	.34** (40)	.57** (32)
Classmate			.62* (14)	.45* (21)	.08 (15)
Partner				.54* (15)	.37 (12)
Stranger					.49* (24)
Indians					
Alone	.64** (92)	.66** (63)	-.15 (16)	.43** (64)	.53** (77)
Friend		.72** (81)	.57** (23)	.38** (95)	.56** (109)
Classmate			.38 (15)	.42** (62)	.55** (72)
Partner				.53** (18)	.54* (19)
Stranger					.58** (90)

Note. Numbers inside parentheses are *ns* for each correlation coefficient.
† $p < .10$ (marginally significant). * $p < .05$. ** $p < .01$.

To present the patterns of cross-situational consistency across samples and type of situation, we created Table 3, which shows the mean, median, and 95% confidence intervals for the mean cross situational consistency for each sample. As the sampling distribution of correlation coefficients is skewed, we first *z*-transformed these correlations; then computed the mean, median, and 95% confidence interval; and finally transformed them back to correlation coefficients following Cohen and Cohen's (1983) procedure. According to Cohen (1977), rough guidelines for effect sizes are $r = .10$ (small), $.30$ (medium), and $.50$ (large). In all four samples, relative cross-situational consistency of PA was medium–large to large and significantly different from zero, as the lower bound of the 95% confidence intervals is far from zero (see Schmidt, 1996, for the interpretation of confidence intervals).

Table 3 also shows the mean, median, and 95% confidence interval for the mean cross-situational consistency of PA for each pair of situations. All pairs showed substantial relative cross-situational consistency. The mean cross-situational consistency of PA was largest for situations in which participants were alone and smallest in situations involving family. These confidence intervals had an overlap of $.02$, indicating that cross-situational consistency of PA tended to be larger in situations where participants were alone than in situations involving family.

In sum, we found that cross-situational consistency of PA was sizable, involving various combinations of situations in the United States, Japan, and India, thereby demonstrating that individual differences in PA are generalized across diverse contexts in diverse cultures (i.e., the answer to Shweder's [1991] question is yes). Relative cross-situational consistency of PA was larger for our participants in Illinois than for our Hispanic participants (i.e., there was no

overlap in confidence intervals). Finally, cross-situational consistency of PA tended to be greater among situation pairs including participants being alone than for those involving family.

Table 3
Summary Cross-Situational Consistency of Affective Experiences by Sample and Situation

Sample or situation	Positive affect			Negative affect		
	<i>M</i>	<i>Mdn</i>	95% CI	<i>M</i>	<i>Mdn</i>	95% CI
Americans in Illinois	.61	.61	.52 to .70	.57	.53	.43 to .68
Hispanics in California	.40	.41	.31 to .48	.45	.45	.30 to .57
Japanese	.52	.54	.43 to .60	.54	.51	.45 to .61
Indians	.51	.54	.40 to .60	.49	.48	.43 to .55
Alone	.60	.62	.50 to .68	.57	.53	.49 to .65
Classmate/coworker	.52	.52	.46 to .61	.54	.47	.46 to .62
Family	.44	.50	.35 to .52	.45	.49	.35 to .54
Friend	.54	.53	.47 to .60	.53	.54	.45 to .61
Partner	.48	.52	.39 to .56	.42	.40	.32 to .51
Stranger	.50	.47	.43 to .57	.54	.51	.45 to .63
Total	.52	.53	.47 to .56	.51	.49	.46 to .56

Note. Mean, median, and the 95% confidence interval (CI) were computed on the basis of *z*-transformed correlation coefficients. The mean for each situation indicates the mean of 20 cross-situational consistency coefficients between one situation (e.g., alone) and the other situations in all four samples.

Relative Cross-Situational Consistency of NA

Table 4 shows the relative cross-situational consistency of NA for each sample for each pair of situations. Again, there are some interesting cross-situational inconsistencies of NA. For instance, in our Illinois sample, participants who experienced a lot of NA when with their romantic partner did not feel more NA when with a stranger, compared with other participants in this sample. Hispanics who experienced more NA when with family did not feel more NA when with a stranger. Overall, however, the majority of the cross-situational pairs, 44 out of 60 (or 73.33%), revealed significant cross-situational consistency of NA.

The right half of Table 3 shows the mean, median, and 95% confidence intervals for the mean cross-situational consistency of NA for each sample and for each type of situation. The mean cross-situational consistency of NA for the entire sample was .51, again a large effect size. Also, the 95% confidence intervals overlapped across the four samples, suggesting no cultural differences in the size of relative cross-situational consistency of NA. Similarly, cross-situational consistency coefficients of NA were substantial in all types of cross-situational pairs.

Cross-Situational Consistency of Affective Experiences Across Cultures

Table 4
Relative Cross-Situational Consistency of Aggregated Negative Affect

Variable	Friend	Classmate	Partner	Stranger	Family
Americans in Illinois					
Alone	.76** (85)	.84** (78)	.49** (41)	.77** (77)	.55** (33)
Friend		.71** (75)	.35* (36)	.75** (71)	.53** (32)
Classmate			.36* (35)	.76** (66)	.46* (27)
Partner				.17 (32)	.13 (17)
Stranger					.36† (28)
Hispanic Americans in California					
Alone	.61** (51)	.68** (52)	.52** (32)	.46** (36)	.34* (50)
Friend		.58** (43)	.29 (24)	.50** (28)	.24 (41)
Classmate			.40* (26)	.52** (28)	.20 (40)
Partner				.82** (18)	.08 (23)
Stranger					.03 (28)
Japanese					
Alone	.51** (69)	.74** (36)	.39* (30)	.61** (47)	.69** (37)
Friend		.31† (32)	.23 (26)	.45** (40)	.73** (32)
Classmate			.45 (14)	.47* (21)	.60* (15)
Partner				.48† (15)	.57† (12)
Stranger					.60** (24)
Indians					
Alone	.56** (92)	.48** (63)	.17 (16)	.44** (64)	.46** (77)
Friend		.60** (81)	.40† (23)	.54** (95)	.58** (109)
Classmate			.46† (15)	.47** (62)	.37** (72)
Partner				.64** (18)	.52* (19)
Stranger					.53** (90)

Note. Numbers inside parentheses are *ns* for each correlation coefficient.
† $p < .10$ (marginally significant). * $p < .05$. ** $p < .01$.

Absolute Cross-Situational Consistency of PA

The first set of analyses replicated the earlier findings on cross-situational consistency of affective experiences in the United States (e.g., Diener & Larsen, 1984) and extended them to Hispanics, Indians, and Japanese. As pointed out by several researchers (e.g., Mischel & Peake, 1982), however, relative cross-situational consistency coefficients neglected within-person variability in affective experiences across different situations. Thus, our second set of goals was (a) to examine within-person cross-situational variation of affective experiences and (b) to examine whether the degree of within-person cross-situational variation would be different across cultures.

Table 4
Relative Cross-Situational Consistency of Aggregated Negative Affect

Variable	Friend	Classmate	Partner	Stranger	Family
Americans in Illinois					
Alone	.76** (85)	.84** (78)	.49** (41)	.77** (77)	.55** (33)
Friend		.71** (75)	.35* (36)	.75** (71)	.53** (32)
Classmate			.36* (35)	.76** (66)	.46* (27)
Partner				.17 (32)	.13 (17)
Stranger					.36† (28)
Hispanic Americans in California					
Alone	.61** (51)	.68** (52)	.52** (32)	.46** (36)	.34* (50)
Friend		.58** (43)	.29 (24)	.50** (28)	.24 (41)
Classmate			.40* (26)	.52** (28)	.20 (40)
Partner				.82** (18)	.08 (23)
Stranger					.03 (28)
Japanese					
Alone	.51** (69)	.74** (36)	.39* (30)	.61** (47)	.69** (37)
Friend		.31† (32)	.23 (26)	.45** (40)	.73** (32)
Classmate			.45 (14)	.47* (21)	.60* (15)
Partner				.48† (15)	.57† (12)
Stranger					.60** (24)
Indians					
Alone	.56** (92)	.48** (63)	.17 (16)	.44** (64)	.46** (77)
Friend		.60** (81)	.40† (23)	.54** (95)	.58** (109)
Classmate			.46† (15)	.47** (62)	.37** (72)
Partner				.64** (18)	.52* (19)
Stranger					.53** (90)

Note. Numbers inside parentheses are *ns* for each correlation coefficient.

† $p < .10$ (marginally significant). * $p < .05$. ** $p < .01$.

To test these questions, we used hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992; see Crocker,

Sommers, & Luhtanen, 2002; Oishi, Diener, Suh, & Lucas, 1999, for recent applications).⁴HLM allows for

⁴ Traditionally, researchers have used a repeated-measures analysis of variance (ANOVA) in this type of data analysis. In the present study, researchers might compute the mean PA for each of the six situations for each individual and treat these six data points as a within-subject variable and treat cultures as a between-subjects variable. Although such an analysis is straightforward, there are serious limitations with this approach (for details, see Kenny, Kashy, & Bolger, 1998; Reis & Gable, 2000). First, there is the problem of missing data. In repeated-measures ANOVA, one missing data point excludes the entire case from analysis, which would waste a substantial portion of our data. Second, ANOVA uses least squares estimation, which Kenny et al. (1998) have shown to be much less efficient than maximum likelihood estimation. Another related problem is that there are substantial individual differences in the reliability of the mean estimate, given that some participants were in one situation more often than others. A repeated-measures ANOVA, however, weights each data point equally without taking into account this important individual difference. These limitations can seriously bias results.

Cross-Situational Consistency of Affective Experiences Across Cultures

simultaneous estimates of within-individual and between-individual effects using maximum likelihood estimation,

Cross-Situational Consistency of Affective Experiences Across Cultures

which provides superior estimates to alternative methods (e.g., repeated measures analysis of variance, withinperson

Cross-Situational Consistency of Affective Experiences Across Cultures

regression) when data are nested and unbalanced. Our HLM analysis involves two levels of data. At Level 1 (the

Cross-Situational Consistency of Affective Experiences Across Cultures

within-person level), we predicted PA from five dummy codes that capture six different situations: $PA = B_0 =$

Cross-Situational Consistency of Affective Experiences Across Cultures

$B1*Friend = B2*Classmate = B3*Partner = B4*Stranger = B5*Family = Error$. The first dummy code represents the situation with a friend and was coded 1 if a friend was present, with the rest of the situations coded 0. The remaining dummy variables were similarly coded and represented situations with a classmate/coworker, with a romantic partner, with a stranger, or with family, respectively. We set the alone situation as the reference group (i.e., 0 in all five dummy codes), so that B1, B2, B3, B4, and B5 are readily interpretable: B1 indicates the effect of being with a friend, compared with being alone; B2 indicates the effect of being with a classmate, compared with being alone; B3 indicates the effect of being with a romantic partner, compared with being alone, B4 indicates the effect of being with a stranger, compared with being alone, and B5 indicates the effect of being with family, compared with being alone.

Table 5
Final Estimation of Fixed Effects in Hierarchical Linear Modeling Analysis of Positive Affect

Fixed effect	Unstandardized coefficient	SE	t(362) ^a	p
For Intercept 1, B0				
Intercept 2, G00	2.102	0.080	26.348	.000
Gender, G01	-0.116	0.091	-1.275	.203
Japan, G02	-0.278	0.117	-2.370	.018
India, G03	-0.082	0.108	-0.763	.446
Hispanic, G04	0.484	0.125	3.876	.000
For friend slope, B1				
Intercept 2, G10	0.375	0.053	7.044	.000
Gender, G11	-0.121	0.067	-1.762	.078
Japan, G12	0.181	0.091	1.994	.046
India, G13	-0.003	0.077	-0.033	.974
Hispanic, G14	0.231	0.100	2.304	.021
For classmate slope, B2				
Intercept 2, G20	-0.069	0.052	-1.311	.190
Gender, G21	0.031	0.078	0.390	.696
Japan, G22	0.019	0.110	0.170	.865
India, G23	0.073	0.088	0.835	.404
Hispanic, G24	0.108	0.095	1.141	.254
For partner slope, B3				
Intercept 2, G30	0.848	0.126	6.736	.000
Gender, G31	-0.272	0.167	-1.622	.104
Japan, G32	0.508	0.199	2.547	.011
India, G33	0.418	0.232	1.804	.071
Hispanic, G34	0.234	0.200	1.170	.243
For stranger slope, B4				
Intercept 2, G40	-0.108	0.078	-1.385	.166
Gender, G41	0.090	0.098	0.918	.359
Japan, G42	-0.029	0.124	-0.232	.816
India, G43	-0.021	0.109	-0.194	.847
Hispanic, G44	0.140	0.153	0.919	.358
For family slope, B5				
Intercept 2, G50	0.480	0.131	3.652	.000
Gender, G51	-0.062	0.107	-0.583	.559
Japan, G52	-0.162	0.169	0.959	.338
India, G53	-0.116	0.147	-0.789	.430
Hispanic, G54	0.036	0.162	0.220	.826

^a The value 362 represents an approximate degree of freedom, because none of the *t* ratios for the gamma estimates has an exact *t* distribution under the null hypothesis. The variance estimate in the denominators is not distributed as a chi square with a specific degree of freedom; it is a function of several variables with chi-squared distributions (Level 1 and Level 2 variances, for instance).

At Level 2, each of the regression coefficients from Level 1 (e.g., B0, B1) was predicted from gender and three dummy codes that capture four different cultural groups (e.g., $B0 = G00 = G01*Gender = G02*Japan = G03*India = G04*Hispanic = Error$). Female was coded 0 and male was coded 1. In this set of dummy codes, we set the Illinois sample as the reference group (i.e., 0 in all three dummy codes), so that G2, G3, and G4 are readily interpretable and meaningful: G12, for instance, indicate whether the effect of being with a friend was larger among Japanese than among Americans in Illinois.

The intercept in the first section of Table 5 (G00) indicates the mean PA when alone for the reference group (i.e., the Illinois sample). A nonsignificant G01 indicates that there were no gender differences in the mean PA when alone. Unstandardized coefficients in Table 5 allow for calculation of mean PA for each group for each situation. For instance, because an unstandardized coefficient for gender (G01) was $=0.116$, and female was coded 0 while male was coded 1, the mean PA for female Americans in Illinois could be estimated as 2.102, and the mean PA for male Americans in Illinois could be estimated as $1.986 = 2.102 - 0.116$. Next, a significantly negative G02 indicates that when alone, Japanese felt less PA than Americans in Illinois (e.g., the mean Japanese female $= 2.102 - 0.278 = 1.824$). A nonsignificant G03 indicates that Indians felt as much PA as Americans in Illinois when alone. Finally, a significantly positive G04 indicates that Hispanics felt more PA than Americans in Illinois when alone. The second section of Table 5 shows the effect of being with a friend and whether this effect varied across genders and cultural groups. First, a significant G10 indicates that Americans in Illinois felt PA more strongly when with friends than when alone. Second, significant G12 and G14 indicate that the positive effect of being with friends was significantly greater for Japanese and Hispanic respondents than for participants in Illinois. In other words, being with a friend had a stronger impact on the PA experiences of Japanese (0.556) and Hispanics (0.606) than on our Illinois participants (0.375). The third section of Table 5 indicates that when with a classmate or coworker with whom they were not well acquainted, Americans in Illinois felt PA with the same intensity as when they were alone. There were no gender or cultural differences in the effect of being with a classmate/coworker. The fourth section of Table 5 shows that Americans in Illinois felt more PA when with their romantic partner than when alone (0.848). This positive effect of being with a romantic partner on PA was significantly stronger among Japanese (1.356) than among Americans in Illinois. The fifth section of Table 5 indicates that Americans in Illinois felt as much PA when with a stranger as when alone. The effect of being with a stranger on PA did not differ across genders or cultural groups. Finally, the last section of Table 5 indicates that Americans in Illinois felt more PA when with family than when alone (0.480). There were no gender or cultural differences in the positive effect of being with family.

Absolute Cross-Situational Consistency of NA

We repeated the aforementioned HLM analysis, substituting the dependent variable at Level 1 analysis with NA. Table 6 indicates that Americans in Illinois felt as much NA when with a classmate/ coworker or stranger as when alone, and less NA when with a friend, partner, or family than when alone. There were no gender differences in the effect of being with a friend, partner, stranger, classmate, or family. There were also no cultural differences except in the effect of being with a stranger: Indians felt much more NA when with a stranger than when alone (0.265) than Americans in Illinois (0.04).

In short, the HLM analyses revealed that situations had a substantial influence on within-person variability in PA and NA. Our participants experienced more PA and less NA when with a friend, partner, or family than when alone, with a stranger, or with a not well-acquainted classmate/coworker. Furthermore, the generally enhancing effect of being with friends on PA was even greater among Japanese and Hispanics, and the enhancing effect of being with a romantic partner on PA was larger among Japanese than among Americans in Illinois, whereas the negative effect of being with a stranger was stronger among Indians than among Americans in Illinois.

Table 6

Final Estimation of Fixed Effects in the Hierarchical Linear Modeling of Negative Affect

Fixed effect	Unstandardized coefficient	SE	t(362) ^a	p
For Intercept 1, B0				
Intercept 2, G00	1.106	0.073	15.151	.000
Gender, G01	-0.056	0.083	-0.704	.482
Japan, G02	0.133	0.108	1.243	.214
India, G03	-0.032	0.099	-0.324	.746
Hispanic, G04	-0.070	0.115	-0.610	.542
For friend slope, B1				
Intercept 2, G10	-0.223	0.043	-5.175	.000
Gender, G11	0.073	0.038	1.263	.207
Japan, G12	0.093	0.076	1.220	.223
India, G13	0.071	0.065	1.092	.275
Hispanic, G14	-0.112	0.085	-1.318	.188
For classmate slope, B2				
Intercept 2, G20	0.006	0.049	0.121	.904
Gender, G21	-0.036	0.073	-0.489	.625
Japan, G22	-0.026	0.103	-0.254	.800
India, G23	0.160	0.083	1.933	.053
Hispanic, G24	0.009	0.089	0.099	.922
For partner slope, B3				
Intercept 2, G30	-0.284	0.083	-3.403	.001
Gender, G31	0.123	0.116	1.063	.288
Japan, G32	0.032	0.137	0.233	.816
India, G33	-0.023	0.167	-0.141	.888
Hispanic, G34	-0.038	0.142	-0.265	.791
For stranger slope, B4				
Intercept 2, G40	0.040	0.080	0.501	.616
Gender, G41	0.019	0.100	0.186	.853
Japan, G42	-0.041	0.128	-0.318	.751
India, G43	0.265	0.111	2.398	.017
Hispanic, G44	0.054	0.153	0.350	.726
For family slope, B5				
Intercept 2, G50	-0.334	0.122	-2.743	.007
Gender, G51	0.085	0.099	0.863	.388
Japan, G52	0.181	0.156	1.157	.248
India, G53	0.175	0.137	1.284	.199
Hispanic, G54	-0.038	0.130	-0.254	.799

^aThe value 362 represents an approximate degree of freedom, because none of the *t* ratios for the gamma estimates has an exact *t* distribution under the null hypothesis. The variance estimate in the denominators is not distributed as a chi square with a specific degree of freedom; it is a function of several variables with chi-squared distributions (Level 1 and Level 2 variances, for instance).

Overall Within-Person Variability of Affect Across Situations

The above HLM analyses provided valuable information as to one type of within-person variability in PA and NA: the specific effect of being in each situation on PA or NA and how this within-person effect of being in one situation differed across cultures. However, these analyses did not provide another critical piece of information, regarding the

degree of *overall* within-person variability in affective experiences across situations and how it can differ across cultures. To address this question directly, we first computed a standard deviation of the mean PA and NA across six situations for each individual. We used a standard deviation as an index of cross-situational variation because (a) it is face valid, (b) it does not depend on restrictive statistical assumptions (unlike spectral analysis), and (c) it has been successfully used as an index of variability in self-esteem (e.g., Greenier et al., 1999), mood (Eid & Diener, 1999), and Big Five-related behaviors (Fleeson, 2001). As can be seen in Figure 1, the standard deviation was larger for PA than NA (0.58 vs. 0.45), $t(368) = 7.20, p = .01$.

Next, we tested cultural differences in overall within-person variability of affect. In comparing group differences, we used a multiple regression with the three dummy codes for the four cultural groups used in the HLM analyses to control for the overall Type I error. Specifically, we predicted the overall within-person cross-situational variability index of PA from three dummy codes for four samples. This model explained 3.8% of the variance, $F(3, 364) = 4.82, p = .01$. As predicted, mean within-individual cross-situational variation of PA was larger among our Japanese participants ($B = 0.12, = = .15, t(170) = 2.40, p = .05$ —the effect size d , computed on the basis of an independent t test, $t(170) = 2.58, p = .05$, was .39—and among our Hispanic participants ($B = 0.16, = = .17, t(157) = 2.84, p = .01, d = .43$, than among American participants in Illinois (see Figure 1). There was no difference between Indians and Americans in Illinois ($B = 0.00, = = .00, t = 0.06, ns, d = .02$). Next, we conducted another multiple regression, this time predicting cross-situational variability of NA from the same three dummy codes. The overall model accounted for 3.9% of the total variance, $F(3, 364) = 4.95, p = .01$. Again, within-person cross-situational variability of NA was larger among Japanese ($B = 0.13, = = .18, t(170) = 2.87, p = .01, d = .47$, and Hispanics ($B = 0.12, = = .15, t(157) = 2.45, p = .05, d = .38$, than among Americans in Illinois. It was also larger among Indians than among Americans in Illinois ($B = 0.15, = = .23, t(219) = 3.64, p = .01, d = .59$).

Discussion

In this study, we examined one of the central issues in the intersection of personality and social psychology, namely, cross-situational consistency (e.g., Allport, 1961; Funder, 1997; Nisbett & Ross, 1980; Pervin, 2002; Tellegen, 1991) of affective experiences. We used an experience-sampling method to sample individuals' affective experiences in their natural social contexts. We first examined the relative cross-situational consistency of affective experiences. Consistent with the previous studies in the United States (e.g., Diener & Larsen, 1984), we found that our American participants in Illinois who experienced much PA (or NA) in one situation tended to experience much PA (or NA) in other situations as well. We replicated the relative cross-situational consistency of affective experiences among Hispanics in Fresno, California who spoke only Spanish at home, Japanese, and Indians. Thus, contrary to the pessimism expressed by several researchers on the search for cross-situational consistency of global traits (e.g., Shweder, 1991), the present findings suggest that affective experiences show a considerable degree of relative cross-situational consistency not only among Americans but also among Japanese and Indians. In other words, individual differences in the rank order of mean affective experiences are generalizable across different situations in various cultures.

Second, a main criticism of previous research on cross-situational consistency using aggregation was that by averaging out variations across situations, previous research neglected within-person variations (Mischel & Shoda, 1995). The second goal of our investigation, therefore, was to examine “if . . . then” patterns of relations between situations and affective experiences across cultures. The within-person analyses revealed a different picture of cross-situational consistency from that of the between person analyses. Even though inter-individual differences in affective experiences were highly stable across different contexts, and therefore, context-free global affective traits were useful in predicting inter-individual differences in the mean affective experiences in one situation from another situation, situations did have a considerable impact on the intensity of affective experiences in terms of within-person variability. Specifically, our participants felt more PA and less NA when with a romantic partner, friends, or family than when alone, with a stranger, or with an unacquainted classmate/coworker.

Furthermore, our results highlight the importance of examining both between-persons and within-person variability when testing the role of traits and situations in affective experiences across cultures. Given that the interdependent aspect of the self is assumed to be salient among Japanese, Indians, and Hispanics (Markus & Kitayama, 1991), their affective experiences should be more context dependent than those of our American participants in Illinois, among whom the independent aspect of the self is assumed to be salient. Indeed, the HLM analyses revealed that the effect

of being with friends on PA was larger among Japanese and Hispanics than among Americans in Illinois, the effect of being with a romantic partner on PA was larger among Japanese than among Americans in Illinois, and the effect of being with a stranger on NA was larger among Indians than among Americans in Illinois. Furthermore, the overall within-person variability of affective experiences across situations was larger among Japanese and Hispanics than among Americans in Illinois. Whereas between-persons analyses showed very little cultural differences in relative cross-situational consistency of affective experiences and demonstrated the utility of global affective traits in all cultural groups studied in this article, within-person analyses revealed important cultural differences in the effect of specific contexts on affective experiences in various cultures. Consistent with cultural theories of self and emotion (Markus & Kitayama, 1991; Suh, 2002), the degree to which situations exert their influence on affective experiences tended to be greater among individuals presumably with salient interdependent selves than among individuals presumably with salient independent selves.

The diverging findings from between-persons and within-person analyses highlight that the context dependency of affective experiences among Japanese, Indians, and Hispanics does not negate the fact that there are stable interindividual differences in affective experiences in these groups. In the past, cultural psychologists argued against the utility of global traits on the basis of findings that showed greater context dependency among East Asians. Similarly, cross-cultural psychologists argued against context dependency of traits on the basis of findings that showed the cross-cultural equivalence of factor structures. By contrast, the present findings demonstrate both cultural differences in the degree of context dependency in affective experiences *and* cultural similarities in generalizability of mean affective experiences in one situation to another. Theory and research on culture, personality, and the self should be integrated in the future with a clear distinction between within-person and between-persons variability.

Another important implication of the current findings for future theory and research is concerned with the role of trait and culture on affective experiences. From the present and other recent publications, it has become increasingly clear that affective traits exist across cultures and determine inter-individual differences in the mean level of affective experiences (see Ando et al., 2002, for a demonstration of genetic contributions to personality among Japanese). Simultaneously, the current findings suggest that culture plays an important role in determining specific situations that elicit affect, or “if . . . then” patterns of relations between situations and affective experiences. In the future, then, it might be fruitful to investigate the role of personality traits in understanding stable inter-individual differences in affective experiences, on the one hand, and to investigate the role of goals, values, and cultures in understanding within-individual variations across situations, on the other hand (cf. Oishi et al., 1999).

Before closing, limitations of our research should be noted. First, the considerable relative cross-situational consistency of affect we observed could be due to the effect of stable individual differences in response styles. After all, if Person A has a tendency of using a higher number in describing his PA experiences than Person B in Situation Alpha and Situation Beta, then Person A would be consistently higher in PA than Person B in both situations. Although some researchers found response styles biasing the patterns of correlations in affect (Green, Goldman, & Salovey, 1993), recent studies have demonstrated that response styles have negligible effects on patterns of correlations in self-reported affective experiences (Schimmack, Bockenholt, & Reizenstein, 2002; Watson, 2000). Given that NA showed lower mean within-person variability than PA (see Figure 1), if response styles were responsible for considerable between-persons cross-situational consistency, NA should have shown higher between-persons cross-situational consistency than PA. Clearly that was not the case, as the mean relative cross-situational consistency did not differ between PA and NA. Although we cannot completely rule out the possible effect of response styles, they are unlikely to be responsible for considerable relative cross-situational consistency of affect found in this study.

Cross-Situational Consistency of Affective Experiences Across Cultures

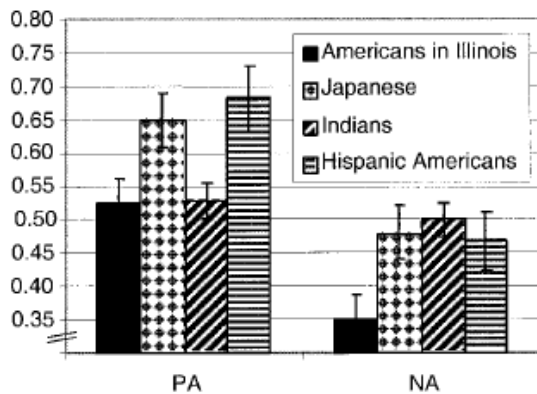


Figure 1. Mean within-person cross-situational variability index (i.e., *SD*) of positive affect (PA) and negative affect (NA) for each sample. Error bar indicates standard error for the mean. Higher numbers indicate more within-person cross-situational variability (or less cross-situational consistency).

In a related vein, another limitation of our study was its reliance on self-reports. Historically, researchers skeptical of cross-situational consistency (Nisbett & Ross, 1980; Shweder, 1991) have considered data based on self-reports inadequate, as the observed cross-situational consistency might be due to consistency in self-perception rather than actual behavior. This critique clearly has a valid point in evaluating the wide range of research on cross-situational consistency. In the present context, however, it is unclear to what degree this critique seriously threatens our findings, for we found substantial within-individual variability across situations in affective experiences (see Table 5 and 6 and Figure 1). Thus, it is unreasonable to assume that consistency in self-reports generated substantial relative cross-situational consistency of affect in our study. However, it will be important in the future to replicate the current findings using non-self-reports, ideally using the observational method used by Funder and Colvin (1991).

An alternative explanation for our findings on cultural differences in within-person cross-situational variability of affect is that Japanese and Hispanics' affective experiences were more variable, regardless of situations, than Americans' in Illinois. After all, if Japanese participants' moods changed more widely than Americans' between Random Moment 1 (e.g., alone) and Random Moment 2 (e.g., with a friend), the cultural difference we observed could be the result of cultural difference in cross-time (or temporal) stability of affect. Because both our participants in Illinois and those in Japan spent about half of the random moments alone (see Table 1), we were able to examine whether indeed the PA of Japanese in alone situations fluctuated across time more frequently than that of Americans in Illinois by computing a standard deviation of PA across all of the alone situations sampled for each person (i.e., within-person temporal variability of PA in alone situations). Contrary to the temporal variability explanation, the PA of our Illinois participants fluctuated more widely over time in the alone situations ($M = .84$, $SD = .28$) than that of our Japanese participants ($M = .74$, $SD = .30$), $t(169) = 2.13$, $p = .05$. Thus, our findings that Japanese showed greater within-person cross-situational variability of affect than Americans in Illinois cannot be due to cultural differences in general variability of moods.

Finally, we sampled participants' affective experiences during one week of their lives. This particular week might have been atypical. If that were the case, our findings might not represent their typical daily experiences. Also, the short duration of our study may have limited the number and variety of situations they encountered. Our results concerning the situations involving partner and family in particular should be interpreted with this limitation in mind. As is the case with most research, the present findings need replication in the future, ideally with a longer experience-sampling period among individuals other than college students. Some might argue that the lack of situational variability and the short duration of the study artificially inflated some of the cross-situational consistency coefficients. Namely, a group of individuals happened to be in a good mood whereas others were in a bad mood for the entire week. We tend to disagree with this account, as it is well known that moods fluctuate widely within a short period of time each day and that there are sizable individual differences in intraindividual variability in mood (e.g., Eid & Diener, 1999; Larsen, 1987). To be sure, however, we need a future study with a longer sampling period.

The present study found that interindividual differences in the mean affective experiences in one situation can be predicted from another situation across cultures but that the degree to which situations exert an influence on the absolute level of affective experience varies across cultures. It is therefore important to keep in mind that stable individual differences in the mean level of affective experiences do not negate possible individual and cultural differences in the degree of situational influences on affective experiences, and vice versa. On the surface, the basic assumptions of personality psychology seem to be so different from those of cultural psychology that any integration between these research traditions seems impossible. However, the present study demonstrates that personality psychology can contribute to refining the theories of culture, while cultural psychology can provide valuable theoretical backgrounds for central issues in personality psychology.

References

- Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Holt.
- Allport, G. (1961). *Patterns and growth in personality*. New York: Holt, Rinehart, & Winston.
- Almagor, M., Tellegen, A., & Waller, N. G. (1995). The Big Seven model: A cross-cultural replication and further exploration of the basic dimensions of natural language trait descriptors. *Journal of Personality and Social Psychology*, *69*, 300–309.
- Ando, J., Ono, Y., Yoshimura, K., Onoda, N., Shimohara, M., Kanba, S., & Asai, M. (2002). The genetic structure of Cloninger's seven-factor model of temperament and character in a Japanese sample. *Journal of Personality*, *70*, 583–610.
- Benedict, R. (1946). *The chrysanthemum and the sword*. Boston: Houghton Mifflin.
- Benet-Martinez, V., & Waller, N. G. (1997). Further evidence for crosscultural generality of the Big Seven model: Indigenous and imported Spanish personality constructs. *Journal of Personality*, *65*, 567–598.
- Bryk, A. A., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods*. Newbury Park, CA: Sage.
- Church, T. A. (2000). Culture and personality: Toward an integrated cultural trait psychology. *Journal of Personality*, *68*, 651–703.
- Church, T. A., & Katigbak, M. S. (2000). Trait psychology in the Philippines. *American Behavioral Scientist*, *44*, 73–94.
- Church, T. A., & Lonner, W. J. (1998). The cross-cultural perspective in the study of personality: Rationale and current research. *Journal of Cross-Cultural Psychology*, *29*, 32–62.
- Cohen, J. (1977). *Statistical power analysis for the behavioral sciences*. New York: Academic Press.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.
- Cousins, S. D. (1989). Culture and self-perception in Japan and the United States. *Journal of Personality and Social Psychology*, *56*, 124–131.
- Crocker, J., Sommers, S. R., & Luhtanen, R. K. (2002). Hopes dashed and dreams fulfilled: Contingencies of self-worth and graduate school admissions. *Personality and Social Psychology Bulletin*, *28*, 1275–1286.
- Cross, S. E., & Markus, H. R. (1999). The cultural constitution of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 378–398). New York: Guilford Press.
- Diener, E., & Larsen, R. J. (1984). Temporal stability and cross-situational consistency of affective, behavioral, and cognitive responses. *Journal of Personality and Social Psychology*, *47*, 871–883.
- Diener, E., Smith, H., & Fujita, F. (1995). The personality structure of affect. *Journal of Personality and Social Psychology*, *69*, 130–141.
- Eid, M., & Diener, E. (1999). Intraindividual variability in affect: Reliability, validity, and personality correlates. *Journal of Personality and Social Psychology*, *76*, 662–676.
- Epstein, S. (1979). The stability of behavior: I. On predicting most of the people much of the time. *Journal of Personality and Social Psychology*, *37*, 1097–1126.
- Fiske, A. P., Kitayama, S., Markus, H. R., & Nisbett, R. E. (1998). The cultural matrix of social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 915–981). Boston: McGraw-Hill.
- Fleeson, W. (2001). Toward a structure- and process-integrated view of personality: Traits as density distributions of states. *Journal of Personality and Social Psychology*, *80*, 1011–1027.

Cross-Situational Consistency of Affective Experiences Across Cultures

- Funder, D. C. (1997). *The personality puzzle*. New York: Norton.
- Funder, D. C., & Colvin, C. R. (1991). Explorations in behavioral consistency: Properties of persons, situations, and behaviors. *Journal of Personality and Social Psychology*, *60*, 773–794.
- Green, D. P., Goldman, S. L., & Salovey, P. (1993). Measurement error masks bipolarity in affect ratings. *Journal of Personality and Social Psychology*, *64*, 1029–1041.
- Greenier, K. D., Kernis, M. H., McNamara, C. W., Waschull, S. B., Berry, A. J., Herlocker, C. E., & Abend, T. A. (1999). Individual differences in reactivity to daily events: Examining the roles of stability and level of self-esteem. *Journal of Personality*, *67*, 185–208.
- Heine, S. J., & Lehman, D. R. (1997). Culture, dissonance, and selfaffirmation. *Personality and Social Psychology Bulletin*, *23*, 389–400.
- Hong, Y.-Y., & Chiu, C.-Y. (2001). Toward a paradigm shift: From cross-cultural differences in social cognition to social cognitive mediation of cultural differences. *Social Cognition*, *19*, 181–196.
- Kanagawa, C., Cross, S. E., & Markus, H. R. (2001). “Who am I?” The cultural psychology of the conceptual self. *Personality and Social Psychology Bulletin*, *27*, 90–103.
- Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 1, pp. 233–265). Boston: McGraw-Hill.
- Larsen, R. J. (1987). The stability of mood variability: A spectral analytic approach to daily mood assessments. *Journal of Personality and Social Psychology*, *52*, 1195–1204.
- LeVine, R. A. (2001). Culture and personality studies, 1918–1960: Myths and history. *Journal of Personality*, *69*, 803–818.
- Magnusson, D., & Endler, N. S. (1977). Interactional psychology: Present status and future prospects. In D. Magnusson & N. S. Endler (Eds.), *Personality at the crossroads: Current issues in interactional psychology* (pp. 3–35). Hillsdale, NJ: Erlbaum.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*, 224–253.
- Markus, H. R., & Kitayama, S. (1998). The cultural psychology of personality. *Journal of Cross-Cultural Psychology*, *29*, 63–87.
- McCrae, R. R. (2000). Trait psychology and the revival of personality and culture studies. *American Behavioral Scientist*, *44*, 10–31.
- McCrae, R. R., & Costa, P. T. (1997). Personality trait structure as a human universal. *American Psychologist*, *52*, 509–516.
- Mesquita, B., & Karasawa, M. (2002). Different emotional lives. *Cognition and Emotion*, *16*, 127–141.
- Mischel, W. (1968). *Personality and assessment*. New York: Wiley.
- Mischel, W., & Peake, P. K. (1982). Beyond de `ja` vu in the search for cross-situational consistency. *Psychological Review*, *89*, 730–755.
- Mischel, W., & Shoda, Y. (1995). A cognitive–affective system theory of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review*, *102*, 246–268.
- Moskowitz, D. S. (1982). Coherence and cross-situational generality in personality: A new analysis of old problems. *Journal of Personality and Social Psychology*, *47*, 754–768.
- Newcomb, T. M. (1929). *Consistency of certain extrovert-introvert behavior patterns in 51 problem boys*. New York: Columbia University, Teachers College, Bureau of Publications.
- Nisbett, R. E., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice-Hall.
- Oishi, S. (2002). Experiencing and remembering of well-being: A crosscultural analysis. *Personality and Social Psychology Bulletin*, *28*, 1398–1406.
- Oishi, S., Diener, E., Suh, E., & Lucas, R. E. (1999). Value as a moderator in subjective well-being. *Journal of Personality*, *67*, 157–184.
- Penner, L. A., Shiffman, S., Paty, J. A., & Fritzsche, B. A. (1994). Individual differences in intrapersonal variability in mood. *Journal of Personality and Social Psychology*, *66*, 712–721.
- Pervin, L. A. (2002). *Current controversies and issues in personality* (3rd ed). New York: Wiley.

Cross-Situational Consistency of Affective Experiences Across Cultures

- Reis, H. T., & Gable, S. L. (2000). Event-sampling methods. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 190–222). New York: Cambridge University Press.
- Ross, M. (1989). Relation of implicit theories to the construction of personal histories. *Psychological Review*, *96*, 341–357.
- Saucier, G., & Goldberg, L. R. (2001). Lexical studies of indigenous personality factors: Promises, products, and prospects. *Journal of Personality*, *69*, 847–879.
- Schimmack, U., Bockenholt, U., & Reisenzein, R. (2002). Response styles in affect ratings: Making a mountain out of a molehill. *Journal of Personality Assessment*, *78*, 461–483.
- Schmidt, F. L. (1996). Statistical significance testing and cumulative knowledge in psychology: Implications for training of researchers. *Psychological Methods*, *1*, 115–129.
- Scollon, C. N., Diener, E., Oishi, S., & Biswas-Diener, R. (in press-a). Emotions across cultures and methods. *Journal of Cross-Cultural Psychology*.
- Scollon, C. N., Diener, E., Oishi, S., & Biswas-Diener, R. (in press-b). An experience sampling and cross-cultural investigation of the relation between pleasant and unpleasant affect. *Cognition and Emotion*.
- Shweder, R. A. (1991). *Thinking through cultures: Expeditions in cultural psychology*. Cambridge, MA: Harvard University Press.
- Suh, E. M. (2002). Culture, identity consistency, and subjective well-being. *Journal of Personality and Social Psychology*, *83*, 1378–1391.
- Tellegen, A. (1985). Structure of mood and personality and their relevance to assessing anxiety, with an emphasis on self-report. In A. H. Tuma & J. D. Maser (Eds.), *Anxiety and the anxiety disorder* (pp. 681–706). Hillsdale, NJ: Erlbaum.
- Tellegen, A. (1991). Personality traits: Issues of definition, evidence, and assessment. In D. Cicchetti & W. Grove (Eds.), *Thinking clearly about psychology: Essays in honor of Paul Everett Meehl* (pp. 10–35). Minneapolis: University of Minnesota Press.
- Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.
- Watson, D. (2000). *Mood and temperament*. New York: Guilford Press.
- Watson, D., Clark, L. A., & Tellegen, A. (1984). Cross-cultural convergence in the structure of mood: A Japanese replication and a comparison with U.S. findings. *Journal of Personality and Social Psychology*, *47*, 127–144.

Accepted May 21, 2003