Cross-Cultural Differences in Reactions to Daily Events as Indicators of Cross-Cultural Differences in Self-Construction and Affect

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Every day for two weeks, participants at four sites (2 in the US, 1 in Canada, and 1 in Japan) described their self-esteem and affect and they described the events that occurred each day. Multilevel random coefficient modeling analyses found that the self_esteem of Japanese participants changed more in reaction to daily social events (both positive and negative) than it did for North American participants. For positive social events, the Japanese were more reactive in terms of positive affect than North Americans. For negative social events, the Japanese were more reactive in terms of depressed mood (ND) and deactive positive affect (PD) than North Americans. In contrast, the Japanese were less reactive to negative achievement events than North Americans in terms of PA and anxious mood. The Japanese were more reactive than North Americans to positive achievement events in terms of PA and ND. The results highlight the greater sensitivity of the Japanese to social concerns compared to North Americans, and the greater affective sensitivity of North Americans to failure in achievement domains.

Keywords: *self-construction; self-esteem; multilevel modeling; reactions to daily events*

The nature of the self is one of the most important issues with which cross-cultural psychology is concerned. There is a sense among some scholars (e.g., Heine, Lehman,

Markus, & Kitayama, 1999) that individually focused self-esteem (i.e., how worthy an individual believes he or she is) is not that relevant for members of collectivistic cultures such as the Japanese. According to this perspective, individual self-esteem is not important in that members of such cultures are not motivated to maintain or enhance their self-esteem. Self-regard is inextricably interwoven with ties to the collective, rendering nearly irrelevant the type of self-esteem that has been the focus of most of the research on self-esteem as it is assumed to exist in Western cultures.

In contrast to this view, other scholars posit that self-esteem is an integral part of human nature. Some argue that self-esteem has deep evolutionary roots (e.g., Kirkpatrick & Ellis, 2001; Leary, Tambor, Terdal, & Downs, 1995) and that without some sort of individually based understanding of one's worth, people would not have been able to function effectively and would ultimately have died out. Others, such as Deci and Ryan (1985), believe that some type of individually based evaluation of one's worth or competence is a necessary part of human growth, broadly defined. According to this perspective, individual self-esteem represents a sort of cumulative sense of accomplishment, particularly a sense of mastery over the environment. Having a sense of self and self-worth and maintaining this self-worth are integral, inseparable parts of being human. This last position is consistent with the conclusions of Sedikides and colleagues (e.g., Sedikides, Gaertner, & Toguchi, 2003; Sedikides, Gaertner, & Vevea, 2005, 2007) regarding the universality of the need to maintain a positive self-image.

To our knowledge, existing research on this topic has concerned only between-person or trait-level relationships. In such studies, participants describe how they typically feel or think (or words to this effect). Although valuable, studies of trait-level relationships cannot (by design) measure the extent to which people's self-esteem varies across time and situations, and there is a growing body of research that shows that such variability is meaningful in terms of how much people vary and in terms of the psychological significance of such variability. Moreover, relationships between two constructs conceptualized at the between-person level analysis are mathematically independent of relationships between the same constructs conceptualized at the within-person level (e.g., Nezlek, 2001), and within-person relationships may represent psychologically different processes than between-person relationships (e.g., Tennen, Affleck, Armeli, & Carney, 2000).

Particularly relevant to the present study are the results of a series of studies on the within-person variability of self-esteem conducted by Nezlek and colleagues (e.g., Nezlek, 2005; Nezlek & Allen, 2006; Nezlek & Gable, 2001; Nezlek & Plesko, 2003). These studies have found considerable within-person (day-to-day) variability in self-esteem (up to 50% of the total variability) and have found that people's daily self-esteem fluctuates as a function of the events that occur each day. Broadly speaking, people's self-esteem tends to be higher on days when more positive events occur (rewarding social contacts, task success, etc.) and tends to be lower on days when more negative events occur (social disappointment, task failure, etc.). Moreover, there appears to be considerable between-person variability in how reactive people are (i.e., the self-esteem of some people fluctuates more in response to events than the self-esteem of others fluctuates). Nevertheless, all of the research on the stability of self-esteem has examined such processes in Americans or Europeans, and to our knowledge, no study has examined the cross-cultural similarities or differences in such relationships, a gap the present study is designed to fill.

The present study examined the within-person relationships between daily events, daily self-esteem, and daily affect across four different groups representing different sociocultural milieus. Two groups were from the United States: One was predominantly White and European American and the other was Black and African American. A third group was from Canada and was predominantly White and of European ancestry. The fourth group was from Japan and was of Japanese ancestry. Collecting data from these groups allowed us to compare North Americans to Japanese and to compare meaningfully different groups of North Americans to each other. Our general expectation was that, despite the differences among them, the three North American groups would be more similar to each other than they would be to the Japanese.

In terms of the measures we collected, research on cultural differences in the self suggested that the self-esteem of East Asians should be more sensitive to social events than the self-esteem of individuals with a more independent sense of self, such as those living in North America. Accordingly, our first hypothesis was that the daily self-esteem of our Japanese participants would be more strongly related to daily social events than the self-esteem of our North American participants. Consistent with considerable previous research, we expected that daily self-esteem would be positively related to positive social events and would be negatively related to negative social events for both groups. We believed, however, that these within-person relationships would be stronger (more positive and more negative, respectively) for the Japanese than they would be for North Americans.

It is important to note that unlike some scholars such as Heine and colleagues, we assume that East Asians have an individually based sense of self similar to the individually based sense of self that Westerners are presumed to have. Moreover, our assumption is consistent with research demonstrating cross-cultural similarities in the validity of individually based measures of self-esteem such as the Rosenberg Self-Esteem Scale (e.g., Schmitt & Allik, 2005). We return to this issue in the Discussion section.

Cultural Differences in Affect

Research on cultural differences also concerns differences in emotions under the assumption that people's emotions are strongly influenced by their culture's predominant patterns of action and interaction (e.g., Kitayama, Markus, & Kurokawa, 2000). Consistent with this emphasis, in the present study, we also examined daily variability in affect. Broadly speaking, research on affective expression and experience suggests that East Asians should react less strongly to daily events than North Americans do, particularly regarding positive feelings such as happiness (e.g., Heine et al., 1999). This suggests that within-person relationships between daily affect and daily events should be weaker for Japanese participants than for North Americans, particularly for positive affect. On the other hand, given the overlap between self-esteem and affect, East Asians may have stronger affective reactions to social events than North Americans do. Given, this, we examined affective reactivity to social events on a somewhat exploratory basis.

Cultural Differences in Reactions to Success and Failure

Our next hypothesis concerned reactions to achievement events, particularly failure. In their review, Heine et al. (1999) discuss various characteristics the Japanese may possess

such as greater self-criticism and self-discipline that should influence how they react to achievement feedback, particularly negative feedback such as failure. Heine et al. suggest that socialization and social norms in Japan focus more on weaknesses and overcoming those weaknesses than they do in North America.

Along the same lines, Heine et al. (1999) believe that the Japanese, compared to North Americans, place relatively more value on effort, perseverance, and endurance than on success. Both greater self-criticism and self-discipline should be associated with diminished reactions to failure. Assuming that the Japanese are "more concerned with the journey than the destination" than North Americans are (Heine et al., 1999, p. 771), we expected the Japanese to react less strongly to achievement events, particularly negative achievement events, than North Americans do. This prediction is also consistent with the results of Heine et al. (2001), who found that the Japanese, compared to North Americans, tended to treat failure (on tasks that were not socially focused) as diagnostic and tended to react to failure with renewed effort.

Method

Participants

Initially, participants were 104 students attending the College of William & Mary (WM) in the United States; 82 students attending Hampton University (HU), a historically Black college in the United States; 102 students attending the University of Western Ontario (UWO) in Canada; and 99 students attending either Kurume, Fukuoka Educational, Yamaguchi Prefectural, or Yamaguchi Universities in Japan (JP). Participants were "traditional" college students, who were recruited from classes, with mean ages (in years) 18.9, 19.5, 19.3, 18.9, for WM, HU, UWO, and JP, respectively. Although family income data were not collected, students at each of these universities tend to be middle and upper middle class.

Measures

Daily self-esteem was measured with items 3, 6, 7, and 10 of the Rosenberg Self-Esteem scale (Rosenberg, 1965), with response scales reworded to refer to how participants felt that day. These items were "Today . . . I felt like a failure; I felt that I had many good qualities; I thought I was no good at all; on the whole, I was satisfied with myself." These questions were answered using 7-point scales, with higher numbers indicating greater agreement with the item.

Each day, participants rated their daily affect by indicating how they felt during the day using a circumplex model (e.g., Feldman Barrett & Russell, 1998) as a basis for these ratings. Participants rated how enthusiastic, happy, proud, alert, and excited they were (positive activation [PA]); and how nervous, stressed, tense, upset, and embarrassed they were (negative activation [NA]). They also rated how calm, satisfied, relaxed, peaceful, and content they were (PD, positive deactivation); and how depressed, sluggish, sad, bored, and disappointed they were (negative deactivation [ND]). Participants responded using 7-point scales with endpoints labeled "Did not feel this way at all" and "Felt this way very strongly," and a midpoint (4) labeled "Felt this way moderately." Our measures of daily

affect were based on the considerable research demonstrating cross-cultural similarities in the affective circumplex (e.g., Russell, 1983; Russell, Lewicka, & Niit, 1989).

Daily events were measured using a subset of items from the Daily Events Survey (Butler, Hokanson, & Flynn, 1994). In the present study, 22 of the 40 events from the Daily Events Survey were measured—12 positive and 10 negative—with equal numbers of social and achievement events. This set of events has been used successfully in past research (e.g., Nezlek & Gable, 2001; Nezlek & Plesko, 2003). These events included, "Went out to eat with a friend/date" (social positive), "Had plans fall through to spend time with someone special" (social negative), "Did well on a school or work task (e.g., test, assignment, job duty)" (achievement positive), and "Tried to do homework and couldn't understand it" (achievement negative). In addition to the specific items from the Daily Events Survey, four items, each representing a combination of positive–negative and social achievement, were created to measure other events that may have occurred. For example, positive social events that were not specified were measured using the item "Had other type of pleasant event (not listed above) with friends, family, or date."

A total of 26 events were measured: 7 positive social, 7 positive achievement, 6 negative social, and 6 negative achievement. Each day, participants rated each event using the following scale: 0 = *did not occur*, 1 = *occurred and not important*, 2 = *occurred and somewhat important*, 3 = *occurred and pretty important*, and 4 = *occurred and extremely important*. For each day, ratings of events were averaged to create event composite scores. One score represented positive social events, another negative social events, a third represented positive social events, and a fourth represented negative achievement events.[1]

Procedure

Across all sites, the procedure was similar. Participants attended an introductory meeting during which the study was explained. Participants were told that they would have to provide data every day for 2 weeks at the end of each day. For the three English-speaking sites, participants were told how to use a Web site to provide their data. For the Japanese site, most participants did not have ready access to computers at the end of each day and so participants provided data using pencil-and-paper measures. Completed forms were collected every few days to ensure that participants had complied with instructions.

One advantage of Web-based data collection is the ability to document exactly when data were provided; the date and time of data entry are recorded by the server. On this basis, the data of some participants were excluded. In addition, the data for some individual days for some participants were excluded because they were not entered as per instructions. Data were included if they were provided by 10:00 a.m. of the following morning. This left 343 participants (WM, 92; HU, 65; UWO, 78; JP, 99) who provided a total of 4,636 days of data (M = 13.9 days, SD = 2.53). All participants provided at least 6 daily measures, and 94% provided at least 9. The HU, JP, and UWO samples had more women than men (51 vs. 14; 74 vs. 25; 55 vs. 23), whereas the WM sample had slightly more men than women (51 vs. 41). Sex differences do not figure prominently in research on daily variability, and they are not considered for this article.

Results

Within the general terminology of multilevel modeling, the primary analyses were two-level models. Measures for days were nested within people, and for each person, coefficients were estimated representing the within-person (or day-to-day) relationships between daily self-esteem and daily events and between daily mood and daily events. In multilevel terminology, such coefficients are referred to as slopes to distinguish them from intercepts. In addition, analyses were done to determine if these within-person relationships varied as a function of site (or culture). Descriptions of the strategy underlying these analyses can be found in Nezlek (2001).

Conceptually, it could be argued that the analyses should have been three-level models: days nested within persons and persons nested within sites. A series of preliminary analyses were done using such models; however, they were not satisfactory. There were not enough sites (only four) to reliably estimate the variability associated with sampling sites. Therefore, differences among sites were represented at the person level as a person-level variable. For a discussion of the number of units of analysis needed for multilevel models in cross-cultural research, see Nezlek (in press).

Reliability of the Daily Measures

Before conducting the primary analyses, the reliability of the daily measures was assessed. This was particularly important given the possibility that East Asians (i.e., the Japanese), and North Americans may have different constructions of the self and different ways of experiencing emotions. Even though the items were identical (or as similar as possible) across cultures—and research suggested that the structures of these scales should be similar across the two cultures—this cannot, on its own, be taken as an indication that the scales were similarly reliable across cultures.

As explained in Nezlek (2007), assessing reliability in intensive repeated measures studies such as the present study requires specific techniques. Reliability can be assessed only by conducting a multilevel analysis in which items for a construct are nested within occasions, and occasions are nested within persons. In such an analyses, the reliability of the Level-1 intercept represents the reliability of the scale, adjusted for both between-person and between-day differences. For a more formal discussion of this issue, see Raudenbush and Bryk (2002).

The analyses of the initial item sets provided mixed support for the reliability of the measures as originally constructed, and a summary of these analyses is presented in Table 1. As can be seen from these estimated reliabilities, all the original measures had adequate reliability in the North American sample, but only self-esteem and ND (depressed mood) had adequate reliability in the Japanese sample. In light of these findings, new measures of PA, PD, and NA were evaluated for the Japanese sample.

A series of analyses of the Japanese sample found that PA was best measured with four of the five original items (enthusiastic, happy, proud, and excited; alert was deleted). For PD, three of the five original items were retained (relaxed, content, and satisfied; calm and peaceful were deleted). For NA, three of the original five were retained (upset, tense, and nervous; stressed and embarrassed were deleted). These new measures had adequate reliability in both samples, and estimated reliabilities for these new measures are presented in Table 1.

Table 1
Reliability Analyses of Daily Measures

	North America	Japan
Original measures		
Self-Esteem	.55	.54
Positive Activation	.72	.02
Positive Deactivation	.78	.01
Negative Activation	.60	.12
Negative Deactivation	.59	.64
Revised measures		
Positive Activation	.68	.40
Positive Deactivation	.71	.75
Negative Activation	.58	.46

Primary Analyses

The first set of analyses estimated means for the daily measures and compared means across sites. The Level-1 model was "totally unconditional" in that no predictors were entered:

$$y_{ij} = \beta_{0j} + r_{ij}$$

In this model, y_{ij} is a daily measure of adjustment for person j on day i, β_{0j} is a random coefficient representing the mean of y for person j (across the i days for which each person provided data), r_{ij} represents the error associated with each measure, and the variance of r_{ij} constitutes the day-level residual (or error) variance.

Differences among the four sites were examined at Level 2 with the following model:

$$\beta_{0j} = \gamma_{01}(WM) + \gamma_{02}(HU) + \gamma_{03}(UWO) + \gamma_{04}(JP) + u_{0j}$$

In these no-intercept models, WM, HU, UWO, and JP were dummy-coded variables representing each site, and so the resulting coefficients represented the means for each site. These means were compared using chi-squared based tests of fixed effects (Nezlek, 2001; Raudenbush & Bryk, 2002). One test compared the mean of the means for the three North American sites to the mean for the Japanese site. This was followed by paired comparisons of each site against the other. The results of these analyses are presented in Table 2.

The results of these analyses were quite consistent for self-esteem and positive affect. The means for the two U.S. samples (WM and HU) were higher than means for the Canadian (UWO) and Japanese (JP) samples for measures of daily self-esteem, daily PA, and daily PD. Moreover, for all of these measures, the means for the Japanese sample were lower than means for the Canadian sample. To the extent that self-esteem and positive affect can be thought of as measures of daily well-being, these data clearly indicate that American participants had higher daily well-being than Canadian participants, who in turn had higher well-being than Japanese participants.

Differences across the four sites in mean negative affect and mean daily events were not as consistent as differences for the other measures. Moreover, although there were differences

Table 2
Means for Daily Measures by Site

	Site				
Measure	William & Mary	Hampton University	University of Western Ontario	Japan	North America–Japan
Self-Esteem	5.64$_a$	5.82$_a$	5.25$_b$	4.08$_c$	.00
Positive Activation	4.32$_{ab}$	4.53$_a$	4.12$_b$	3.38$_c$	.00
Positive Deactivation	4.56$_a$	4.63$_a$	4.19$_b$	3.65$_c$	.00
Negative Activation	2.86	2.71	2.92	2.81	ns
Negative Deactivation	2.69$_{ab}$	2.63$_b$	2.87$_a$	2.83$_{ab}$	ns
Positive social events	1.68$_a$	1.67$_a$	1.61$_a$	1.02$_b$	.00
Negative social events	0.44$_b$	0.60$_a$	0.64$_a$	0.34$_b$	.00
Positive achievement events	1.20$_b$	1.52$_a$	1.10$_b$	0.83$_c$	.00
Negative achievement events	0.65$_c$	0.86$_b$	1.00$_a$	0.65$_c$	.00

Note: Means not sharing a subscript were significantly different at .05 or beyond. In rows with no subscripts, no pair of means was significantly different.

across the sites in daily negative depressed affect, these differences were much smaller and more inconsistent than differences in positive affect and daily self-esteem. Participants in the three North American sites reported more positive events than Japanese participants did, whereas participants from HU and UWO reported more negative events than WM and JP participants did.

When considering differences across sites (and cultures) in these measures, it is important to keep in mind that because the predictors in the analyses described were group mean centered, rather than grand mean centered or zero centered, individual and site differences in event scores did not contribute to the estimates of relationships within sites. For a detailed discussion of centering within multilevel models, see Enders and Tofighi (2007).

Daily Self-Esteem, Affect, and Daily Events

The next set of analyses examined relationships between daily self-esteem, daily affect, and daily events. The Level-1 (or within-person) model for these analyses was as follows:

$$y_{ij} = \beta_{0j} + \beta_{1j}(\text{PosSoc}) + \beta_{2j}(\text{NegSoc}) + \beta_{3j}(\text{PosAch}) + \beta_{4j}(\text{NegAch}) + r_{ij}$$

In this model, β_{1j}, β_{2j}, β_{3j}, and β_{4j} are random coefficients (slopes) representing the relationships between daily adjustment and positive and negative social and achievement event scores, respectively. Event scores were group mean centered. In this case, group centering refers to the fact that the slopes and intercepts were estimated for each person based on deviations from that person's mean event scores. This is conceptually equivalent to calculating a within-person regression equation for each person (see Nezlek, 2001, for a discussion of centering options in studies of daily events).

Differences in slopes across the four sites were examined at Level 2 with a model similar to that used to examine site differences in means. For example, the following equation examined site differences in the social positive event slope:

$$\beta_{1j} = \gamma_{11}(WM) + \gamma_{12}(HU) + \gamma_{13}(UWO) + \gamma_{14}(JP) + u_{1j}$$

In these no intercept models, WM, HU, UWO, and JP were dummy-coded variables representing each site, and so the resulting coefficients represented the mean slopes (i.e., mean within-person relationships) for each site. Mean slopes were compared using chi-squared based tests of fixed effects. Similar to the tests of means described above, one test compared the average of the means for the three North American sites to the mean for the Japanese site. This was followed by paired comparisons of each site against the other. Coefficients from multilevel analyses are not standardized, and mean slopes represent the expected change in a particular outcome measure for each 1.0 unit change in an event score.

Social Events

The mean coefficients between daily social events and daily self-esteem and affect are presented in Table 3.[2] Consistent with previous research, across all four sites, participants' self-esteem was positively related to daily positive social events. There were differences across sites in the strength of these relationships, however. As hypothesized, the daily self-esteem of Japanese participants was more strongly related (positively) to daily positive social events than the self-esteem of participants from the other three sites (.40 vs. a mean of .24). Similarly and consistent with previous research, across all four sites, participants' self-esteem was negatively related to daily negative social events. There were also differences in the strength of these relationships across sites. As hypothesized, the self-esteem of the Japanese was more strongly related (negatively) to negative social events than the self-esteem of participants from the other three sites (–.72 vs. a mean of –.26).

Consistent with the results of self-esteem, in terms of positive affect, the Japanese reacted more strongly to positive social events than North Americans did. For PA, the mean slope for the three North America sites was .53, whereas the slope for the Japanese site was .67. For PD, the mean slope for the three North America sites was .43, whereas the slope for the Japanese site was .79. Somewhat inconsistently, for NA, the Japanese were less reactive to positive social events (.09) than the North Americans did ($M = -.23$). There were no site differences in relationships between ND and positive social events. All four sites had negative coefficients of approximately .30.

Given the similar pattern for self-esteem and positive affect, mediational relationships were examined. These analyses found that self-esteem did not mediate relationships between positive social events and positive affect; nor did positive affect mediate relationships between positive social events and self-esteem. This is similar to the results reported by Nezlek (2005), who described the same lack of mediation in seven different American samples. Moreover, differences between Japanese and North American participants in these adjusted slopes were significant.

The greater sensitivity of the Japanese to negative social feedback was also reflected in the stronger relationship between negative social events and depressed affect (ND) for the

Table 3
Relationships Between Daily Self-Esteem, Affect, and Daily Social Events by Site

Events	Measures	William & Mary	Hampton University	University of Western Ontario	Japan	North America–Japan
				Site		
Positive	Self-Esteem	$.23_b$	$.23_b$	$.26_b$	$.40_a$	.00
	Positive Activation	$.44_a$	$.54_{ab}$	$.62_{bc}$	$.67_{bc}$	.02
	Positive Deactivation	$.33_a$	$.47_b$	$.50_b$	$.79_c$	.00
	Negative Activation	$-.25_a$	$-.21_a$	$-.22_a$	$.09_b$	.00
	Negative Deactivation	$-.28$	$-.26$	$-.35$	$-.27$	ns
Negative	Self-Esteem	$-.26_b$	$-.18_b$	$-.35_b$	$-.72^a$	.00
	Positive Activation	$-.24$	$-.19$	$-.30$	$-.30$	ns
	Positive Deactivation	$-.28_a$	$-.17_{ab}$	$-.42_a$	$-.50_a$	.07
	Negative Activation	$.57$	$.44$	$.54$	$.64$	ns
	Negative Deactivation	$.49_b$	$.38_b$	$.57_{ab}$	$.72_a$	.01

Note: Means not sharing a subscript were significantly different at .05 or beyond. In rows with no subscripts, no pair of means was significantly different.

Japanese compared to the three North American sites (.72 vs. a mean of .48). This greater sensitivity was also found in greater ($p = .07$) decreases in relaxed affect (PD) for Japanese versus North Americans in response to negative social events (–.50 vs. –.29). Follow-up mediational analyses that included depressed affect found that self-esteem did not mediate relationships between negative social events and depressed affect, nor did depressed affect mediate relationships between negative social events and self-esteem. This is similar to the results reported by Nezlek (2005). Moreover, differences between Japanese and North American participants in these adjusted slopes were significant.

Achievement Events

The mean coefficients between daily achievement events and daily self-esteem and affect are presented in Table 4.[3] As hypothesized, Japanese participants reacted less strongly to negative achievement events than North American participants did in terms of daily PA (–.10 vs. –.27) and daily NA (.25 vs. .40). There were, however, no significant site differences in the relationships between negative achievement events and self-esteem, daily PD, or daily ND. Comparisons of the mean positive achievement coefficients for North Americans and the Japanese suggested that the Japanese reacted more strongly to positive achievement events than North Americans did. The coefficient between positive achievement events and self-esteem was greater ($p < .07$) for the Japanese than for North Americans (.26 vs. .17). Similarly, the coefficient between positive achievement events and PA was greater for the Japanese than for North Americans (.51 vs. .26). Also, the coefficient between positive achievement events and ND was greater (more negative, $p < .10$) for the Japanese than for North Americans (–.29 vs. –.20).

Table 4
Relationships Between Daily Self-Esteem, Affect,
and Daily Achievement Events by Site

		Site				
Event	Measure	William & Mary	Hampton University	University of Western Ontario	Japan	North America–Japan
Positive	Self-Esteem	.16	.20	.16	.26	.10
	Positive Activation	$.21_c$	$.38_b$	$.21_c$	$.51_a$	.00
	Positive Deactivation	$.09_b$	$.26_a$	$.19_{ab}$	$.24_a$	ns
	Negative Activation	$.07_a$	$-.06_b$	$-.02_a$	$.09_a$	ns
	Negative Deactivation	$-.14_b$	$-.29_a$	$-.16_{ab}$	$-.29_a$	.10
Negative	Self-Esteem	$-.42$	$-.30$	$-.35$	$-.29$	ns
	Positive Activation	$-.29_a$	$-.31_a$	$-.20_{ab}$	$-.10_b$	.05
	Positive Deactivation	$-.41_a$	$-.40_{ab}$	$-.22_b$	$-.26_b$	ns
	Negative Activation	$.53_a$	$.44_{abc}$	$.33_{bc}$	$.25_c$	.05
	Negative Deactivation	.31	.47	.30	.32	ns

Note: Means not sharing a subscript were significantly different at .05 or beyond. In rows with no subscripts, no pair of means was significantly different. Values shown in italics represent coefficients that were not significantly different from 0.

Discussion

The primary hypothesis of the study was confirmed. As expected, the self-esteem of Japanese participants rose and fell more in response (respectively) to positive and negative social events than the self-esteem of their North American counterparts. It is important to note that self-esteem was positively related to positive events (both social and achievement) and negatively related to negative events (both social and achievement) for all four groups of participants. Within-person relationships between self-esteem and social events were stronger for the Japanese than for the North Americans. Consistent with this, within-person relationships between social events and some affective measures were stronger for Japanese than for North American participants.

The results also confirmed our hypothesis that the Japanese would react less negatively to failure in achievement domains. As expected, compared to North Americans, the PA and NA of the Japanese changed less in response to negative achievement events. It was somewhat surprising that the Japanese also reacted more strongly than the North Americans to achievement success. Their self-esteem and PA increased more and their ND decreased more than North Americans, although the self-esteem and ND comparisons were significant at only the .10 level.

Social Domain

As expected, our results suggest that social acceptance and rejection are more important for the Japanese than they are for North Americans. The greater changes in self-esteem of the Japanese in reaction to social events is consistent with the growing body of research

suggesting that the self functions somewhat differently in East Asian societies such as Japan than it does in North America societies. Being part of and accepted by the collective appears to be more important to the Japanese than it is to North Americans, and this greater importance is reflected in how sensitive people's self-worth is to their social experiences and feedback. These results are also consistent with the sociometer hypothesis of self-esteem as proposed by Leary et al. (1995). According to this hypothesis, individual differences in self-evaluations (specifically self-esteem) reflect how fully people think they are accepted by their social groups. Self-esteem measures one's acceptance by others, and acceptance is more important in Japan than in North America—hence the greater changes in self-esteem in response to social events in Japan.

It is important to note, however, that the present results cannot be used to support claims that the Japanese do not have an individually based sense of self worth. Quite the contrary, the results of the reliability analyses indicated that the state-level measure of self-esteem we used was just as reliable for the Japanese as it was for the North Americans. In this regard, it is important to note that the items measuring self-esteem explicitly focused on the individual. Moreover, such a result is consistent with research on trait-level measures of self-esteem that have found similar structures across various cultures (e.g., Schmitt & Allik, 2005).

The greater sensitivity of the Japanese to social feedback was also suggested by their greater reactions to negative social events in terms of depressed affect. Compared to their North American counterparts, the ND emotions (e.g., sadness) of the Japanese rose and fell more than the deactive emotions of North Americans in response to negative social events. It was curious that the relationship between positive social events and anxiety (NA) was weaker for the Japanese than it was for the North Americans.

Research on cultural differences in the impermanence of the world is also consistent with the cultural differences in the reactivity of self-esteem we found. For example, Ji (2005) presents ample evidence that East Asian societies are more likely than Western societies to believe that all things must change. If good things happen now, bad things can follow, and vice versa. Spencer-Rogers and Peng (2005) point out the importance of this belief when it comes to self-evaluation: "If the world is constantly changing, it follows that the categories and concepts that reflect reality, including the self, will be malleable and multifaceted" (p. 243).

Our findings on changes in depressed affect suggest, however, that although the Japanese may expect to accept or experience more changes in self-concept than North Americans, social rejection has its emotional costs for them. In terms of cultural differences, Heine et al. (1999) suggest that, in response to negative social feedback, the Japanese are much more prone to experience shame and guilt, emotions that share space in the affective circumplex with the ND moods we measured. It is important to note that this cultural difference concerns reactions to negative social events. There were no cultural differences in mean ND scores (Table 2).

Achievement Domain

In confirmation of our hypothesis, the Japanese reacted less to task failure (negative achievement events) than North Americans in terms of PA and NA, although not in terms of self-esteem, PD, and depressed mood (ND). This weaker reactivity is consist with our

expectations and with the analysis offered by Heine et al. (1999) and confirmed by Heine et al. (2001), although our results suggest a modification to Heine and colleagues' analysis. As suggested by Heine and colleagues, failure in the achievement (nonsocial) domain has different consequences for the Japanese than it does for North Americans. As found by Heine et al. (2001), the Japanese tend to view failure as an opportunity to learn or as a stimulus for growth and change. This difference probably reflects differences in the cultural values Heine and colleagues discuss, such as self-criticism, self-discipline, and emphasis on self-improvement. In contrast to the analysis offered by Heine and colleagues, our results suggest that success is not less important for the Japanese than it is for North Americans. In fact, affectively speaking, our results suggest that the Japanese reacted more strongly to positive achievement events than North Americans did.

Self-Enhancement

Another controversial focus of research about cultural differences in the self has been on cultural differences in what is sometimes called "self-enhancement"—the striving to maintain a positive self-image. It is difficult to summarize this debate concisely because it has ranged over some years with differing emphases and manifestations. The primary difference of perspective is between Heine and colleagues (e.g., Heine, 2005; Heine, Kitayama, & Hamamura, 2007), who argue that individually focused self-enhancement is largely absent in East Asia, and Sedikides and colleagues (e.g., Sedikides et al., 2003; Sedikides et al., 2005, 2007), who argue that the self-enhancement motive is universal.

To the extent that these two positions rely on different conceptualizations of the self—Heine and colleagues emphasizing a sense of self that is not individually based and Sedikides and colleagues emphasizing an individually based sense of self—the present results support the position advocated by Sedikides and colleagues. That is, the individually focused items that assessed daily self-esteem in the present study formed a coherent measure for both North Americans and the Japanese, and this measure was related to other measures in ways that were consistent with conceptualizing the measure as a measure of individually based self-esteem. Moreover, if one defines self-enhancement in terms of enhanced self-evaluations (and emotional states) following success, our results suggest that, if anything, Japanese self-enhance more than North Americans do. Nevertheless, the present study is the first to examine cross-cultural differences in such within-person relationships, and as such, future research is needed to understand this phenomenon more fully.

Cross-Cultural Differences in Daily Experience

Although the primary focus of the study was on reactions to daily events, the data we collected allowed us to examine differences in means of our daily measures. Consistent with research summarized by Heine et al. (1999), compared to North Americans, Japanese participants reported lower levels of self-esteem and lower levels of affect (PA, PD, and NA), although there were no such differences in daily depressed mood (ND). This lack of differences in depressed mood further highlights the importance of distinguishing the quadrants of the affective circumplex. It should be noted, however, that the mean differences we found may also reflect the types of reference group effects discussed by Heine, Lehman,

Peng, and Greenholtz (2002), although we believe that the magnitude estimation response scales we used reduced such effects.

In addition to these differences in daily well-being, an inspection of the means in Table 2 shows that Japanese participants reported fewer positive events (both social and achievement). Consistent with previous research (Butler et al., 1994; David, Green, Martin, & Suls, 1997; Nezlek, 2005; Nezlek & Gable, 2001), the present study found positive relationships between positive events and daily well-being. This leaves open the possibility that differences between Japanese and North Americans in daily well-being were due to differences between the two cultures in the number of positive events people experienced each day. The Japanese may have reported lower levels of daily well-being because their daily lives were not as positive as the daily lives of North Americans.

This possibility was examined in a series of analyses in which daily well-being was predicted by daily events but daily event scores were grand mean centered instead of group mean centered. When predictors are grand mean centered, slopes are based on deviations from the grand mean. For the present study, this meant that individual (and by extension, cultural) differences in events contributed to the estimates of slopes and intercepts. In these grand mean–centered analyses, intercepts represented daily means for well-being adjusted for individual differences in event scores. These means for these adjusted coefficients were very similar to the means presented in Table 2, suggesting that cultural differences in daily events were not responsible for cultural differences in daily well-being.

Validity of Cross-Cultural Comparisons

In terms of designing valid instruments, cross-cultural research can be particularly challenging, particularly when the cultures involved have different linguistic roots, such as in Japan and North America. Nevertheless, given the translation and back-translation of the items and the reliability analyses, we feel that we were able to construct sets of measures that measured very similar, if not identical, constructs. Moreover, we know of no research that could be interpreted in ways that could account for the present findings in terms of cross-cultural differences in the validity of the measures we used. Nonetheless, it is theoretically possible that such differences did exist and that they could account for the present findings.

It is particularly important to note, however, that differences in the within-person relationships we found are not subject to concerns about the validity of cross-cultural comparisons of responses to Likert-type scales (e.g., Heine et al., 2002). First and perhaps relatively unimportant, none of the daily items used an agree–disagree format, the format that Heine et al. examined. Response formats varied across constructs, but all used some variant of magnitude estimation (e.g., how much, to what extent, and so forth). Nonetheless, the types of reference group influences Heine et al. discussed may have influenced participants' responses with these formats.

Despite this possibility, the within-person coefficients we found were adjusted de facto for whatever mean differences in daily measures that existed among cultures or individuals. Coefficients were based on individuals' means and deviations from those means. This meant that individual and cultural differences in means did not influence estimates of within-person coefficients. In some ways, this adjustment is similar to the within-culture comparisons discussed by Heine et al. (2001). Heine et al. discussed how comparing different groups within a culture controls for some of the differences in the interpretation of response scales.

Conclusion and Limitations

The present findings that the daily self-esteem of Japanese participants fluctuated more strongly with daily social events (both positive and negative) seem to favor a more universal view of self-esteem than the view that individual self-esteem is not relevant to the Japanese. The items used to measure daily self-esteem were taken from the Rosenberg Self-Esteem Scale (Rosenberg, 1965), arguably the gold standard for measuring the type of individual self-esteem, which some have suggested is not relevant for the Japanese. Examination of these items shows that they clearly concerned how a person evaluated himself or herself. The present results suggest that the Japanese have an individual sense of self-worth that may function very similarly to the sense of self-worth North Americans have; however, the life experiences and domains on which self-worth is based and maintained may vary between the two cultures.

One unexpected consistency between reactions to social and achievement events was that in terms of positive affect, the Japanese were more reactive to positive events (of both kinds) than the North Americans. The accepted wisdom is that East Asians (i.e., the Japanese) are less emotionally expressive than North Americans. Although this may be true in terms of typical or mean expressiveness, the present results suggest that the Japanese react more strongly (at least in terms of positive affect) to daily events. This is certainly a different picture than that usually painted of the Japanese, and although it clearly requires replication, it may highlight the importance differences between studying trait-level and state-level phenomena. In this regard, it is important to note that the reports of affect we obtained were private reports, whereas much of the research on differences between East Asia and North America and Europe has concerned emotional expression.

In addition to shedding some light on cross-cultural differences in the self and daily affective experiences, the present results also highlight the importance of distinguishing affective and self-evaluative states. Some researchers (e.g., Watson, Suls, & Haig, 2002) have suggested that self-esteem should be conceptualized as an affective phenomenon. Although certainly self-esteem has an affective component (most measures of self-esteem include assessments of how one feels about one's self), consistent with the conclusion reached by Nezlek (2005), the present results suggest that it is meaningful to distinguish changes in daily affect and changes in daily self-esteem.

As is invariably the case, the conclusions of the present study are limited by numerous factors. We studied only four groups of collegians, and from these data, we tried to draw conclusions about broad cultural differences. Although we believe that we measured psychologically important constructs, we could have examined other daily measures. Moreover, there might be important differences between the daily events collegians and noncollegians experience, and such differences in events might be associated with a different pattern of cross-cultural differences in reactivity than we found in the present study. For example, academic success may be particularly important to Japanese collegians, even more than success at work is to Japanese adults.

Nevertheless, to our knowledge, the present study is the first of its kind. Although considerable previous research has examined cultural differences in self-esteem and has examined the within-person relationships between daily events and various constructs (including

self-esteem), no study has examined cultural differences in these within-person relationships. At the least, the present study integrates two areas of research that have remained separate despite considerable overlap in the constructs of interest.

Notes

1. Positive and negative frequency scores, based on the number of events occurring each day, were also created. Analyses using composite mean scores were presented because there was less heterogeneity of variance for composite scores than for frequency scores, and because composite scores incorporate differences in the importance of events, whereas frequency scores assume that all events are equally important. Nevertheless, the results of analyses using frequency scores were similar to the results presented in this article. For the Japanese site, materials were translated into Japanese and then back-translated. Details of these procedures are available from Satoru Yasunaga.

2. Some of the pairwise comparisons presented in Table 3 via the subscripts as significantly different at the .05 level were not significant at .05, but were significant at .10. There were only two of these marginally significant effects, and instead of adding another index representing such comparisons to the table, they are noted here. For PA, the HU-JP comparison for positive social events was $p < .08$, and for PD, the WM-JP comparison for negative social events was $p = .10$.

3. Some of the pairwise comparisons presented in Table 4 via the subscripts as significantly different at the .05 level were not significant at .05, but were significant at .10. For PA, the HU-JP comparison for positive achievement events was $p < .09$, and the HU-JP comparison for negative achievement events was $p < .07$. For PD, the WM-JP comparison for negative achievement events was $p = .09$. For NA, the HU-JP comparison for positive achievement events was $p < .09$, the WM-CDN comparison for negative achievement events was $p < .07$.

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