Emotions as Within or Between People? Cultural Variation in Lay Theories of Emotion Expression and Inference

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Four studies using open-ended and experimental methods test the hypothesis that in Japanese contexts, emotions are understood as between people, whereas in American contexts, emotions are understood as primarily within people. Study 1 analyzed television interviews of Olympic athletes. When asked about their relationships, Japanese athletes used significantly more emotion words than American athletes. This difference was not significant when questions asked directly about athletes' feelings. In Study 2, when describing an athlete's emotional reaction to winning, Japanese participants implicated others more often than American participants. After reading an athlete's self-description, Japanese participants inferred more emotions when the athlete mentioned relationships, whereas American participants inferred more emotions when the athlete focused only on herself (Study 3). Finally, when viewing images of athletes, Japanese participants inferred more emotions for athletes pictured with teammates, whereas American participants inferred more emotions for athletes pictured alone (Studies 4a and 4b).

Keywords: *emotion expression; emotion inference; culture; agency; relationships*

Where does emotion come from? Ask this question to American students and they are likely to answer, without hesitation, "from inside me," pointing to their bodies—hearts, heads, or stomachs. In contrast, Japanese students will often make a circular hand motion and gesture away from the body before pointing to themselves and responding, "It comes from outside." In these explanations, American students appear to conceptualize emotion as a primarily internal, individual experience, whereas Japanese students seem to understand emotion as involving some interaction between the individual and the social environment. A rapidly expanding literature reveals substantial individual and cultural variation in how people experience, express, and recognize emotion (D'Andrade, 1984; Elfenbein & Ambady, 2002, 2003; Ellsworth, 1994; Kitayama, Duffy, & Uchida, 2007; Kitayama, Mesquita, & Karasawa, 2006; Lutz, 1988; Mesquita & Leu, 2007; Nisbett & Cohen, 1996; Tsai, Knutson, & Fung, 2006). The current studies focus specifically on cultural variation in lay theories of the source of emotion and further address the still

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unresolved question of whether people in different cultural contexts, in this case Japan and America, experience emotions differently.

A focus on when and where people experience emotion may also help reconcile the inconsistent findings on Japanese emotionality. On one hand, some studies suggest that Japanese are emotionally restrained (e.g., Matsumoto, Kudoh, Scherer, & Wallbott, 1988; Mesquita & Karasawa, 2002). For example, Kitayama, Markus, and Kurokawa (2000) demonstrate that individuals from Japanese cultural contexts report experiencing emotions less intensely than those from American cultural contexts. On the other hand, an analysis of Japanese cultural products reveals an emphasis on emotion. For example, Japanese media are more likely than the American media to describe the emotional states of athletes (Markus, Uchida, Omoregie, Townsend, & Kitayama, 2006). In addition, stories in Japanese textbooks or picture books often emphasize how the characters are feeling (Toriyama, Uchida, Duffy, & Itakura, 2007).

The conflicting perspectives on where emotions reside and whether Japanese are relatively more versus less emotional (compared to North Americans) can be reconciled by attending to the different underlying understandings of the sources of behavior, namely, their models of agency. Models of agency provide general guidelines for "how to be," are differentially constructed and distributed across different cultural contexts, and give rise to variation in people's descriptive and normative understandings of how and why people act (Kitayama et al., 2007; Kitayama & Uchida, 2005; Markus & Kitayama, 2004; Markus et al., 2006; Snibbe & Markus, 2005).

We suggest here that Japanese lay theories conceive of emotions as residing between people because of their tendency to regard most behavior, including emotions, as relational or conjoint in nature. By contrast, North American lay theories conceive of emotions as residing within people because of their tendency to regard most behavior, including emotions, as separate from others or disjoint in nature. Therefore, Japanese are likely to be relatively more emotional than North Americans if emotions are assessed in relational contexts or if the focus is on relations, whereas North Americans are likely to be more emotional when the focus is on the individual. Moreover, when queried about their emotions, Japanese are likely to focus on their relations, whereas North Americans are likely to focus on their internal experience. In the studies reported here, we first use a naturally occurring situation to examine when and how Japanese and Americans express emotions and then conduct two laboratory studies to compare emotional inference when relationships are or are not salient.

MODELS OF AGENCY AND EMOTION

Over a decade of research and theorizing about agency in Japanese and American contexts has found systematic differences between these cultural contexts (Azuma, 1994; Hamguchi, 1985; Kitayama & Uchida, 2005; Kondo, 1990; Lebra, 1976, 1993; Lewis, 1995; Markus & Kitayama, 1991, 2004). Specifically, in Japanese contexts, agency—thoughts, feelings, actions—is understood and experienced as conjoint or as arising from the fundamental relationship of individuals to each other. Here, behavior is an interdependent project, necessarily involving the psychological states and the actions of others. Conversely, in American cultural contexts, agency is understood and experienced as disjoint or arising primarily from the individual and his or her internal, psychological states. Here, behavior is an independent project, separate from other people.

Given the important role of other people in creating conjoint agency, for Japanese individuals the presence of others is an essential aspect of psychological experiences, such as motivation and emotion (Mesquita et al., 2006). For example, Japanese respondents showed no dissonance in a standard free-choice paradigm: They did not rate a CD they had chosen more favorably than the unchosen one (Kitayama, Snibbe, Markus, & Suzuki, 2004). They did show dissonance, however, by justifying their choice when they were induced to consider themselves in relationships either directly or indirectly (e.g., to think what others might think about their choice). European Americans, using disjoint models of agency, justified their choices regardless of the social cue manipulation.

Extending research on models of agency to emotion suggests that in contexts where conjoint models of agency are prevalent, emotion is likely to be understood as occurring in the context of relationships. People are more apt to experience, express, and infer emotions when others are involved and psychologically salient. Conversely, in contexts where disjoint models of agency are prevalent, emotion is likely to be experienced and understood as disjoint from the thoughts and feelings of others. Thus, people are more apt to experience, express, and infer emotions by considering their own psychological states, without invoking or referencing others. These two conceptions of emotion are illustrated in Figure 1, in which the left-hand diagram shows emotion as deriving from within a disjoint construction of self while the right-hand diagram depicts emotion as deriving from a conjoint construction of self.

EMOTION IN THE MATRIX OF OTHERS VERSUS IN THE SELF

Our hypothesis that Japanese emotions are conjoint whereas American emotions are disjoint phenomena

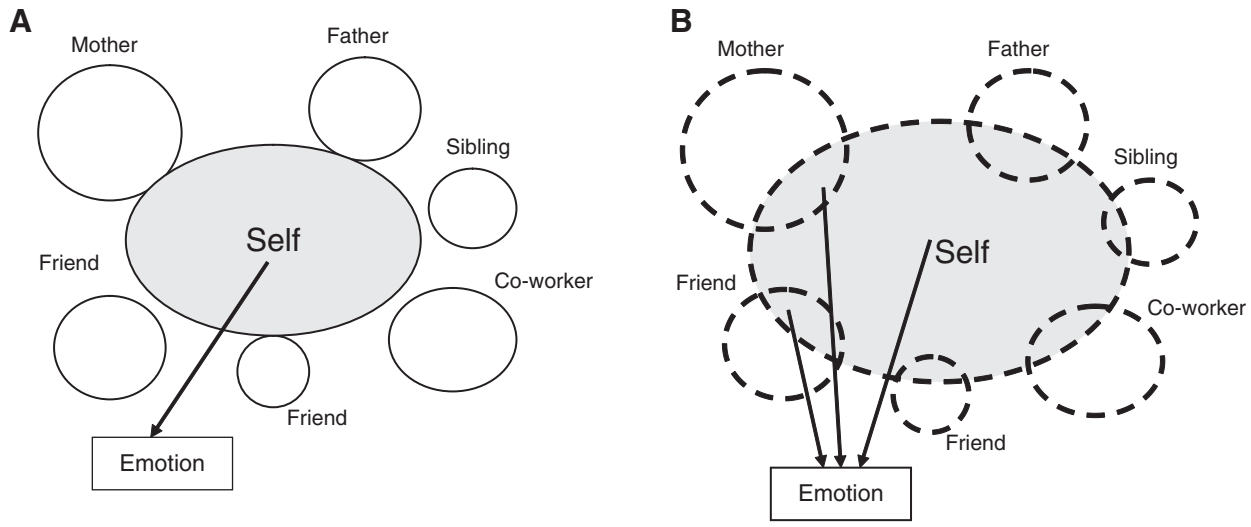

Figure 1 Illustrations of divergent conceptions of emotion.
NOTE: The left image(A) shows emotion as deriving from a disjoint self; the right image(B) depicts emotion as deriving from a conjoint self.

follows from numerous studies that highlight the centrality of relationships in Japanese emotion (Chentsova-Dutton & Tsai, 2009; Kitayama et al., 2006; Levenson, Ekman, Heider, & Friesen, 1992; Masuda et al., 2008; Uchida & Ellsworth, 2009).

The first study to suggest the importance of relationships for emotions in Asian cultural contexts was conducted by Levenson et al. (1992). When American and West Sumatran participants' faces were posed to mimic emotional expressions, participants showed corresponding changes in their autonomic nervous system responses. West Sumatrans, however, had difficulty describing their emotional states and were interpreted to be less emotional relative to Americans. In light of recent theorizing, this reduced emotionality may reflect the fact that the laboratory situation in which these studies were conducted was devoid of relational cues that are an essential part of emotional experience.

More recently, Masuda et al. (2008) showed participants a target figure surrounded by others. When there was an inconsistency between the target person's emotion and that of the others (e.g., the target person expressed happiness while the others expressed anger) as opposed to consistency, Japanese participants judged the target to be less happy. In contrast, for the American participants, the expressions of the others surrounding the target did not influence their judgments of the target's happiness.

Chentsova-Dutton and Tsai (2009) found similar results using a priming task, showing that Asian American, compared to European American, participants were more likely to experience and express emotion after thinking about a close other. During the study, European American and Asian American participants were shown emotion-evoking, amusing films. Before seeing the films, half of the participants were asked to think about themselves and write a few sentences describing their personality and recent events in their lives (self-focus condition). The other participants were asked to think of a family member and describe that family member's personality and recent events in his or her life (family-focus condition). In the self-focus condition, European Americans experienced and expressed more positive emotion in response to the film than Asian Americans. In contrast, in the family-focus condition, Asian Americans experienced and expressed more positive emotions than European Americans.

PRESENT RESEARCH

The four studies described here extend our own research and recent findings that emotional experience is shaped by the models prevalent in the cultural context (Kitayama et al., 2006; Mesquita et al., 2006). In particular, this work examines two theoretical hypotheses. First, emotion in Japanese contexts is likely to reflect a conjoint model of agency in which emotion derives from multiple sources and involves assessing the relationship between others and the self. Second, emotion in American contexts is likely to reflect a disjoint model of agency in which emotion derives primarily from the individual and involves assessing the individual's internal states but does not involve assessing the relationship between others and self. These cultural differences in constructions

of emotion will be evident in both emotional experiences and inferences about the emotions of others.

In four studies, we focus on the Olympic Games as a significant, consequential event in both American and Japanese contexts that is associated with the experience and expression of strong emotions among athletes and fans. Using postperformance media interviews as cultural products that reflect and encourage normative patterns of emotional expression and inference, we investigate when and how Japanese and Americans invoke emotions in explaining and reacting to an event (i.e., Olympic performances). Additionally, in two experimental studies, we examine how inference of a target person's emotion varies with the salience of the target's relationships with other people.

Focusing on emotional reactions to events, we examined the following three hypotheses that, relative to American respondents, Japanese respondents: (a) when asked about their relationships will respond with more emotion words (Study 1), (b) when describing a target's emotional reaction will be more likely to invoke a relationship and mention others (Study 2), and (c) when given information about a target person's relationships will be more likely to infer that the target is experiencing emotions (Studies 3, 4a, and 4b). We examined these hypotheses in terms of both emotion expression in open-ended research (Studies 1 and 2) and emotion inference in manipulated experimental contexts (Studies 3, 4a, and 4b).

STUDY 1: TELEVISION INTERVIEWS

To explore our hypothesis that Americans and Japanese express emotions in different contexts, we examined mentions of emotions in naturally occurring situations. Our previous study revealed that postevent interviews with Olympic athletes contained a high proportion of emotional content (Markus et al., 2006). In the current study, we analyzed transcripts of interviews with successful athletes from the 2004 summer Olympic games that aired on Japanese and American television networks. We predicted that although both Japanese and American athletes would mention emotion during their interviews, we hypothesized that Japanese athletes would be more likely than their American counterparts to use emotion terms when responding to interviewer questions about their relationships with others, such as their coach, teammates, or family.

Method

We collected studio interviews from the 2004 summer Olympic games in Athens, Greece, that were aired on NBC in United States or on NHK, Nippon TV, or TV Asahi in Japan. The interviewees were individual athletes or teams who had succeeded in some form (i.e., medaled or performed better than expected). From more than 40 interviews, we selected interviews that satisfied two criteria, namely, that each interview (a) lasted more than 5 min, to ensure enough conversation between athlete and interviewer, and (b) used a question–answer format. Six American interviews (one silver medalist in women's track; two bronze medalists, one in Greco-Roman wrestling and one in women's triathlon; a gold medal team in women's soccer; a bronze medal team in women's water polo; and the men's indoor volleyball team with no medal) and six Japanese interviews (three gold medalists, one in women's marathon and two men's Judo; a silver medalist in men's swimming; a gold medal team in men's gymnastics; and the women's soccer team with no medal) met these criteria and were analyzed. Preliminary analysis showed that neither the success of the athletes (gold, silver, bronze vs. no medal) nor the sport type (individual vs. group) significantly affected the results described here.

Before analysis, we identified the "units" of conversation for each athlete interview, with each unit comprising an interviewer's question and the athlete's answer. We analyzed the first 11 units because the shortest interview had 11 units. In one of the American interviews, many question-and-answer exchanges were not focused on the athletes' competition or performance (e.g., "Please introduce yourselves" and "They call me L.B. or 'Pounds.'"). This interview was dropped from analysis, yielding a data set that comprised 121 units: 66 from Japanese interviews and 55 from American interviews.

The dialogue content in each unit was coded using a schema based on our previous Olympic content analysis (Markus et al., 2006) and our interest in cultural understanding of emotion. The schema for the interviewers' questions consisted of two categories (asking about *emotion* and asking about relationships with *others*—family, coach, friends*)*. Within each unit, two coders (one American and one Japanese who was Japanese-English bilingual) rated the *presence* (1) or *absence* (0) of each category. The Japanese interviews were translated into English for the American coder. For each unit, coders counted the number of emotion words (e.g., *happy*, *excited*) used by the athletes to express their own feelings.[1] Coders agreed 87.9% to 100.0% of the time. The average Cohen's kappa across all the categories was .86 (agreement for individual categories ranged from .70 to 1.00, $SD = 0.13$), indicating that reliability between coders was substantial (Landis & Koch, 1977).

Results and Discussion

As an initial step in our analyses, we examined the proportion of interviewer questions asking about athletes'

TABLE 1: Effect of Culture and Question Type on Athletes' Use of Emotion in Responding (1 = *Mentioned Emotion*): Hierarchical Linear Modeling Odds Ratios and Gamma Coefficients

Predictor	*Odds Ratio*	*Gamma Coefficient*	*SE*	*T*	*p*
INTERCEPT1, β_0					
INTERCEPT2, γ_{00}	0.12	–2.08	.34	–6.05	< .001
Culture, γ_{01}	0.73	–0.32	.54	–0.58	.57
Question content, emotion, β_1					
INTERCEPT2, γ_{10}	17.41	2.86	.59	4.85	< .001
Culture, γ_{11}	2.35	0.85	.81	1.05	.30
Question content, others, β_2					
INTERCEPT2, γ_{20}	1.27×10^{-14}	–32.00	.35	–92.43	< .001
Culture, γ_{21}	6.86×10^{14}	34.16	.70	48.84	< .001

NOTE: Culture was coded 0 = *United States*, 1 = *Japan*. Approximate degrees of freedom were 9 for Level 1 and 107 for Level 2.

emotions (e.g., "You've won a silver medal. How does it feel?") or their relationships with others (e.g., "Talk to me a little bit about being the youngest member of the team") across cultural contexts. We confirmed with chi-square tests that American and Japanese interviewers did not differ in the percentage of questions they asked regarding the athletes' emotions (United States = 30.9%, Japan = 31.8%), $\chi^2(1) = .01$ $p = .92$, or others (United States = 21.8%, Japan = 24.2%), $\chi^2(1) = .10$, $p = .75$. We then examined the number of interviewer questions that asked about both emotion *and* others. In Japanese interviews, seven interviewer questions (10.6% of units) were coded as asking about both emotion and others; however, only one (1.8% of units) such question was found in American interviews. Thus, these units were not included in further analysis.

Next, we tested our main hypothesis. First, an inspection of the dependent variable, number of emotion words used in the athlete's response, revealed it to be nonnormally distributed, with a mode at 0. Thus, we transformed this variable into a binary variable (0 = *did not mention emotion,* 1 = *mentioned emotion*). Our prediction regarding cultural differences in the within-interview association between the type of question the interviewer asked and whether the athlete mentioned emotion in his or her response was examined using multilevel random coefficient models with the Hierarchical Linear Modeling (HLM) program (Version 6; Raudenbush, Bryk, & Congdon, 2000). Because the dependent measure was binary, we used a logistic hierarchical linear model that modeled each participant's log-odds of mentioning an emotion during a trial (i.e., during one question–response unit).

We created two dummy variables for each trial: one coding for whether the question for that trial referred to an emotion and another coding for whether the question for that trial referred to other people (entered uncentered and fixed across participants). At the participant level, we had three equations, one for the control trials, one for emotion content trials, and one for other people content trials. Culture was added as a participant-level predictor variable in all three equations. Table 1 shows the full results of the HLM analysis. We found that when questions did not ask about either emotions or others, athletes were less likely to mention emotions in their responses, β (i.e., gamma coefficient) = –2.08, odds ratio = 0.12, $t(9) = –6.05$, $p < .001$. Importantly, participants' log-odds of mentioning an emotion in the control trials did not differ across cultures, $\beta = –0.32$, odds ratio = 0.73, $t(9) = –0.58$, $p = .57$.

The second section of the table shows cultural similarities in the association between interviewer questions that asked about emotion and whether athletes mentioned emotions in their responses. Overall, both groups of athletes were more likely to mention emotion in their responses when the interviewer asked about emotion, compared to when he or she asked about neither emotion nor others, $\beta = 2.86$, odds ratio = 17.41, $t(107) = 4.85$, $p < .001$. Consistent with our hypothesis, Japanese athletes did not differ from American athletes in this tendency, $\beta = 0.85$, odds ratio = 2.35, $t(107) = 1.05$, $p = .30$. Thus, American and Japanese athletes are equally likely to mention emotions when asked about them.

Finally, the third section of the table shows cultural differences in the association between interviewer questions that asked about others and whether athletes mentioned emotions in their responses. First, American athletes were *less* likely to mention emotion when the interviewer asked them about others compared with when he or she asked about neither others nor emotion, $\beta = –32.00$, odds ratio = 1.27×10^{-14}, $t(107) = –92.43$, $p < .001$. However, as we predicted, this relationship was reversed among Japanese athletes, $\beta = 34.16$, odds ratio = 6.86×10^{14}, $t(107) = 48.84$, $p < .001$. These results show that when asked about others, Japanese are more likely to mention emotions in their responses than American.

For example, in answering the question "What kind of support has your family given you?" a Japanese athlete responded, "My family always supported me, such as calling me a lot. I am really *happy* to meet the expectations of my family." An American response to this question was, "My family always supported me. My mother has always encouraged me." In another Japanese conversation, when the interviewer mentioned that "many fans were waiting for you at Narita airport," the Japanese athlete answered, "I was really *happy* at that time, and also realized *sadness* since I could not meet the expectations of everyone." In an American interview, when asked, "What stands out in your memory as you looked around and saw the crowd last night?" the American athlete responded, "I just remember how many people there were and that was an amazing thing." As predicted, in their responses to questions that made other people salient, Japanese were more likely to generate emotion terms than Americans.

STUDY 2: TYPICAL REACTIONS OF ATHLETES TO A WIN

Study 1 showed that Japanese Olympic athletes are more likely than American athletes to express emotion when relationships are made salient. As another way to examine the idea that Japanese emotions are understood as between people or relational and to test the generality of the findings of Study 1, we asked participants to generate an athlete's typical reaction to a win in an Olympic event. We anticipated that participants' descriptions would include many mentions of emotion in both Japanese and American cultural contexts, but we predicted that Japanese participants, in contrast to Americans, would include others when they described the *emotional* reaction of the target person.

Method

Participants. Fifty Japanese students (16 females and 34 males) from Kyoto University and 49 American students (21 females and 28 males) from Stanford University participated in the study.

Procedure. American and Japanese participants were asked to describe, in an open-ended, written format, the typical reactions of an athlete who had just won in the Olympic finals.

Results and Discussion

Two coders rated answers independently (coders agreed 85.3% to 100.0% of the time). The average Cohen's kappa across all the categories was .94 (agreement for individual categories ranged from .63 to 1.00, $SD = 0.13$), indicating that reliability between coders was substantial (Landis & Koch, 1977). An example of an American-inferred reaction was "shouts of joy, hugging, fist pumping, maybe a funny little victory dance" and an example of a Japanese inferred reaction was "overwhelmed with joy, grateful for everything their coach has done for them, happy with his/her achievement after the hard work." Coders rated the *presence* (1) or *absence* (0) of two categories of emotional expression: *self-focused* (e.g., an athlete would express his or her own emotions, such as joy) and *self- and other-focused* (e.g., an athlete would express emotions as relational, such as joy in front of his coach or a display of gratitude to other people).

First, we conducted a 2 (culture: United States vs. Japan) × 2 (emotion type: self-focused vs. self- and other-focused) mixed-factorial ANOVA with the number of emotions described as the dependent variable and emotion type as the within-subjects variable. A significant main effect emerged for emotion type: The typical athlete, across cultural contexts, was described as expressing more self-focused emotion ($M = 0.83$, $SD = 1.00$) than self- and other-focused emotion ($M = 0.32$, $SD = .55$), $F(1, 94) = 17.44$, $p < .0001$. We also found a marginal main effect of culture, such that American participants ($M = 0.66$, $SD = .50$) predicted that athletes would express more emotions than would Japanese participants ($M = 0.50$, $SD = .44$), $F(1, 94) = 2.92$, $p = .09$. This finding supports our previous work, indicating that Americans consider it normal to show their emotion more than Japanese.

Notably, these effects were qualified, as hypothesized, by a significant two-way Culture × Emotion Type interaction for emotional reactions, $F(1, 94) = 12.56$, $p = .001$. As shown in Figure 2, Americans ($M = 1.15$, $SD = 1.03$) were more likely than Japanese ($M = 0.54$, $SD = .88$) to describe athletes as expressing self-focused emotions, for example, "I feel pride" or "I am satisfied," $t(94) = 3.13$, $p = .002$. Japanese respondents ($M = 0.46$, $SD = .64$), in contrast, were more likely than Americans ($M = 0.17$, $SD = .38$) to describe the typical athlete as expressing emotions that were relational, that is, self- and other-focused, such as "I am happy since I was able to meet the expectation of others" or "I am satisfied and grateful since I know many people supported me," $t(80.82) = -2.61$, $p = .01$ (equal variances not assumed). In addition, American participants mentioned self-focused emotions significantly more often than self- and other-focused emotions, $t(45) = 5.52$, $p < .0001$, but this difference was not significant for Japanese participants, $t(49) = 0.44$, $p = .66$.

In contrasting American and Japanese contexts, these results suggest that Americans believe that typical reactions to a positive event involve self-focused emotion,

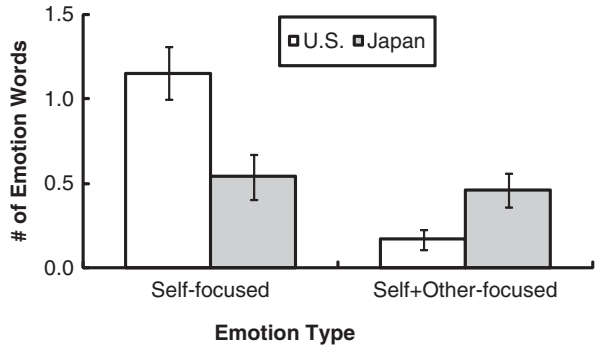

Figure 2 Mean number of self-focused versus self- and other-focused emotion words (± *SE*) used in describing an athlete's typical reaction to an Olympic win in Study 2.

whereas Japanese predict that typical reactions to a positive event involve self- and other-focused emotion.

STUDY 3: RELATIONSHIP-FOCUSED VERSUS SELF-FOCUSED SCRIPTS

Together, Studies 1 and 2 show that in Japanese contexts, relative to American contexts, people are more likely to mention emotions when discussing relationships and participants are more likely to mention relationships when discussing emotion. To further examine the claim that Japanese emotions are understood to involve relations between people, in Study 3 we created two descriptions of reactions to a win in the Olympics. In one, the target athlete's self-description included her relationships with others (i.e., it used a relationship-focused style). In the other script, the target athlete's self-description did not include others (i.e., it used a self-focused style). We hypothesized that, Japanese participants, compared to American participants, would (a) infer more emotion for the target person after reading the relationship-focused script and (b) infer less emotion for the target person after reading the self-focused script.

Method

Participants. Sixty-nine European American students from Stanford University and 61 Japanese students in Japan (from three universities in Kyoto and Hyogo prefectures) participated in this study for either $5 or partial fulfillment of a class requirement. No participants had lived outside of their country for longer than 1 month. We dropped from analysis 3 Americans and 3 Japanese who did not correctly answer our memory check, indicating that they did not carefully read the instructions and/or script. Thus, our final data set included 66 American (45 females and 21 males) and 58 Japanese (30 females, 26 males, and 2 unspecified) participants.

Procedure. Participants were randomly assigned to either the self-focused or relationship-focused condition. In both conditions, participants read comments of a fictional Olympic athlete (a female swimmer) just after she won a gold medal. They were instructed to take at least 3 min to read the athlete's comments. After reading the script, participants were then asked to write a description of the athlete using what they had read as well as their imagination.

Target scripts. Both of the scripts were translated and back-translated into Japanese. We modeled the scripts after media coverage of the 2000 Sydney Olympics collected in our previous research (Markus et al., 2006). The scripts, matched in length (183 words), contained several pieces of information about the athlete's emotional state (i.e., "happy"), race strategy (i.e., "focused on my strategy to save energy for the end of the race"), background (i.e., "worked hard for this, spent countless hours in the pool"), motivation ("winning the gold has been a dream"), and future plans ("continue training for the next Olympics"). In the self-focused script, the target athlete described the preceding information displaying disjoint agency: talking primarily about *herself*, for instance, her *personal* race strategy in which *she* decided to focus on the end of the race and her motivation to win to fulfill *her* dream. In the relationship-focused script, the target athlete described this information displaying conjoint agency: talking about her *relationships*, for example, the race strategy that was suggested by her *coach* and her motivation to win to fulfill the dream of *others* such as her family, friends, and coach.

Free description task. After reading the script, participants were asked to freely describe the target athlete in as much detail as possible including information about her background, relationships, psychological and emotional state, personality, and so forth. Participants were told to use both the script they read and their imagination. In addition, participants were instructed to write their descriptions from the first-person perspective so that they could take the viewpoint of each target person. They were told to imagine themselves as the athlete, starting their descriptions with "I." Participants were asked to write a minimum of 4-5 sentences.

Manipulation and memory check. To check that the two versions of the script were perceived as standard in the corresponding cultural context (i.e., relationship-focused in Japanese contexts, self-focused in American contexts), we asked the participants to judge the typicality of the

comments for an athlete from their own cultural context on a 7-point scale ranging from 1 (*not at all*) to 7 (*extremely*). Then, participants were asked to recall which people the athlete had mentioned in the script they read. Participants were shown eight categories (no people, herself, her coach, her teammates, her competitors, her family, her friends, her fans) and asked to check all that applied. We coded these binary responses as 0 (*did not mention*) and 1 (*mentioned*).

Results and Discussion

Our analyses omit participant gender because including gender did not change the results.

Manipulation and memory check. A 2 (culture: American or Japanese) × 2 (script: self- or relationship-focused) ANOVA with perceived typicality as the dependent variable revealed a significant interaction, $F(1, 120) = 10.73$, $p = .001$. Specifically, as expected, Americans rated the self-focused script as more typical of American athletes ($M = 5.79$, $SD = 1.30$) than the relationship-focused script ($M = 5.37$, $SD = 1.40$), whereas the reverse pattern was found among Japanese participants' typicality ratings of the two scripts for Japanese athletes (Ms = 4.20 and 5.43, SDs = 1.61 and 1.20, respectively). The memory check revealed a significant main effect of script type, such that participants in the relationship-focused condition, and not the self-focused condition, accurately recalled that the athlete mentioned her coach, teammate, family, and friends, all χ^2s > 4.45, ps < .001. We did not find a significant difference for fans, $\chi^2(1) = 0.11$, $p = .52$. These results indicate that participants from both cultural contexts accurately remembered the scripts.

In the self-focused condition, all American and Japanese participants indicated that the athlete talked about herself (both Ms = 1.00). In the relationship-focused condition, however, more American participants remembered the athlete as having described herself (76%) than Japanese participants (39%), $\chi^2(1) = 9.26$, $p = .002$. This pattern of results indicates that even after reading a script in which the target person describes herself in a conjoint manner, focusing on relationships, Americans, relative to Japanese, more often encoded the script as also containing self-focused information.

Emotion words. We first compared the number of the sentences generated by participants, finding no significant difference by cultural context. Next, we counted the number of emotion words participants used in their responses (i.e., words that expressed the athlete's emotion, e.g., *joy* or *elated*). Number of emotion words was our dependent variable of interest.

As shown in Figure 3, a 2 (culture: United States or Japan) × 2 (script: self- or relationship-focused) ANOVA yielded a significant interaction, $F(1, 120) = 4.00$, $p = .05$. After reading the self-focused script, American participants inferred slightly more emotion ($M = 1.61$, $SD = 1.23$) than did Japanese participants ($M = 1.17$, $SD = 1.53$), $t(120) = 1.78$, $p = .08$, but after reading the relationship-focused script, Japanese participants inferred more emotion ($M = 1.79$, $SD = 1.03$) than did American participants ($M = 1.29$, $SD = 1.31$), $t(120) = 2.00$, $p = .05$. Neither the main effect of culture nor of condition was significant. In addition, analyzing the ratio of emotion words to number of sentences produces the same pattern of results, $F_{\text{interaction}}(1, 120) = 3.86$, $p = .05$.

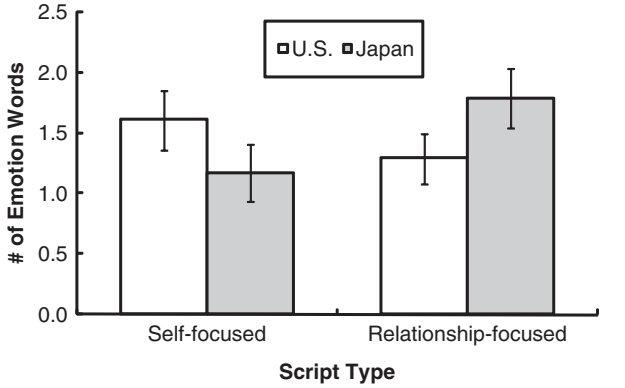

Figure 3 Mean number of emotion words (± *SE*) used to describe an athlete after reading self-focused versus relationship-focused scripts in Study 3.

STUDIES 4A AND 4B: RELATIONSHIP-FOCUSED VERSUS SELF-FOCUSED PHOTOGRAPHS

In Studies 4a and 4b, we replicate and extend the findings of Study 3 using photographs of winning athletes instead of self-descriptions. These photographs depicted the target athlete either alone or with his teammates. As in Study 3, we examined the number of emotion inferences participants made in response to each picture. We hypothesized that when the athlete is shown with teammates, Japanese participants would infer more emotions for the athlete than would American participants. In contrast, we predicted that when the athlete is pictured alone, Japanese participants would infer less emotion for the athlete than would American participants.

Study 4a

Method

Participants. Eighty European American students from Stanford University and 92 Japanese students in Japan

(from two universities in Kyoto and Hyogo prefectures) participated in this study for either $5 or partial fulfillment of a class requirement. No participants had lived outside of their country for longer than 1 month. We excluded 8 Americans who did not follow instructions. Thus, our final data set included 72 American (30 female and 42 male) and 92 Japanese (78 female and 14 male) participants.

Procedure. The experiment had a 2 (target nationality: American or Japanese) × 2 (target numeric status: alone or team) × 2 (participant culture: United States or Japan) design. Each participant was randomly assigned to one of the four conditions (American target alone, American target with team, Japanese target alone, and Japanese target with team).

We made four types of photographs depicting these conditions, which showed male Olympic athlete(s) smiling after they received their medals (see Figure 4). In the American nationality conditions, the target was "Mark," a European American man in his early 20s. In the Japanese nationality conditions, the target was a similar-aged Japanese man, "Kenji." A photograph presented Mark or Kenji with three teammates in the team condition or by himself in the alone condition (this image was created by simply cropping the team condition photo so that only Mark or Kenji was visible). Except for varying the number of people present and the depiction of Mark versus Kenji, the photographs of the four conditions did not differ. In all conditions, participants viewed the picture and read that "this picture was taken shortly after Mark [Kenji] won an Olympic gold medal in swimming."

Free description task. The task was same as in Study 3. After viewing the picture, participants were asked to freely describe the target athlete (Mark or Kenji) in as much detail as possible, including information about his background, relationships, psychological and emotional state, personality, and so on. Participants were told to use both the information in the photograph and their imagination. In addition, participants were instructed to write their descriptions from the first-person perspective. They were told to imagine themselves as the athlete, starting their descriptions with "I." Participants were asked to write a minimum of 4-5 sentences.

Results and Discussion

As in Study 3, participant gender was dropped from analysis because it did not change the results.

Emotion words. We first compared the number of the sentences generated by participants, finding no significant cultural differences. As in Study 3, we counted the number of emotion words participants used in their responses as the main dependent measure. As shown in Figure 5(a), a 2 (participant culture: United States or Japan) × 2 (target numeric status: team or alone) × 2 (target nationality: American or Japanese) ANOVA yielded two significant two-way interactions; however, no significant main effects emerged for participant culture, $F(1, 156) = 1.98$, $p = .16$; target numeric status, $F(1, 156) = 0.26$, $p = .61$; or target nationality, $F(1, 156) = 0.89$, $p = .35$, and the three-way interaction was also not significant, $F(1, 156) = 0.01$, $p = .93$.

Figure 4 Stimuli used in Study 4a. Target athletes "Mark" (A) and "Kenji" (B) shown with teammates and alone.
SOURCE: Photographs licensed from Getty Images. 4A: 7th FINA World Swimming Championships by Harry How, Indianapolis, Indiana, source Getty Images North America, copyright Getty Images (2004). 4B: 15th Asian Games Doha 2006 – Swimming, by Mike Hewitt, Doha, Qatar, source Getty Images Europe, copyright Getty Images (2006). All photographs reprinted by permission of Getty Images.

Notably, and as hypothesized, we found a significant interaction between participants' culture and target numeric status, $F(1, 156) = 6.76$, $p = .01$. Japanese participants mentioned more emotions when the target was pictured with his teammates ($M = 2.38$, $SD = 1.62$) than when he was shown alone ($M = 1.64$, $SD = 1.28$), $t(156) = 3.51$, $p = .001$. American participants showed the opposite pattern, mentioning more emotions when the target was pictured alone ($M = 1.91$, $SD = 1.46$) as opposed to with his teammates ($M = 1.44$, $SD = 1.32$), $t(156) = 1.96$, $p = .05$.

As shown in Figure 5(a), this pattern of results was driven by the within-culture conditions. Specifically,

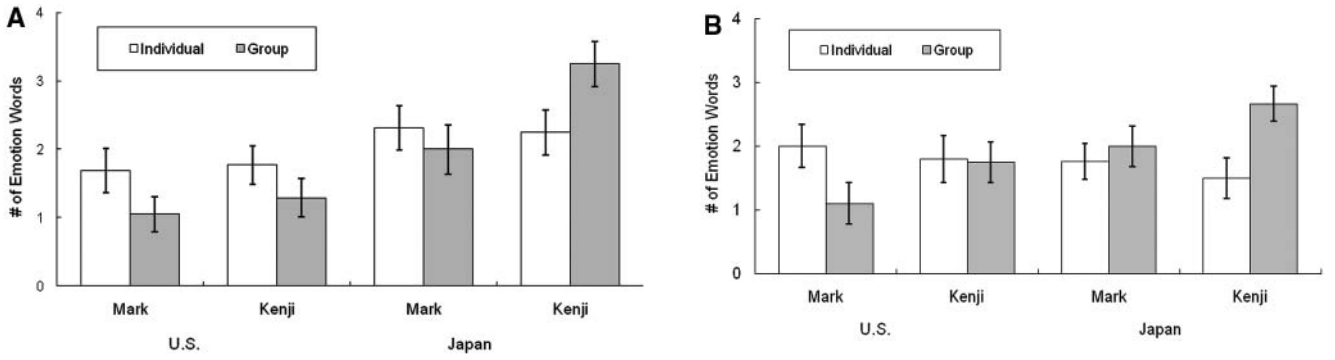

Figure 5 Mean number of emotion words (± *SE*) used to describe a target athlete (Mark or Kenji) pictured individually or in a group in Studies 4a and 4b, respectively.

American participants inferred more emotions for the American target when the picture showed him alone (M = 2.00, SD = 1.47) as opposed to with his teammates (M = 1.10, SD = 1.31), $t(156) = 2.72$, $p = .007$, whereas Japanese participants inferred more emotions for the Japanese target when the picture showed him with his teammates (M = 2.67, SD = 1.62) rather than alone (M = 1.50, SD = 1.28), $t(156) = 3.93$, $p = .0001$. These cultural differences were not evident when the participants saw the target person in the other culture. Thus, American participants' inferences about the Japanese target and Japanese participants' inferences about the American target did not differ as a function of whether the target was pictured alone or with his teammates, $ts(156) < 1.00$, *ns*. These effects might explain the second significant two-way interaction we found between target nationality and target numeric status, $F(1, 156) = 3.84$, $p = .05$. Participants inferred more emotions for Mark when he was pictured alone rather than with his teammates, but they inferred more emotions for Kenji when he was pictured with his teammates rather than alone.

Study 4b

To rule out the possibility that the results obtained in Study 4a were due to the specific facial expressions or features of the two targets, we sought to replicate our findings from Study 4a using a different target athlete and different U.S. and Japanese samples.

Method

Participants. Sixty-nine European American students from the University of Wisconsin–Madison and 49 Japanese students at Kyoto University participated in this study for either $5 or partial fulfillment of a class requirement. No participants had lived outside of their respective country for longer than 1 month. One Japanese participant did not follow instructions and was deleted from our sample. Thus, our final data set included 69 American (40 female and 29 male) and 48 Japanese (25 female and 23 male) participants.

Procedure. The procedure and materials were the same as Study 4a except that we selected a different athlete as the target person—"Mark" and "Kenji" in this study were the athletes second to the left in the group photographs shown in Figure 4.

Results and Discussion

As in Study 4a, we conducted a 2 (participant culture: United States or Japan) × 2 (target numeric status: team or alone) × 2 (target nationality: American or Japanese) mixed ANOVA. This analysis yielded two main effects. First, we found a marginally significant main effect of target nationality, $F(1, 108) = 3.01$, $p = .08$, such that that more emotion terms were attributed to Japanese targets than American targets (M = 2.03, SD = 1.41 vs. M = 1.68, SD = 1.05). Second, contrary to Study 4a, we found a significant main effect of participant culture, $F(1, 108) = 21.50$, $p = .001$, showing that Japanese participants produced more emotion terms than American participants (M = 2.47, SD = 1.30 vs. M = 1.45 SD = 1.05). The main effect of target numeric status was not significant $F(1, 108) = 0.31$, $p = .58$. As in Study 4a, the three-way interaction was not significant, $F(1, 108) = 1.70$, $p = .20$.

Most important, replicating our key result from Study 4a, we found a significant interaction between participants' culture and target numeric status, $F(1, 108) = 4.75$, $p = .03$. As in Study 4a, Japanese participants mentioned more emotion when the target was pictured with his teammates (M = 2.68, SD = 1.32) than when he was shown alone (M = 2.28, SD = 1.28), although this

difference did not reach conventional levels of significance, $t(108) = 1.73$, $p = .09$. American participants showed the opposite pattern, mentioning significantly more emotion when the target was pictured alone ($M = 1.76$, $SD = 1.09$) rather than with his teammates ($M = 1.17$, $SD = 0.94$, $t(108) = 3.09$, $p = .002$.

As shown in Figure 5(b), post hoc tests revealed that American participants inferred more emotion for the American target when the picture showed him alone ($M = 1.73$, $SD = 0.70$) as opposed to with his teammates ($M = 1.05$, $SD = 0.97$), $t(108) = 2.48$, $p = .01$, whereas Japanese participants inferred more emotion for Japanese target when the picture showed him with his teammates ($M = 3.25$, $SD = 1.54$) rather than alone ($M = 2.25$, $SD = 1.21$), $t(108) = 3.08$, $p = .003$. These cultural differences were not evident, however, when the participants saw the target person in the other culture. Also replicating Study 4a, there was a marginal interaction between target nationality and target numeric status, $F(1, 108) = 3.12$, $p = .08$. Participants inferred more emotion for Mark when he was pictured alone rather than with his teammates; however, they inferred more emotion for Kenji when he was pictured with his teammates rather than alone.

GENERAL DISCUSSION

We began this research by focusing on emotion expression in naturally occurring situations. Coding the post-performance television interviews of Olympic athletes, we found that Japanese produced more emotion words than Americans in response to interviewer questions about their relationships with others such as their coach, teammates, family, or friends. Second, our examination of predicted responses to a win in the Olympic finals revealed corresponding differences in lay theories of emotion expression. Specifically, Americans thought that a typical reaction would involve self-focused emotions, such as "I feel joy," whereas Japanese predicted the typical reaction to contain emotions focused on both the self and others, such as "I would like to share my happiness with others." Thus, in Japanese cultural contexts, compared to American cultural contexts, expressions of emotion often co-occur with reference to others or interpersonal relationships.

In the final two studies, we focused on cultural differences in how people inferred emotions when given either relationship- or self-focused information about a target (i.e., a written description or a photograph). Across Studies 3, 4a, and 4b we found that Japanese were more likely than Americans to mention a target person's emotion when they were given relationship-focused information about the target. However, Americans, relative to Japanese, were more likely to mention a target person's emotion when they were given self-focused information about the target.

These results support the argument that individuals from Japanese cultural contexts understand emotions as arising in the relations between people, whereas those from American cultural contexts understand emotions as arising primarily within people. Importantly, by attending to these different underlying understandings of emotion the conflicting perspectives on where emotions reside and whether Japanese are relatively more versus less emotional (compared to North Americans) can be reconciled.

Where Do Emotions Come From?

These results support our contention that American and Japanese cultural contexts differ in beliefs about the sources of emotion. In Japanese contexts, emotions are not only, or primarily, the private, internal events that they are typically understood to be in American contexts. Instead, emotions are conceptualized as inherently relational phenomena. As a consequence, in Japanese contexts, emotions are likely to be experienced, expressed, and inferred when relationships are salient. Thus, compared to Americans, Japanese should be more emotional in the context of relationships and less emotional outside of such contexts. The principal contribution of the current work is to demonstrate the existence of systematic variation in the expression and inference of emotion across cultures that is consistent with the understandings of emotion and behavior prevalent in each context.

We suggest that the conceptualization of emotion prevalent in a culture corresponds to the predominant model of agency in that context. Emotion in North American cultural contexts has been defined within the framework of disjoint agency as an internal, within-person state. In this view, social factors, including other people or relationships with them, have been thought of as constraints on individuals' unique, personal emotions. Emotion in Japanese cultural contexts, however, is defined within the framework of conjoint agency as between people and relational in nature. Here, social factors are seen as necessary for the experience and expression of emotion.

Japanese Emotionality

Drawing on this divergent conceptualization of emotion and emotional experience across Japanese and American contexts, we are able to reconcile the conflicting accounts of "Japanese emotionality" (e.g., focusing attention on the emotions of other people) and "Japanese nonemotionality" (e.g., restraining emotional expression such as facial expression). Azuma (1994) suggested

that one specific characteristic of Japanese culture is "emotionism." He proposed that Japanese parents and children have a strong emotional bond and that parents tend to view their children as extensions of themselves. Because such emotion, experienced between people, is thought to be the basis of all social relationships, parents try to teach their children how to infer the emotions of others. This perspective suggests that children learn to experience, express, and understand emotions as relational or conjoint processes involving themselves in connection with others.

From the perspective of a disjoint model of agency, however, an individual's emotions are evoked, expressed, or inferred when the internal attributes of that person are salient. In settings where there is a focus on "individual" emotion without any social cues, such as experimental settings arranged according to disjoint models of agency, Japanese are less likely to express emotion and may sometimes inhibit them. This notion is consistent with, and may explain, previous findings that Japanese are emotional in some settings but emotionless in others.

Disengaging Emotion and Engaging Emotion

Research on emotion has shown that socially engaging situations, such as harmonious interaction with others, are prevalent in interdependent cultures, whereas socially disengaging situations, such as personal achievement, are more prevalent in independent cultures (Kitayama et al., 2000; Kitayama et al., 2006; Mesquita & Karasawa, 2002). Recently, Kitayama et al. (2006) found that Japanese experience socially engaging emotions such as respect or sympathy more strongly than European Americans, who in turn experience socially disengaging emotions such as pride more strongly than Japanese. These results show that emotions in Japanese cultural contexts are more likely to be associated with social situations and social relationships, whereas emotions in American cultural contexts are more likely to be related to the individual. Our present data support these findings. If Japanese experience engaging emotions more in engaging situations, their emotional expression would be more frequent when relationship cues are made salient. In contrast, if Americans feel disengaging emotions more in disengaging situations, their emotional expression would be more frequent when their individual agency is made salient. Further study should examine these possibilities.

Limitations and Future Directions

These studies have a number of limitations that pave the way for future research. First, the set of studies in this article did not examine expression and inference simultaneously in any one study. Are those who feel and express emotion in relationship-focused contexts also more likely to infer a target person's emotion in such contexts? Emotion inference is most likely related to emotion expression within a cultural context. For example, when individuals in one culture repeatedly express self-focused emotions in relationship-focused situations, such actions create and reinforce the understanding or inference of emotion as relational or between people. Future studies should examine the other ways in which people interact with each other and how expression and interference might co-construct each other.

Second, in this set of studies, we used emotion terms as the index of emotional expression and inference. However, verbal emotion expression is often controllable and thus may differ from implicit or automatic reactions to an event. In future studies, it will be important to assess emotional expression via less controllable facial expressions as well as in physiological reactions that may index emotional experience.

Finally, we should examine whether the results obtained in this series of studies can be applied to normative daily communication. Although we demonstrated that lay people understand that Olympic athletes tend to express emotion in a self-focused way in the United States and in a relationship-focused way in Japan, we did not examine how emotion is expressed in daily conversations of lay people. Future studies should explore whether emotional expression and inference in such interactions show the same pattern. Lutz (1988) argued that emotion is a cultural and interpersonal product created by people in relationships with each other. The cultural differences obtained in the current set of studies appear to be reflected in everyday understanding and experiences of emotion.

Conclusion

The present work provides evidence of substantial cultural variation in when emotion is expressed and inferred. Four studies demonstrate that Japanese and Americans express and infer emotion in differing contexts, suggesting that in Japanese cultural contexts emotions are understood as relationship-focused and between people, whereas in American cultural contexts emotions are understood as self-focused and within people.

NOTE

1. We only included emotion words that (a) are present in both American and Japanese languages and (b) are expressed in one or two words. Basic emotional words such as *happy*, *calm*, *excited*, *relieved*, *sad*, *depressed*, *angry*, *jealous*, *shame*, *surprised*, and *gratitude* were included. *Feeling pressure* was not included because it expresses the target person's situation and not his or her emotional state per se. These criteria were used in the other studies in this article as well.

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