

# The Role of Contempt in Intercultural Cooperation

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## Abstract

Little is known about the proximal variables linked to the fact that intercultural interactions produce less cooperation and more competition than intracultural interactions. A recent study demonstrated that comparatively poorer performances in intercultural dyads were linked to differences in the dyad's home country scores on Hofstede's dimension Power Distance. This finding suggested a potential role for the emotion of contempt because Power Distance refers to the distribution of power and status in a hierarchy, and contempt is an emotion related to perceptions of hierarchical status violations. We propose that intercultural interactions make status and hierarchical differences among individuals salient, thereby eliciting contempt; elicited contempt, in turn, has detrimental effects on cooperative behaviors. We tested this idea by reanalyzing the emotion data from the recent study described above. Non-U.S. interactants, who were from relatively higher Power Distance cultures compared with their U.S. counterparts, reported more contempt than did the U.S. interactants at the start of game play. Higher pre-session contempt, in turn, was associated with less cooperative and more competitive behaviors initially and at the end of game play. The findings provided support for the possible asymmetrical function of contempt in intercultural interactions.

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Intercultural interactions produce less cooperation and more competition than intracultural interactions in research using games such as Prisoner's Dilemma, Ultimatum, or the Trust Game (e.g., Bornhorst, Ichino, Kirchamp, Schlag, & Winter, 2009; Castro, 2008; Takahashi et al., 2008). These types of games have been widely used in studies of economic decision making (e.g., see reviews in Axelrod, 1997; Fehr & Fischbacher, 2003), as they typically pit the benefits of a single individual against the benefits of another or a group. As such they are commonly used in the psychological literature to examine cooperation, competition, punishment, trust and trustworthiness, and altruism.

One limitation of the intercultural literature using these games has been the lack of empirical evidence that links performance with cultural differences between the players. Without the measurement of such context variables, interpretations about the source of any observed differences to culture are empirically unjustified (Campbell, 1961; Matsumoto & Yoo, 2006).<sup>1</sup> A recent study closed this gap by linking cultural variables to the comparatively poorer performances of intercultural dyads. In this study (Matsumoto & Hwang, 2011), stranger dyads played a modified version of Prisoner's Dilemma known as a game of chicken (Rapoport & Chammah, 1966; chicken will be described more fully below in the "Method" section), either with a partner from the same country or not. The non-U.S. interactants came from cultures higher in Power Distance (PD) than the U.S. interactants (weighted mean PD index score for non-U.S. interactants = 74.53, range = 49-104; PD index score for U.S. interactants was 40.00). Intercultural dyads were less cooperative and more competitive than intracultural dyads, replicating previous findings. More importantly, poorer performances were associated with differences in the dyad's home country scores on Hofstede's (2001) dimension Power Distance, which refers to the degree to which cultures encourage power, status, and hierarchical differences within groups.

A limitation of that study, however, concerned the nature of the cultural distance scores computed. Differences in participants' home country scores on Hofstede's (2001) dimensions are abstract, diffuse, and not strongly linked to the participants. Power Distance is a country-level measure and a distal variable that can rarely matter to predict behavior at the individual level (Oyserman, Kimmelmeier, & Coon, 2002). While using Power Distance offered the advantage of not being tied to individual-level measurements that may be confounded by personality and to some extent offer an acceptable Type II error if nonfindings

occur, it was not clear what the differences specifically referred to, rendering definitive conclusions problematic. Simply linking cultural data on the national level may be insufficient to assess the cultural attributes of group members (Bakir, Landis, & Noguchi, 2004; interested readers are referred to Shenkar, 2001, for a more fundamental critique of cultural distance measures).

Thus, examining the potential role of more proximal variables that may account for cooperative and competitive behaviors in intercultural interactions is important. One potential variable is emotion. Research on cooperation and competition using games has increasingly focused on emotion (e.g., see reviews in Fessler & Haley, 2003; Finucaine, Alhakami, Slovic, & Johnson, 2000; Han, Lerner, & Keltner, 2007; Loewenstein & Lerner, 2003; Peters, Daniel, Garling, & Slovic, 2006; Slovic & Peters, 2006; van Winden, 2007), and for good reason. Emotions are rapid information-processing systems that aid individuals in making decisions and engaging in action with minimal conscious awareness (Tooby & Cosmides, 2008). Because they are reactions that result from appraisals of an event (Ellsworth & Scherer, 2003; Lazarus, 1991), emotions give hints as to how individuals interpret events and are important motivators of behavior (Frijda, Kuipers, & ter Schure, 1989; Tomkins, 1962, 1963). Instead of being seen as a source of irrationality, emotions are the “keys to our complexity, efficacy, and remarkable ability to cooperate” (Fessler & Haley, 2003, p. 33).

The extant literature on intercultural communication also points to a role for emotion. Intercultural interaction and communication produce “face threat” (Oetzel et al., 2001; Ting-Toomey, 1994), or threats to one’s social image or reputation, which raises uncertainty and anxiety among intercultural interactants (Gudykunst & Nishida, 1984, 2001; Gudykunst & Ting-Toomey, 1988). Intercultural interactions also bring about asymmetries in the quality of communication experiences, and greater asymmetries in communication bring about less effective interaction outcomes (Liu, Chua, & Stahl, 2010).

Previous research has highlighted a number of emotions that may be crucial for understanding cooperation and competition (in general, not related to intercultural interactions). These have included shame and guilt (Burton-Chellew, Ross-Gillespie, & West, 2010; Ketelaar & Au, 2003; Reuben & van Winden, 2010); irritation, envy, and joy (Bosman & van Winden, 2002); pleasure (Haselhuhn & Mellers, 2005); amusement and sadness (Harle & Sanfey, 2007); anxiety (Bosman & van Winden, 2010); and anger (see, for example, Ben-Shakhar, Bornstein, Hopfensitz, & van Winden, 2007; Lerner & Tiedens, 2006; Pillutla & Murnighan, 1996; Sanfey, 2007; Sanfey, Rilling, Aronson, Nystrom, & Cohen, 2003; Srivastava, Espinoza, & Fedorikhin, 2009; Yamagishi et al., 2009). The findings from Matsumoto and Hwang’s (2011) study, however, which implicated differences in Power Distance as a source of the observed

behaviors, hinted at the importance of an emotion heretofore not highlighted in the literature: contempt.

As mentioned above, Power Distance refers to the degree to which cultures encourage power, status, and hierarchical differences within groups. Egalitarian cultures minimize power and status differences, relegating individuals as equals, while status-oriented or hierarchical cultures emphasize such differences, affording more power to individuals of different status within a group. Establishing the power and status dynamics within a hierarchy is an important task for any group to establish or maintain social coordination and achieve goals. When individuals from different cultures interact, how they deal with affording each other power and status in a hierarchy may become a very salient and difficult task, even unconsciously. These potential power dynamics in the relationship suggest an important role for the emotion of contempt.

Contempt is an emotion related to transgressions of status and superiority (Hutcherson & Gross, 2011; Rozin, Lowery, Imada, & Haidt, 1999). When people feel contemptuous they make a statement about their superiority over someone or something else, and that the other is beneath them (Matsumoto & Ekman, 2004). Appraisals related to contempt concern status, moral or ethical superiority, and contempt is elicited by violations of communal codes and hierarchy and appraisals of other's incompetence or lack of intelligence (Hutcherson & Gross, 2011; Rozin et al., 1999). Contempt often results in the devaluation and diminution of others, and helps individuals establish or maintain their status in a social hierarchy. Contempt is one of the central emotions associated with the breakup of relationships (Gottman & Levenson, 2002; Gottman, Levenson, & Woodin, 2001). Increases in the expression of contempt by leaders of groups have been associated with acts of aggression perpetrated by those groups (Matsumoto, Hwang, & Frank, 2012), and individuals who engaged in group actions against their government experienced more contempt toward the outgroups against which they protested (Becker, Tausch, & Wagner, 2011; Tausch et al., 2011). Expressions of contempt may be signs of social aggression and exclusion when interacting with others (Underwood, 2004), and contempt has been implicated in theories of stereotype and prejudice (Brewer, 1999; Fiske, Cuddy, Glick, & Xu, 2002). Directly related to this study, Bosman and van Winden (2002) reported that contempt (and irritation) was associated with destruction rates in a Power-to-Take game. To our knowledge, however, no research has examined a link between contempt and cooperative behaviors in intercultural interactions.

We propose that contempt might be one of the main factors that leads to diminished cooperation and increased competition in intercultural interactions because of the asymmetry in status perceptions afforded by differences in Power Distance in initial encounters. On one hand, higher Power Distance

cultures are more likely to license contempt in perceived ingroup–outgroup interactions because of the relatively greater affordance of power to status and hierarchy. Contempt functions in this situation to make a statement about inherent superiority (Rozin et al., 1999), as it is the feeling when one judges another person as inferior (Fischer, 2011). On the other hand, relatively lower Power Distance cultures are more likely to denounce contempt toward outgroups, adhering to a more egalitarian ideology that all people (including outgroups) have inherent worth, and where respect is the default attitude (see Brewer, 1999, for a discussion about the role of contempt in prejudice; see Leung & Cohen, 2011, for a related discussion and egalitarian and dignity cultures; see Matsumoto et al., 2008, for data concerning cultural norms for the expression of contempt as a function of ingroups vs. outgroups). Thus, if individuals from relatively higher Power Distance cultures interact with individuals from relatively lower Power Distance cultures in an initial intercultural interaction, those from higher Power Distance cultures are more likely to experience greater contempt, especially if they perceive their lower Power Distance interactants as an outgroup or as lower in status. Elicited contempt, in turn, should have detrimental effects on cooperative behaviors in the subsequent interaction.

We tested this idea by reanalyzing the emotion data from the Matsumoto and Hwang (2011) study. Intercultural dyads participating in same-sex stranger dyads completed a 20-round game of chicken and rated the intensity of 12 emotions pre- and postsession. (Other emotions were also measured to assess the potential contribution of contempt.) We computed a number of objective, behaviorally based variables that were categorized as outcomes, cooperative behaviors, and competitive behaviors (more below) and examined how each was related to contempt. We tested the following hypotheses:

**Hypothesis 1:** Non-U.S. interactants (i.e., those from higher Power Distance cultures) would experience more contempt than the U.S. interactants at the beginning of the session. This hypothesis examined whether there was an asymmetry in emotional reactions centering on contempt prior to even engaging in the game, as this reaction would not have been affected by the subsequent plays of the game (and reactions to those plays).

**Hypothesis 2:** Presession contempt would be associated with less cooperative and more competitive behaviors at the start of game play. This hypothesis tested the effects of any presession emotional differences on the initial plays of the game.

**Hypothesis 3:** Presession contempt would be associated with less cooperative and more competitive behaviors and outcomes at the end of game play. This hypothesis examined how the initial emotional differences may have affected the game play for the entire procedure.

## Method

### *Participants*

The study included 41 U.S.-born-and-raised Americans (20 males, 21 females, mean age = 23.23) and 41 international students in the United States (20 males, 21 females, mean age = 25.27). The international students were all born and raised in another country (Central and South America,  $n = 7$ ; Europe,  $n = 6$ ; East Asia,  $n = 15$ ; Middle East,  $n = 2$ ; Africa,  $n = 2$ ; Central Asia,  $n = 1$ ; South and Southeast Asia,  $n = 8$ ), spoke a non-English language as their first and primary language, and had been in the United States for less than 2 years. (As mentioned previously, all non-U.S. students came from cultures higher in Power Distance than the U.S. students. It was possible that individuals from high Power Distance cultures who are international students in the United States by and large belong to the local elite in their home countries, which may facilitate the ingroup–outgroup elicitation of contempt as described above.) All were recruited from the San Francisco State University Psychology Department participant management system, were compensated US\$20 for their participation, and participated in same-sex stranger dyads. Each dyad consisted of one U.S.-born-and-raised American and one international student.

### *Game and Conditions*

*Description.* Participants played a modified game of chicken, which is an adaptation of the Prisoner's Dilemma (Rapoport & Chammah, 1966). Chicken has been noted to be an ideal game for contrasting cooperation and fairness with self-interest (Camerer, 1997). During the consenting procedures, participants were instructed that they will be playing a game with a partner and they will both be trying to increase their participation fee but that there was also the possibility that their participation fee decreased; that is, the final amounts they received depended on their play. In reality, this was a ruse and all participants were given a standard participation fee. Participant debriefing indicated that all participants believed the ruse.

Participants were told that they would be seated opposite each other at a table, that they could not talk with each other during the experiment, and that an experimenter will be seated on one side of the table. Each participant was given 20 US\$1 coins and a yellow and blue card. They were told that they had to decide whether to play the blue or yellow card within the time allotted each round (20 s), that there would be a divider on the table that prevented them from seeing the other side of the table, and that the following payoffs would occur at the end of each round:

Player 1	Player 2	Player 1 payoff	Player 2 payoff
Blue	Blue	-US\$4	-US\$4
Blue	Yellow	+US\$2	-US\$2
Yellow	Blue	-US\$2	+US\$2
Yellow	Yellow	+US\$1	+US\$1

A member of the research team delivered these standardized instructions to the dyad in a consenting room. All participants acknowledged their understanding of the instructions and payoffs prior to being led to a separate experimental room, where they met a different experimenter who administered the game.

Play began once the players and experimenter were settled. The experimenter placed the divider and announced the start of the round and pressed a stopwatch. At the end of each round, the experimenter announced “stop,” lowered the divider, and announced the payoffs. Players who lost money handed it to the experimenter; players who gained money received it from the experimenter. Once payoffs were completed, the experimenter raised the divider and began the next round in the same manner. Play continued for 20 rounds, or until one of the players had lost all their money.

*Behaviors and outcome variables.* We extracted the following sets of behaviorally based variables for each participant on the individual level. The first included two variables that assessed the overall outcome of the game play:

#### *Overall outcomes*

- Total trials. Although 20 was the maximum number of trials allowed, a number of dyads finished earlier because one of the players ran out of money. Larger number of trials, therefore, indicated more cooperative game play overall.
- Total payoffs. This was the final amount of money each individual had at the end of play.

The next two sets of variables included behavioral variables characterized as either cooperative or competitive behaviors:

#### *Cooperative behaviors*

- Total yellow plays. Playing the yellow card was indicative of cooperation, trust, and vulnerability. This was the sum of the yellow card plays for the individual.

- Cooperation (number of times a participant played yellow after yellow was played by both)
- Forgiveness (number of times a participant played yellow after having played yellow but blue was played by the partner)
- Reparation (number of times a participant played yellow after playing blue but yellow was played by the partner)
- Reconciliation (number of times a participant played yellow after blue was played by both)
- Total cooperative acts (sum of cooperation, forgiveness, reparation, and reconciliation).

### *Competitive behaviors*

- Total blue plays. Playing the blue card was indicative of competitiveness, defection, or betrayal. This was the sum of the blue card plays for the individual.
- Betrayal (number of times a participant played blue after yellow was played by both)
- Retaliation (number of times a participant played blue after playing yellow but blue was played by the partner)
- Defection (number of times a participant played blue after playing blue but yellow was played by the partner)
- Stalemate (number of times a participant played blue after blue was played by both)
- Total competitive acts (sum of betrayal, retaliation, defection, and stalemate).

### *A third set of variables was derived from dyad-level behaviors*

- Total yellow–yellow plays. This was an index of the degree to which both participants played cooperatively.
- Total blue–blue plays. This was an index of the degree to which both participants played competitively.
- Total yellow–blue plays. This was the total number of times when one participant played cooperatively but the other did not.

### *Self-Reported Emotions*

Participants were instructed to rate the intensity that they were currently feeling each of the following emotions: anger, contempt, disgust, fear, happiness, sadness, surprise, pride, shame, embarrassment, guilt, interest, and other (with participant completion). They used 9-point scales anchored 0, not experiencing the emotion at all to 8, the most intense feeling of this emotion that

a person could ever feel. These scales were completed twice, once at the end of the instruction and consent procedures prior to the dyad going to the experimental room, and a second time immediately after the completion of the experiment and the beginning of the debrief.

### Personality Measures

All participants completed the Neo-Five Factor Inventory (NEOFFI; Costa & McCrae, 1989, 1992), a 60-item version of form S of the NEO-PI-R that provides a measure of the five-factor model: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Convergent and discriminant validity is excellent. Scores were computed for each of the five personality traits (all  $\alpha$ s > .70).

Participants also completed the Emotion Expressivity Scale (Kring, Smith, & Neale, 1994), a 17-item scale that measured overall emotional expressivity. Respondents rated each item using a 6-point scale labeled “*never true*” = 1 to “*always true*” = 6. After reverse coding 11 items, all items were summed to create a score ( $\alpha = .89$ ).

## Results

### *Hypothesis 1: Pre-session Differences in Contempt between U.S. and Non-U.S. Interactants*

Participants were nested within dyads, so in some cases below, we analyzed data using dyad as the unit of analysis according to the recommendations by Kenny, Kashy, and Bolger (1998). We first tested the difference between the interactants' pre-session emotions. As predicted, the non-U.S. interactants experienced significantly higher levels of contempt at pre-session compared with the U.S. interactants ( $M = 2.17$ ,  $SD = 1.21$  vs.  $M = 1.51$ ,  $SD = 1.03$ ),  $t(80) = 2.66$ ,  $p < .01$ ,  $d = .60$ . Interestingly, the interactants did not differ on any other emotion at pre-session.

Matsumoto and Hwang (2011) also reported data from intracultural dyads involving only U.S. interactants. We therefore tested the difference in pre-session contempt between the non-U.S. interactants in the present study with the combined U.S. interactants in the intracultural study reported by Matsumoto and Hwang (2011). The non-U.S. interactants in the present study had significantly higher contempt than did the U.S. interactants in the previous intracultural study,  $t(159) = 2.12$ ,  $p < .01$ ,  $d = .39$ . Moreover, there was no difference in pre-session contempt between the interactants in the intracultural study,  $t(60) = .31$ , *ns*. Thus, Hypothesis 1 was supported and demonstrated the existence of an asymmetry in emotional experience of contempt between the intercultural interactants.

## ***Hypothesis 2: Relationship Between Pre-session Contempt and Initial Behaviors***

On the very first play of the game, a significantly higher percentage of non-U.S. participants (41.5%) played blue compared with the U.S. participants (17.1%),  $\chi^2(1, 82) = 5.89, p < .01$ . We examined whether those individuals who played blue had indeed reported higher contempt at pre-session by computing *t* tests on pre-session contempt as a function of whether the participant played yellow or blue, separately for U.S. and non-U.S. participants. For both groups, participants who played blue on the very first play had significantly higher pre-session scores on contempt,  $t(39) = 2.33, p < .05, d = .92$ ; and  $t(39) = 2.32, p < .05, d = .75$ . No other pre-session emotions differentiated the initial play.

On the dyad level, 18 dyads played yellow–yellow, 22 played yellow–blue, and one played blue–blue. We categorized dyads into those who engaged in yellow–yellow (cooperative) or Other (competitive) plays, and computed one-way ANOVAs on their pre-session emotions. As predicted, dyads who played Other had significantly higher ratings on contempt ( $M_{Other} = 4.87, SD = 3.14; M_{yellow-yellow} = 2.17, SD = 2.53$ ),  $F(1, 39) = 8.85, p < .01, \eta_p^2 = .19$ . No other emotions produced significant results. Note also that the levels of contempt were not trivial.

We then counted the number of yellow–yellow plays by the dyads for Rounds 2 to 5 and correlated these with the pre-session emotions. As predicted, pre-session contempt was negatively correlated with the number of yellow–yellow plays,  $r(41) = -.35, p < .05$ . Surprisingly, disgust and guilt were also correlated, but positively,  $r(41) = .42, p < .05$ ; and  $r(41) = .52, p < .05$ , respectively. Thus, dyads with less pre-session contempt and more disgust and guilt engaged in more cooperative plays from the beginning of game play.

## ***Hypothesis 3: Relationship Between Pre-session Contempt and Behaviors and Outcomes at the End of Game Play***

We examined whether pre-session contempt was predictive of overall behaviors and outcomes across the entire game by correlating pre-session emotions with the behavior and outcome variables derived from game play. As predicted, pre-session contempt was negatively correlated with total cooperation, total cooperative acts, total yellow–yellow plays, and total dollar payoffs, and positively correlated with total defection, total reconciliation, total competitive acts, and total blue–blue plays. The same correlations were computed for the other pre-session emotions as well. The findings for pre-session shame and

**Table 1.** Listing of Significant Correlations Between Preession Emotions and Behavioral Outcomes at the End of Game Play.

	Contempt	Pride	Shame	Guilt
Total cooperation	-.366**		.432**	.415**
Total cooperative acts	-.399**			.357*
Yellow–yellow plays	-.374*		.342*	.403**
Total dollar payoffs	-.358*		.380*	.331*
Total betrayal			-.333*	
Total retaliation			-.342*	
Total reparation			-.337*	
Total defection	.331*	.377*		
Total reconciliation	.320*		-.380*	
Total stalemate				
Total competitive acts	.361*		-.519**	-.365*
Blue–blue plays	.317*			
Yellow–blue plays			-.325*	-.351*

Note. All correlations evaluated using two-tailed tests. Nonsignificant correlations were deleted.

\* $p < .05$ . \*\* $p < .01$ .

guilt mirrored many of the same relationships as that of contempt in the opposite direction. Preession pride was also significantly associated with two types of behaviors (Table 1).

We also examined the number of dyads that completed the trials. In fact, 21 of the 41 dyads (51%) played the full 20 rounds; the other 20 dyads completed less (range = 6-19). One-way ANOVAs testing each of the behavior and outcome variables between dyads who completed all 20 trials and those who did not indicated substantial differences between the two groups. Dyads that completed all 20 rounds had significantly greater proportion of cooperative plays, while dyads that did not complete all 20 rounds had significantly greater competitive plays. Dyads that did not complete 20 rounds earned an average of US\$13; those that completed all 20 rounds earned an average of US\$51 (Table 2).

To examine whether preession emotions were associated with whether or not dyads completed the trials, we correlated each of the preession emotion ratings with the number of completed trials. As predicted, dyads that had higher preession contempt completed fewer trials,  $r(41) = -.38, p = .013$ . No other preession emotion was correlated with the number of subsequently completed trials.

**Table 2.** Means and Standard Deviations for the Proportion of Each of the Behaviors and Outcomes Derived From Game Play, Separately for Dyads Who Completed 20 Rounds and Those That Did Not, and *F* Tests Comparing Their Means.

Variable	<20 Rounds		20 Rounds		<i>F</i> (1, 39)	<i>p</i>	$\eta_p^2$
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Total cooperation	0.072	0.153	0.425	0.304	21.673	.000	.357
Total reparation	0.085	0.074	0.138	0.088	4.245	.046	.098
Total cooperative acts	0.335	0.164	0.695	0.152	52.919	.000	.576
Yellow–yellow plays	0.128	0.181	0.540	0.269	32.886	.000	.457
Total dollar payoffs	13.300	14.928	51.333	19.425	49.055	.000	.557
Total retaliation	0.146	0.057	0.086	0.072	8.826	.005	.185
Total defection	0.151	0.081	0.048	0.051	24.245	.000	.383
Total reconciliation	0.087	0.043	0.032	0.035	20.305	.000	.342
Total stalemate	0.223	0.145	0.030	0.041	34.375	.000	.468
Total competitive acts	0.573	0.139	0.255	0.152	48.881	.000	.556
Blue–blue plays	0.364	0.180	0.064	0.069	50.683	.000	.565
Total betrayal	0.053	0.060	0.092	0.063	4.063	.051	.094
Total forgiveness	0.090	0.063	0.100	0.071	0.211	.649	.005
Yellow–blue plays	0.508	0.162	0.395	0.236	3.170	.083	.075

### Mediation Analyses

Given our theoretical framework positing contempt as an intervening variable between Power Distance and cooperation, it was important to examine whether pre-session contempt mediated differences between Power Distance and the behavioral outcomes. Differences in dyad Power Distance scores were correlated with the dyad's pre-session levels of contempt,  $r(39) = .32$ ,  $p = .05$ , satisfying the first requirement of mediation. We then computed hierarchical regressions on the dyad's first play (Cooperative: yellow–yellow or not), total cooperative acts (at the end of play), and total payoffs, using the difference in the dyad's Power Distance scores on the first step and the dyad's pre-session contempt on the second. In each case, the  $\Delta R^2$  on the second step was significant, indicating that the addition of the dyad's pre-session contempt contributed unique variation to the prediction of the outcome variables:  $\Delta R^2 = .26$ ,  $p = .004$ ;  $\Delta R^2 = .15$ ,  $p = .01$ ; and  $\Delta R^2 = .10$ ,  $p = .04$ , respectively. Sobel tests indicated that pre-session contempt mediated the relationship between Power Distance and the very first play of the game,  $z = 1.65$ ,  $p = .05$ , and was marginally significant for total cooperative acts and total payoffs,  $z = 1.57$ ,  $p = .06$ ; and  $z = 1.44$ ,  $p = .08$ .

We also computed mediation analyses examining whether the first play of the game mediated the effect of pre-session contempt on total cooperative acts. Hierarchical regression on total cooperative acts using pre-session contempt on the first step and first play (cooperative yellow–yellow or not) on the second produced a significant  $\Delta R^2 = .29, p = .000$ . A Sobel test indicated that the first play did indeed mediate the relationship between pre-session contempt and total cooperative acts across game play,  $z = 2.44, p = .007$ .

Although pre-session contempt was associated with behaviors and outcomes at the end of the game, total cooperative acts were also highly positively correlated with total dollar payoffs,  $r(41) = .95, p < .001$ . Thus, we conducted mediation analyses to determine whether total cooperative acts mediated the relationship between pre-session contempt and final total dollar payoffs. Sobel tests indicated that total cooperative acts mediated this relationship,  $z = 2.52, p < .01$ . The standardized coefficient for pre-session contempt when total cooperative acts was entered into the regression was not significant,  $\beta = -.01, ns$ , indicating complete mediation. Thus, pre-session contempt led to less cooperation, which in turn led to less positive overall outcomes by the end of the game.

### Post Hoc Analyses

The personality variables may have correlated with the behavioral outcomes and possibly confounded relationships with contempt. Matsumoto and Hwang (2011) had previously reported that the only difference between the U.S. and non-U.S. participants was on openness, and differences in openness were negatively correlated with a number of outcomes. We recomputed the correlation between pre-session contempt and total cooperative acts, total competitive acts, and total payoffs, partialling differences in openness. The partial correlations were still significant for total cooperative acts and total payoffs,  $r_p(38) = -.42, p = .003$ ; and  $r_p(38) = -.37, p = .009$ , respectively. Interestingly, reversing the partial correlations indicated that differences in openness also still significantly correlated with these same outcomes even when pre-session contempt was controlled,  $r_p(38) = -.41, p = .01$ ; and  $r_p(38) = -.35, p = .027$ , respectively. This suggested that personality and emotion (contempt) may have contributed somewhat independently to the outcomes.

### Discussion

The findings provided support for the possible function of contempt in intercultural interactions. The non-U.S. participants came from countries higher on Power Distance (Matsumoto & Hwang, 2011), and differences in Power

Distance were associated with levels of pre-session contempt. The non-U.S. interactants had higher pre-session contempt than did their U.S. counterparts in both the present study and when compared with the intracultural dyads reported previously (Matsumoto & Hwang, 2011). Pre-session contempt was the only emotion that was predictive of the very first play of the game; participants and dyads who experienced greater contempt at pre-session were more likely to play competitively with a blue card on the very first play of the game, and throughout the first half of the entire session. By the end of the game, participants who had greater pre-session contempt played fewer rounds, made less cooperative and more competitive decisions, and made less money. Pre-session contempt mediated the relationship between differences in the dyads' levels of Power Distance and the behavioral outcomes at the end of the game. Moreover, cooperative acts on the first play and across all subsequent plays of the game appeared to mediate the relationship between pre-session contempt and the outcomes at the end of the game. The effects of emotion (contempt) appeared independent of personality differences.

These findings were not produced without limitation, the largest of which was the correlational nature of the experimental design, which precluded the possibility of making any causal inferences about the relationship between the emotions reported and the behaviors and outcomes. We deemed this design acceptable to assess the possible role of contempt (and other emotions) in intercultural interactions, examining whether or not it was even associated with cooperation or outcomes. We reckoned that demonstrating the existence of such associations was a necessary first step in this line of research, and that if documented, future research could examine the causal links of those associations in more detail.

Moreover, we obtained self-reports only at pre- and post-session. This allowed us to examine only gross changes in emotional experiences from beginning to the end but not on a moment-to-moment basis, which would have given a more complete picture of the emotions that occurred during play. Such assessment would have allowed a better picture of the functions of emotions as both reactions to previous plays as well as motivators of subsequent plays. Obtaining self-reports throughout the experiment, however, would have been impractical, and behaviors might have been confounded by such procedures. Thus, we opted to only obtain pre and post-session experience ratings, and the findings need to be interpreted with the limitations associated with that time sampling.

Another limitation concerned the choice of emotion terms that participants rated. We chose emotion terms that were not synonyms of each other and that were empirically or theoretically related to cooperative and competitive behaviors in economic decision-making games. However, it was possible

that they did not survey the emotion landscape in sufficient complexity to capture the wide range of emotional experiences that would be possible in that situation. Relatedly, the emotion ratings (and all other ratings and procedures) were conducted in English, and the effect of this is unclear. Future studies will need to include a broader range of rating alternatives and possibly protocols in different languages.

A final limitation concerned the fact that the international students who participated in this study were acculturated to some degree to the American culture. As in most universities, international students must have a specified level of English language ability to be admitted, and if English language ability is a proxy of acculturation level, that would suggest that they were acculturated to some (a substantial) degree to American culture. Although we restricted participation to international students who had been in the United States for 2 years or less, unfortunately, we did not collect acculturation data to make more precise determinations of acculturation levels. The wide variation in the students' levels of acculturation, however, should have worked against finding differences in game play or emotions, which would have been an acceptable Type II error. Thus, the differences in game play Matsumoto and Hwang (2011) previously reported as well as the emotion differences reported here may be an underestimation of the differences that may actually occur in intercultural situations. Future studies involving interactants from targeted cultural groups and/or specific combinations of culture and personality characteristics are necessary in further elucidating the effects reported here.

Despite these limitations, the findings provided interesting glimpses into the possible role of contempt in intercultural interactions. This was predicted based on a previous study documenting the linkage between differences in Power Distance between the home countries of same-sex intercultural dyads and their comparatively poorer performance compared with intracultural dyads (Matsumoto & Hwang, 2011). We proposed that the initial interactions between the interactants produced an asymmetry in status perceptions (afforded by differences in Power Distance), which in turn facilitated the elicitation of higher levels of contempt for the non-U.S. interactants (because they came from home cultures higher on Power Distance than their U.S. counterparts). (It was possible to consider that in high Power Distance cultures, there are generally few individuals of high power and status and many of low status and power, which should in turn lead to fewer feelings of contempt in these societies; however, our findings did not support this idea.) Higher contempt, in turn, had detrimental effects on behaviors. This was supported by the meditational analyses. When it existed, the effects of contempt were the same for both U.S. and non-U.S. players, as individuals and dyads

in both groups who played blue on the very first play of the game had higher contempt scores than those who played yellow. Thus, the function of contempt was the same when elicited, and the effects persisted across game play, which corresponded to the nature of contempt as characterized by rejection, derogation, and social exclusion of others in both short and long term, implying more negative and permanent changes in beliefs about another person (Fischer & Roseman, 2007). A major contributor to the poor performance of intercultural dyads relative to intracultural dyads, therefore, likely was the asymmetry in the status perceptions at the beginning of the game play, which facilitated greater contempt in some interactants.<sup>2</sup>

Changes in emotions from pre- to postsession also speak to the unique function of contempt. Matsumoto and Hwang (2011) previously reported that the American students increased in contempt from pre to postexperiment; the non-U.S. students increased in happiness and pride and decreased in guilt. That the Americans increased in contempt was interesting and may have reflected a reaction to the contempt by the non-U.S. interactants and their competitive plays. Changes in contempt from pre- to postsession, however, were not significantly correlated with any outcome variables. Thus, it appears that, by the end of game play, the outcomes may have been more determined by previous plays than by contempt.

Other emotions were also related to some behaviors and outcomes. For example, pre-session disgust and guilt were associated with more cooperative plays at the beginning of game play (but after the very first play). The findings for guilt were consistent with other studies that have demonstrated a link between guilt and cooperation (Burton-Chellew et al., 2010; Ketelaar & Au, 2003; Reuben & van Winden, 2010). That pre-session disgust was positively correlated with cooperative behaviors was counterintuitive; inspection of the pre-session mean for disgust, however, suggested that it was negligible,  $M_{disgust} = .58$ ,  $SD = 1.09$  (which was not true of contempt). Thus, the correlations with pre-session disgust may have reflected statistical artifacts due to floor effects.

As predicted, pre-session contempt was also associated with total behaviors and outcomes at the end of game play, and this relationship was mediated by cooperative acts on the first play and across all subsequent plays. Pre-session shame and guilt were also associated with behaviors and outcomes at the end of game play, but in the opposite directions than contempt. To a lesser extent, pre-session pride was also associated with some behaviors at the end of game play. The findings regarding shame and guilt are commensurate with previous research examining these emotions (Burton-Chellew et al., 2010; Reuben & van Winden, 2010). Reuben and van Winden (2010), for instance, showed that guilt induced proposers to make fairer claims in the Power-to-Take Game.

To be sure, interpretations regarding the associations between pre-session emotions and behaviors and outcomes at the end of game play are tenuous at best, given that the emotions and behaviors after the first play of the game may have affected each other, thus rendering interpretations about causality or reaction unclear. For this reason, the finding that that pre-session contempt was the only emotion that differentiated the interactants at the start of game play and predicted the very first play of the game was compelling. That cooperative behaviors in the first play and at the end mediated the relationship between pre-session emotions and total dollar payoffs at the end also suggested the mechanism by which initial asymmetries in contempt affected overall outcomes. The association between pre-session contempt and the very first play of the game, however, was not clouded by emotional reactions to intermediary plays.

As mentioned above, the non-U.S. participants in this study came from home countries with Power Distance scores higher than that of the United States. It would be interesting to examine whether the same effects occurred for participants from countries with Power Distance scores lower than that of the United States. Such an experiment could examine whether contempt is differentially elicited and affects cooperation as it did in the current study. It is possible that the findings above are limited to cultures relatively higher on Power Distance, and should be tested in the future. Future studies should also examine intracultural dyads from cultures differing in levels of Power Distance, and different types of intercultural dyads (not limited to partners from the United States), to examine whether the effects observed above are limited to intercultural dyads in general or when interacting with U.S. Americans. For instance, knowing whether the effects of contempt are similar with U.S.–U.S. dyads could help to clarify two alternative views of the functions of contempt. On one hand, contempt may reduce cooperation if one is obviously playing against an outgroup member; in this case, contempt should only be related to reduced cooperation in the intercultural dyads, but not in the U.S.–U.S. dyads. On the other hand, contempt may be sufficient to reduce cooperation, regardless of how it is elicited, in which case it should have similar effects even in the intracultural dyads.

It was also interesting that the effects of emotion appeared to be independent of any personality differences between the interactants, and that both emotion and personality uniquely predicted the behavioral outcomes. Future research will need to explore the effects of individual differences, and dyadic differences in those individual differences, on cooperation and outcomes. Future research will also need to examine the causal link between contempt and initial behaviors more directly, and the reasons why participants may feel contemptuous in those situations in the first place.

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## Notes

1. One study actually included measures of cultural values on the individual level to attempt to link the cultural measure with performance outcomes (Cox, Lobel, & McLeod, 1991). Unfortunately, none of the predicted group differences on the cultural values measure was significant, and thus, the empirical linkage could not be demonstrated.
2. It is important to note that the participants met before they gave the first emotion ratings. Thus, the relatively higher ratings of contempt by the non-American participants may have been elicited by some qualities of their American partners.

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