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Ethnic Differences in Display Rules Are Mediated by Perceived Relationship Commitment

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This study investigated whether Asian Americans and European Americans differ in how to express and modify their perceived emotions in various relationships, and whether those ethnicity differences are mediated by self-reported ratings of perceived relationship commitment to the interactants. Seventy-four Asian American and 84 European American students at San Francisco State University participated in the study. Asian Americans and European Americans differently endorsed the expressivity and modification of their emotional expressions; Asian Americans endorsed the expression of their emotions less than European Americans, but endorsed the modification of their expressions more. Those findings were significantly related to ratings of perceived commitment to the interactants, and the perceived relationship commitment ratings mediated the ethnic group differences on endorsed expressivity. We concluded that some ethnic group differences in display rules for emotional expressions were accounted for by ethnic group differences in perceived relationship commitment.

Keywords: display rules, emotion, ethnicity, relationship

Research on emotion expression and experience has been a major topic of interest for decades and findings have been applied widely to many areas such as clinical and cultural psychology. Previous studies (reviewed below) have reported ethnic group differences on emotional expression. We further investigated this topic by examining ethnic differences in endorsed display rules as a potential source of differences in expression, and by testing whether those ethnic differences in display rules are accounted for by differences in perceived relationship commitment.

Ethnicity, Emotional Expressivity, and Display Rules

People of different ethnicities vary in how they express emotion in some social situations. For example, Aune and Aune (1996) examined

cultural differences in the intensity of the experience and expression of positive and negative emotions in romantic relationships among European American, Japanese American, and Filipino American samples. Filipino Americans rated emotion experience, expression intensity, and appropriateness of expression higher than Japanese Americans. Tsai, Chentsova-Dutton, Freire-Bebeau, and Pryzmus (2002) assessed facial behavior and physiological reactivity between Asian Americans and European Americans by recalling and reliving past episodes of intense happiness, pride, love, anger, disgust, and sadness. Participants rated how intensely they felt the target emotion during the original event while they tried to relive the emotion using a 9-point Likert scale. Although more cultural similarities than differences were found, European Americans showed more social smiles. Camras, Chen, Bakeman, Norris, and Cain (2006) compared facial expressivity among European American, Mainland Chinese, and Chinese American girls and found that European American girls were more expressive than both the Mainland Chinese and Chinese American girls in positive emotions; European American girls smiled more than Mainland Chinese and Chinese American girls to emotionally evocative slides and scored higher than Main-

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land Chinese girls for disgust-related expressions and overall expressivity.

One reason ethnic group differences in emotional expressions exist may be because of display rules (Ekman & Friesen, 1969; Matsumoto, 1990). These are cultural norms learned early in life that govern the regulation of expressive behaviors depending on social contexts (Ekman & Friesen, 1969; Matsumoto et al., 2005, 2008). Display rules can manage emotional expressions (both verbally and nonverbally) in several ways. Individuals can express emotions as they feel them with no modification. But individuals can also exaggerate (amplify) or minimize (deamplify) their expressions; for instance, feelings of sadness may be amplified at funerals or deamplified at weddings. People can mask or conceal their emotions by expressing something other than what they feel, as when nurses or physicians hide their emotions when speaking with patients with terminal illness, or when employees in service industries (e.g., flight attendants) interact with unruly customers. Individuals may also learn to neutralize their expressions, expressing nothing, such as when playing poker. People can also qualify their feelings by expressing emotions in combination, such as when feelings of sadness are mixed with a smile, with the smile commenting on the sadness, saying to others "I'll be OK." Individuals can also simulate emotions—displaying them even though they are not felt at all. These modes of expression management have been found to occur when spontaneous expressive behaviors have been studied (Cole, 1986; Ekman & Rosenberg, 1998).

But even though display rules may account for the ethnic group differences in emotional expression, to date there is not much evidence for ethnic group differences on display rules. One study that was close was Matsumoto's (1993), which reported "display rule" differences among Caucasian, Black, Asian, and Hispanic Americans. This study was limited, however, because what was actually measured were self-reported appropriateness ratings of facial expressions of emotion and not display rules *per se*. While appropriateness is certainly related to display rules, it does not reflect how individuals manage or modify their expressions, which is the core of the display rule concept. This same limitation applied to Aune, Buller, and Aune's

(1996) appropriateness ratings of emotional displays.

Similarly, Gross and John (2003) developed the Emotion Regulation Questionnaire (ERQ), which scores two subscales: Reappraisal and Suppression. They reported that European Americans had significantly lower Suppression scores than Latinos, Asians, and Blacks. Their four-item measure of Suppression, however, did not capture the diversity of ways display rules can influence expressions, including how individuals modify their expressions if they do suppress them (more below).

Fortunately, a direct measure of display rules was developed and validated by Matsumoto, Yoo, Hirayama, and Petrova (2005) called the Display Rule Assessment Inventory (DRAI). Matsumoto and colleagues provided evidence for the DRAI's internal and temporal reliability and for its content, convergent, discriminant, external, and concurrent predictive validity. Americans, Russians, and Japanese demonstrated predictable cultural differences on each of the expressive modes, demonstrating how emotional expressions were modified in some social contexts.

Later, Matsumoto, et al. (2008) examined the display rules of 32 countries around the world using an improved version of the DRAI. The inventory asked participants about how they would regulate their displays of seven emotions in 42 situations (21 interactants in two settings; private and public) when in different social contexts to seven discrete emotions (anger, contempt, disgust, fear, happiness, sadness, and surprise). The results demonstrated cultural differences in display rules across the 32 countries, providing further evidence for the utility of the DRAI.

A unique aspect of the DRAI is that it assesses six modes of expression management (expression, deamplification, amplification, neutralization, qualification, masking), consistent with the ways in which emotional displays can actually be modified when emotions are elicited in real life. This is quite different than measuring an expression versus suppression continuum, which is a common practice (ERQ, Gross & John, 2003; Emotional Expressivity Scale; Kring, Smith, & Neale, 1994). That is, even though individuals may suppress their emotional response, they can do so by showing nothing else (neutralization in DRAI terminol-

ogy) or by showing something else (qualification, masking, or even amplification, in DRAI terminology). Thus a global rating of “suppression” is somewhat misleading because it glosses over the difference between not showing the original emotional response and showing something else. The DRAI addresses this conceptual and empirical limitation by allowing individuals to select which of the various behavioral responses they would engage in, allowing for the derivation of multiple scores related to expression management. In the current study we derive two scores of expression management, one having to do with expression versus neutralization, the second having to do with the degree of modification of the original response. The former is akin to expression versus suppression scales and refers to the degree to which individuals will express the *original emotion*; the latter refers to the degree to which individuals will express *something else* instead of or in addition to the original emotion. These are conceptually two different facets of expression management heretofore not considered in the literature.

Perceived Relationship Commitment

If ethnic group differences in display rules exist, a subsequent question that arises concerns the source of those differences. One important source that should influence display rules concerns the nature and quality of the relationship between the interactants when emotions are aroused, and several studies have provided evidence for how relationships influence emotional expression and perception (Gonzaga et al., 2006; Sternglanz & DePaulo, 2004). While there are many approaches to characterizing relationships, such as attachment theory (Bowlby, 1969; Kuncze & Shaver, 1994), relationship type (Clark & Finkel, 2005), or intimacy (Reis & Shaver, 1988), in this article we focused on the construct of perceived relationship commitment, which we define as the motivation to meet and interact in the future and associated subjective feeling of closeness. We considered this construct to be especially important to display rules governing emotional displays because individuals’ management of emotional expressions in an interaction likely depends on the potential for future interactions with the same person. If, on the one hand, the possibility or motivation for meeting the same

person again at a later time is high, then individuals will be more likely to express emotions as they feel them, with less modification, because open expression of emotion can be interpreted as a sign of honest signaling indicative of trustworthiness or cooperation (Boone & Buck, 2003). If, on the other hand, the possibility or motivation for meeting the same person again later is low, then individuals will be more motivated to manage their emotional displays in the current interaction, hiding what they truly feel. Thus, we consider that perceived relationship commitment is a major factor influencing display rules.

To date, many measures of the quality of relationships have been developed, such as the Relationship Closeness Inventory (Berscheid, Snyder, & Omoto, 1989) or the Experiences in Close Relationships Scale (Brennan, Clark, & Shaver, 1998; Shaver, & Fraley, 2000; see Bartholomew & Shaver, 1998 for a review of other scales). These methods involve subjective assessment by participants, which might be desirable and unavoidable as they are the only people who can determine aspects of their relationships with others. Unfortunately, none of them assess relationship commitment. The closest measure used to date was Gonzaga et al.’s (2006) study, where the researchers created a simple five-item scale of commitment, which produced acceptable reliability. Interestingly, Gonzaga et al. (2006) reported that there were no ethnic differences across Asian, Caucasian, or Latino couples.

Gonzaga et al.’s (2006) scale, however, was intended for romantic relationships, and could not be used to survey the broad types of relationships that can be assessed for display rules. Thus in the current study we created a brief scale to assess perceived relationship commitment that was applicable to all of the interactants assessed by the DRAI. We hypothesized that there will be ethnic group differences in ratings of perceived relationship commitment of different types of relationships within which display rules were assessed. Because perceived relationship commitment comprises an important aspect of social context and because social context is an important determinant of display rules, we also hypothesized that ethnic group differences in ratings of perceived relationship commitment will mediate ethnic group differ-

ences in display rules assessed in those relationships.

Purpose of Study and Hypotheses

The purpose of this study, therefore, was to document the impact of ethnicity on display rules using the DRAI. Specifically, we hypothesized that (a) European Americans would endorse expressions of emotions more than Asian Americans, while (b) Asian Americans would endorse modifying expressions more, consistent with previous findings of ethnic differences in expressive behavior. Moreover, our goal was to go beyond the simple documentation of ethnic variations in expression management and to explore what other factors might account for the observed ethnic group difference in display rules. Thus, we also hypothesized that (c) there would be ethnic differences in perceived relationship commitment with interactants, and (d) perceived relationship commitment will mediate the ethnic group differences in display rules.

Methods

Participants

Eighty-four Asian Americans (reporting the following ethnic origins; 11 Asian unspecified, 26 Chinese, 1 Chinese/Taiwanese, 9 Japanese, 1 Korean, 4 Vietnamese, 1 Thailand, 2 Cambodian, 1 Laotian, 3 Pacific Islander, 24 Filipino, 1 other Asian; mean age = 19.63) and 74 European Americans (reporting these ethnic origins; 57 Caucasian unspecified, 3 Caucasian central/eastern European, 9 Caucasian western European, 4 Caucasian southern European, 1 Caucasian Russian; mean age = 19.45) participated. All were undergraduate students at San Francisco State University and were born and raised in the U.S.

Procedures

Participants were provided with one of eight versions of the DRAI and Perceived Relationship Commitment items, along with a packet of other measures that were not germane to this study. The different versions had different orders of interactants to eliminate order effects. Participants either completed the measure in class or took the measure home to complete and

return within 7 days, and participated voluntarily.

Instruments

Display rules. An abridged version of the DRAI (Matsumoto et al., 2005) was used to measure display rules. It was comprised of a series of items concerning how one should express an emotion (anger, contempt, disgust, fear, happiness, sadness, and surprise) in a variety of situational contexts (e.g., with an interactant at home or at a restaurant). Participants were asked to report how they should express seven emotions toward six interactants in public or private settings, yielding 84 survey items. The six interactant situations were Alone, with Parents, Older Siblings, Close Friends, Acquaintances, and Professors. These interactants were selected because they produced the maximum differences in display rule endorsements derived from the previous 32-country study that used 21 interactants. Reanalyses of the data from that study utilizing only the six interactants replicated all of the main findings related to culture, interactants, situation, setting, and emotion, ensuring its reliability to the original version of the DRAI. Definitions and examples for each emotion label were provided. An example of an item on the DRAI is "What do you believe you should do if you are with your parent, at home by yourselves, and you feel the following emotions toward your parent?" There were six nominal response categories corresponding to the modes of expression originally theorized by Ekman and Friesen (1975): "show more than you feel it" (Amplify), "express it as you feel it" (Express), "show less than you feel it" (Deamplify), "show it but with another expression" (Qualify), "hide your feelings by showing nothing" (Neutralize), and "hide your feelings by showing something else" (Mask). There was also a response alternative for "other/none of the above" (which was only used .32% of the time).

In order to generate scores for the DRAI, we used a scoring procedure based on analyses of the original version of the DRAI (Matsumoto et al., 2005). We first counted the number of times each response alternative was selected across all ratings within individuals (294 ratings; 7 emotions \times 21 interactants \times 2 settings) in order to estimate individual differences among the use

of the response alternatives across emotions and contexts. These scores reflected the overall degree of endorsement of each of the alternatives across all emotions and contexts. The intercorrelations among these scores were near zero, replicating previous reports of their independence (Matsumoto et al., 2005). Multidimensional scaling on these scores generated a clear two dimensional solution that was interpreted as Expressivity and Modification, normalized raw stress = .20, Tucker's coefficient of congruence = .99. The same two dimensions emerged when the analyses were repeated separately for each country, providing evidence for structural equivalence in the scores. We then recoded each individual's ratings into Expression and Modification scores based on the following recodes, which were the scores for each of the response alternatives on both dimensions that emerged from the scaling analyses: for Expression scores, Amplify = .256, Express = .579, Deamplify = .003, Neutralize = -.708, Qualify = .051, and Mask = -.181; for Modification scores, Amplify = .487, Express = -.561, Deamplify = -.563, Neutralize = -.368, Qualify = .534, Mask = .472.

As discussed earlier, the Expression scores refer to the degree to which individuals will express the original emotion and are akin to Expression versus Suppression scales. In our study this scale is anchored on one end by the Expression response category (.579) and at the other end by Neutralization (-.708). The Modification scores refer to the degree to which individuals will express something else instead of or in addition to the original emotion. This scale is anchored on one end by Qualification (.534), Amplification (.487), and Masking (.472) and on the other end by Expression (-.561) and Deamplification (-.563). Modification, therefore, reflected the degree to which individuals endorsed the modification of the original emotion and the expression of something else. As mentioned above this aspect of display rules corresponds with what individuals do in real life, and have not been measured previously in the literature. Although these dimensions are orthogonal, scale scores based on these dimensions in our study were negatively correlated ($r_s = -.455, p < .001$ and $-.189, p < .02$, for European and Asian Americans, respectively). This makes sense, given that greater

endorsement of Expression should be associated with less Modification and vice versa.

Perceived relationship commitment.

Participants rated their commitment to a future interaction with each of the five nonself interactants (Parents, Older Siblings, Close Friends, Acquaintances, and Professors) on five items. First, they indicated how long they have known the target individual and how many days a month they interact with the individual. Next, the participants rated how close they are to the person, how well they know the individual, and how committed they are to meeting and spending time with the person in the future. For the three latter items, respondents used a 6-point-scale ranging from 0 (not at all) to 5 (very much). We computed a Perceived Relationship Commitment score for each interactant by averaging the latter three items for each participant. Cronbach's alphas were high and acceptable for both Asian Americans and European Americans, range = .69~.88 for Asian Americans, .80 ~ .87 for European Americans.

Results

Ethnic Differences on Display Rules

We computed a four-way, mixed ANOVA on the DRAI Expression scores using Interactant (6), Setting (2), and Emotions (7) as within subject variables and Ethnicity (2) as a between subject variable. The main effect of Ethnicity was significant, $F(1, 146) = 8.042, p = .005, \eta_p^2 = .052$, indicating that Asian Americans endorsed Expression less than did European Americans ($M = .187, SD = .117, M = .243, SD = .124$, respectively). No interactions involving Ethnicity were significant.

The same four-way, mixed analysis of variance (ANOVA) was computed on the DRAI Modification scores. The main effect of Ethnicity was significant, $F(1, 146) = 13.660, p = .000, \eta_p^2 = .086$; Asian Americans endorsed Modification more than did European Americans ($M = -.205, SD = .170, M = -.305, SD = .150$, respectively). No interactions involving Ethnicity were significant.

These findings indicated that ethnic differences in display rules for both Expression and Modification endorsement existed as predicted. Although the finding that Asian Americans en-

dorsed Expression less than European Americans is not surprising and replicates previous similar results, the finding that Asian Americans endorsed greater Modification of their emotional responses is new to the literature. These differences existed regardless of Interactant, Setting, or Emotion. This is an interesting result because regardless of the fact that both ethnic groups were Americans, they showed a display rule tendency consistent with previous Asian–Western country comparisons on display rules.

Ethnic Differences on Perceived Relationship Commitment

We computed one-way ANOVAs on the Perceived Relationship Commitment scores testing ethnicity separately for the five interactants that were rated (Alone was not rated). There were significant or marginally significant ethnic differences for Older Siblings, $F(1, 93) = 3.309$, $p = .072$, $\eta_p^2 = .034$; Parents, $F(1, 144) = 6.636$, $p = .011$, $\eta_p^2 = .044$; and Close Friends, $F(1, 140) = 6.831$, $p = .01$, $\eta_p^2 = .047$, but not with professors and acquaintances, $ps > .55$, $\eta_p^2 < .003$. Because these differences were in the same direction, we computed a single Perceived Relationship Commitment score averaging across Parents, Close Friends, and Older Siblings, and recomputed a one-way ANOVA using Ethnicity as an independent variable. Asian Americans had significantly lower average scores than European Americans, $M = 3.34$, $SD = .54$, $M = 3.61$, $SD = .45$, respectively, $F(1, 145) = 10.56$, $p = .001$, $\eta_p^2 = .068$. Thus, Asian Americans and European Americans differed in perceived relationship commitment when interacting with their parents, older siblings, or close friends. This averaged variable was used in the mediation analysis below.

Mediation Analysis

Mediation requires several conditions to be met (Baron & Kenny, 1986; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). The ANOVA results above demonstrating ethnic differences on display rules (Expression and Modification scores) and Perceived Relationship Commitment satisfied the first two criteria, namely that the independent variable has to have a direct effect on the dependent variable and the mediator. To examine if the mediator had an effect on the dependent variables independent of the effect of the independent variable, we computed two hierarchical regressions using DRAI Expression and Modification endorsement scores as dependent variables separately; Ethnicity was entered on the first step and Perceived Relationship Commitment on the second. For Expression, the regression coefficient for Perceived Relationship Commitment on Step 2 was significant. For Modification, the regression coefficient for Perceived Relationship Commitment on Step 2 was not significant (see Table 1 for regression results).

Because all conditions for possible mediation were met for Expression, we tested whether Perceived Relationship Commitment mediated the ethnic differences on Expression scores utilizing the Sobel test (Sobel, 1982, 1986). The Sobel test was significant, $z = .194 > 2.95$, $p = .003$, indicating that Perceived Relationship Commitment mediated the Ethnicity effect on the DRAI Expressivity scores. Because the regression coefficient for Ethnicity was significant on Step 1 without the mediator but not significant on Step 2, the Sobel test indicated full mediation of the effect of Perceived Relationship Commitment on DRAI Expression. We did not compute a mediation test on Modifica-

Table 1
Results of Hierarchical Regressions

Dependent variable	Step	R^2	Independent variables	β
DRAI Expression	1	.049***	Ethnicity	-.055**
	2	.069***	Ethnicity	.037
DRAI Modification	1	.085***	Perceived Relationship Commitment	.065***
	2	.086***	Ethnicity	.010***
			Perceived Relationship Commitment	.097***
				-.012

** $p < .01$. *** $p < .001$.

tion because Perceived Relationship Commitment did not have an effect on it. Thus, we concluded that Perceived Relationship Commitment plays an important role in determining the endorsement of whether or not to express emotions, but that other factors account for the degree to which displays should be modified.

Discussion

As predicted, Asian Americans endorsed less expression and more modification of expression overall than European Americans. The results help to piece together a theoretical picture about how ethnic group differences in emotional expressions occur. First, the findings showing that European Americans had higher scores than Asian Americans on expression replicated previous findings (i.e., Gross, & John, 2003; Matsumoto, 1993), and the endorsed display rules are consistent with the literature on ethnic differences in actual expressions. Second, the result for DRAI modification indicated that Asian Americans have a similar tendency in modifying their emotions when they have to manage their expressions as Asians do. This finding is important because this suggests that Asian Americans are not simply less expressive (the target or what they actually feel), but they may be more expressive on something else (nontarget emotion) by modifying their emotions. Further, this finding may imply that Asian Americans (and Asians) may have a more complicated system of displaying emotions when they have to manage them.

We also found ethnic differences in perceived relationship commitment. Perceptions of relationships may be considered a part of context, and previous research (Matsumoto & Hwang, & Yamada, in press) has shown cultural variation between Americans and East Asians in understanding others' emotions in some contexts. Thus ethnic group differences in perceived relationship commitment may be expected in certain contexts.

Perceived relationship commitment mediated ethnic differences on expression but not modification and suggests how the learned meaning of relationships influences emotion expression management strategies. This picture starts with culture-specific meanings attributed to relationships, probably learned in childhood. These cultural meanings produce differences in the nature

of relationships across cultures, which recruit different display rules to affect the regulation of emotional expressions in those relationships apropos of those cultural meanings. That ethnic group difference on expressivity was mediated by the perceived relationship commitment point to display rules as a potential explanation for previous findings of ethnic differences in the actual expressions of emotions, and highlight the cultural differences in the nature of relationships as one source for those differences in display rules. Differences in display rules, in turn, help to produce differences in actual emotional expressions, which reinforce the culture-specific meanings of the relationships in which those expressions occur. This framework suggests the need for future studies examining actual emotional expressions, display rules, and cultural variability in relationships.

But, perceived relationship commitment did not mediate the ethnic differences on modification. This finding suggests that the quality of the relationship directs whether to express a target emotion or not, but something else drives whether or why there should be a modification of the expression. Modification may be more associated with cultural variables such as values, personality, or socially desirable responding. These findings, we believe, highlight the fact that we have to pay (more) attention on understanding how Asian Americans or Asians modify their emotions.

Despite the contributions of these findings, the findings were not produced without limitations. First, this study measured perceived relationship commitment and endorsed display rules only through self-reports rather than through objective measurements; and, the measure of perceived relationship commitment was constructed for this study, and lacks evidence for external validity. The assessment of display rules and perceived relationship commitment behaviorally should bolster the validity of the measurements and thus improve the reliability of the findings. Second, we did not assess generational or acculturation status of the participants, or the frequency of foreign travel. These variables likely may have played a role in moderating the ethnic differences we reported, and future studies should examine the effects of these variables on display rules. Third, only students participated in this study. Considering the fact that display rules occur in all social

situations in all populations, nonstudent groups should also be investigated to determine whether or not the display rule findings vary across different groups. Lastly, we did not examine the specific sources of differences in endorsed emotional expressivity. For example, Asian Americans may have a tendency to neutralize, rather than deamplify, emotions in order to control the emotional expressions. Or masking or qualification may have been their modal choice of modification. Hence, it may be vital for future studies to investigate ethnic differences at a more specific level of analysis, utilizing the original nominal categories.

Future studies can also examine other potential variables that can further explain the ethnic differences in endorsed emotional expressions. One possible candidate includes the measurement of personality traits, which have been shown to account for cultural differences in emotion regulation (Matsumoto, 2006). Another is social desirability bias (Paulhus, 1984), which refers to the degree to which individuals manage themselves to give positive impressions to others. Although historically considered a nuisance variable, recent work has suggested that social desirable responding is an important aspect of personality that is also influenced by culture (Smith, 2004). As such it likely is related to display rules.

In conclusion, this study opens the door for a variety of potential research studies on ethnicity and display rules, for it stresses the impact and significance of ethnic background on the display of emotions. Follow-up studies will be valuable to further examine the connections between ethnicity, display rules, and related variables.

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