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Emotion experience and regulation in China and the United States: How do culture and gender shape emotion responding?

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*C*ulture and gender shape emotion experience and regulation, in part because the value placed on emotions and the manner of their expression is thought to vary across these groups. This study tested the hypothesis that culture and gender would interact to predict people's emotion responding (emotion intensity and regulatory strategies). Chinese ($n = 220$; 52% female) and American undergraduates ($n = 241$; 62% female) viewed photos intended to elicit negative emotions after receiving instructions to either "just feel" any emotions that arose (*Just Feel*), or to "do something" so that they would not experience any emotion while viewing the photos (*Regulate*). All participants then rated the intensity of their experienced emotions and described any emotion-regulation strategies that they used while viewing the photos. Consistent with predictions, culture and gender interacted with experimental condition to predict intensity: Chinese men reported relatively low levels of emotion, whereas American women reported relatively high levels of emotion. Disengagement strategies (especially distancing) were related to lower emotional intensity and were reported most often by Chinese men. Taken together, findings suggest that emotion-regulation strategies may contribute to differences in emotional experience across Western and East Asian cultures.

Keywords: Emotion intensity; Emotion regulation; Culture; Gender differences.

*L*a culture et le genre affectent l'expérience des émotions et leur régulation, en partie parce que la valeur accordée aux émotions et la manière de les exprimer peuvent varier à travers ces groupes. Cette étude testait l'hypothèse selon laquelle la culture et le genre peuvent interagir pour prédire les réactions émotionnelles (intensité émotionnelle et stratégies de régulation). Des étudiants universitaires de premier cycle chinois ($n = 220$; 52% femmes) et américains ($n = 241$; 62% femmes) ont regardé des photos visant à provoquer des émotions négatives. Avant de regarder les photos, la moitié des participants a reçu la consigne de ressentir les émotions provoquées par les photos (ressentir), tandis que l'autre moitié devait tenter de faire quelque chose pour ne pas ressentir d'émotion en regardant les photos (réguler). Tous les participants ont ensuite évalué l'intensité des émotions vécues et ils ont décrit les stratégies de régulation émotionnelle qu'ils ont employées pendant qu'ils regardaient les photos. En accord avec les prédictions, la culture et le genre ont interagit avec la condition expérimentale pour prédire l'intensité : les hommes chinois ont rapporté des niveaux d'émotion relativement faibles, tandis que les femmes américaines ont rapporté des niveaux d'émotion relativement élevés. Des stratégies de désengagement (particulièrement la distanciation) étaient reliées à une intensité émotionnelle plus faible et étaient rapportées plus souvent par les hommes chinois. Dans l'ensemble, ces données suggèrent que les stratégies de régulation émotionnelle peuvent contribuer aux différences dans l'expérience des émotions entre les cultures occidentales et est asiatiques.

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*L*a cultura y el género modelan la experiencia de la emoción y regulación, en parte debido a que se cree que el valor atribuido a las emociones y la forma de su expresión varía entre estos grupos. Este estudio puso a prueba la hipótesis de que la cultura y el género interactúan para predecir las respuestas emocionales de las personas (intensidad de la emoción y estrategias de regulación). Estudiantes de grado chinos ($n = 220$; 52% mujeres) y estadounidenses ($n = 241$; 62% mujeres) observaron fotos que tenían la intención de provocar emociones negativas luego de recibir instrucciones ya sea de simplemente sentir cualquier emoción que fluyera (Simplemente Sentir) o de "hacer algo" para no experimentar ninguna emoción al mirar las fotografías (Regular). Luego, todos los participantes calificaron la intensidad de las emociones experimentadas y describieron cualquier estrategia de regulación de la emoción que hubieran utilizado al ver las fotos. En consonancia con las predicciones, la cultura y el género interactúan con las condiciones experimentales para predecir la intensidad emocional: los hombres chinos informaron niveles relativamente bajos de emoción, mientras que las mujeres estadounidenses informaron experimentar niveles relativamente altos de emoción. Las estrategias de desapego (en especial el distanciamiento) se relacionaron con una menor intensidad emocional y fueron informadas con más frecuencia por los hombres chinos. En conjunto, los hallazgos sugieren que las estrategias de regulación emocional pueden contribuir a las diferencias en la experiencia emocional entre las culturas occidental y asiáticas del este.

Emotions are universal in human experience, but the value placed on emotions and the social norms guiding their expression vary across cultures (e.g., Matsumoto, 1993; Soto, Levenson, & Ebling, 2005; Tsai, 2007). For example, it is believed that Eastern cultures value moderation of intense emotional experience (Tsai, 2007). Placing a high value on the control of strong emotions, in turn, may influence the strategies people use to regulate their emotions. Thus, Eastern cultures may promote regulation strategies focused on disengaging from strong emotions more than Western cultures, whereas the latter often emphasize and encourage both the experience and the expression of emotions (Fiske, Kitayama, Markus, & Nisbett, 1998; Markus & Kitayama, 1991). Within culture, gender may provide further social expectations and norms that influence emotional experience and regulation strategies. These assumptions about underlying cultural differences in valuation of emotion and social norms for expression and regulation, however, are rarely tested empirically. The current study addressed this by examining the interplay of culture and gender in predicting the emotional intensity with which people respond to negative images, and differences in the kind of emotion-regulation strategies people describe.

CULTURE, GENDER, EMOTIONAL EXPERIENCE AND EMOTION REGULATION

People in Eastern and Western cultures vary in their subjective emotional experiences, including the intensity and duration of response (Matsumoto, 1993; Matsumoto, Kudoh, Scherer,

& Wallbott, 1988). According to affect valuation theory (Tsai, 2007), East Asians value low-arousal positive emotions (such as feeling calm) whereas Western Americans value high-arousal positive emotions (such as feeling excited). Consistent with this view, Eid and Diener (2001) conducted a cross-cultural study in which participants reported the typical intensity of their emotional experiences. Chinese participants reported lower-intensity negative emotions than did Taiwanese participants, and both groups reported much lower-intensity emotions than did American and Australian participants. Another study examined cross-cultural differences among couples asked to discuss conflict in their relationship. Chinese Americans reported fewer moments of high-intensity positive and negative affect than did their European American counterparts (Tsai & Levenson, 1997). Thus, cultural norms of emotion expression appear to be consistent with theorized differences in affect valuation. Differences in the value placed on emotional moderation versus emotional experience and social norms of emotion expression may also influence the choice of emotion-regulation strategies. In Western cultures, people are encouraged to acknowledge and understand feeling states, attempt to make sense of them, and sometimes to regulate them (e.g., Frattaroli, 2006).

Gender norms, too, may influence emotion responding and emotion regulation. Researchers have found, for example, that women are often more emotionally expressive than men (e.g., Rotter & Rotter, 1988) and often engage in different types of emotion-regulation strategies (Gross & John, 2003). For instance, women more often ruminate about the causes and consequences of their

current emotional states than do men (Nolen-Hoeksema, 1987; Nolen-Hoeksema, Larson, & Grayson, 1999). Thus far, no studies to our knowledge have examined the combined effects of culture and gender in emotion regulation. Based on previous research, we hypothesized that culture and gender would interact to predict people's emotion responding (emotion intensity and regulatory strategies).

THE PRESENT STUDY

The current study empirically tested the assumption that Eastern and Western cultures would differ in the expression and regulation of emotion. We examined differences in emotional intensity and regulatory strategies described by Chinese and American men and women who were asked either to respond naturally or to down-regulate their emotions in response to negative visual images while in a large group setting. Drawing on previous research, we hypothesized that Chinese would report experiencing less intense emotions than Americans in response to negative stimuli, and men would report less intense emotions than women, but that culture and gender would also interact such that, on average, American women would report the most intense emotion and Chinese men would report the least emotional intensity. We also expected that Chinese would more often report using emotion-regulation strategies focused on disengaging from thinking about and dwelling on the emotional event (e.g., strategies such as cognitive distancing), whereas Americans would more often report strategies that kept them engaged with their emotional response (e.g., elaborating on the situation). In addition, we hypothesized that women would report greater use of emotional engagement strategies than would men in both cultures. We further predicted that culture and gender would interact, such that American women would report the greatest use of strategies focused on engaging with emotions whereas Chinese men would report the greatest use of emotional disengagement. In addition, although past research does not lead us to make specific predictions, we explored whether culture and gender might interact with the experimental conditions (*Just Feel* vs. *Regulate*). For example, the large group context in which data collection took place might highlight social norms for the subjects who were asked to regulate their emotions.

METHOD

Participants

Participants ($N = 461$; $M_{age} = 20.4$ years, $SD_{age} = 2.1$) included undergraduate students from universities in Beijing, China ($n = 220$, 52% female) and Southern California ($n = 241$, 62% female). The Chinese sample was predominantly Han Chinese (91%), with the remainder composed of various Chinese minorities. The American sample included 23% White/Caucasian, 15% Latino/Mexican, 13% Chinese, 7% Pacific Islander, 7% Korean, 7% Middle Eastern, 6% Vietnamese, 5% other Asian American, 4% African American, 1% Japanese, and 13% mixed.

Procedure and materials

Data collection in both countries took place in a large classroom setting. Participants received booklets with a cover sheet explaining that they would be viewing three sets of photos projected onto a screen at the front of the room. The next page varied in its instructions: Half of the booklets instructed participants to allow themselves to feel whatever emotions they might experience as they viewed the images (Condition 1; *Just Feel*), and half of the booklets instructed students to try *not* to have any emotional reactions to the images, and to try to do *something* that would help them achieve this goal (Condition 2; *Regulate*). Participants were randomly assigned to one of the two conditions with the constraint that approximately equal numbers of males and females were assigned to each condition. Materials written in English were translated into Chinese by a native speaker and backtranslated by a bilingual speaker.

Emotion elicitation and rating scales

After reading the instructions, participants were shown three pairs of negative images on a large screen in front of the room. The first pair of images depicted human brutality (a soldier pointing a machine gun at a fleeing child, uniformed police officers beating a man); the second, misfortune (an elderly man sitting at his wife's hospital bed, a crying child); and the third, mutilation (a bloodied human head, an amputated hand). The images of the police officers and the amputated hand were found in an online image search; the others were retrieved from the

International Affective Picture System (IAPS; Lang, Bradley, & Cuthbert, 2008).

The same procedure was used for each set of photos. The first photo was presented for 5 s, a blank screen was shown for 5 s, and then the second photo was shown for 5 s. A blank screen then appeared for 30 s while participants were instructed to turn to the next page in their booklets and rate the extent to which they had felt fear, anger, sadness, and disgust while viewing the images, using nine-point Likert scales ranging from "not at all" to "extremely." The procedure was repeated for the remaining two sets of photos. Then participants were asked to report any specific emotion-regulation strategies they had used while viewing each set of photos. Thumbnail-sized images of each photo were provided as memory cues, with space below to write any emotion-regulation strategies that had been used. Participants in *both* experimental conditions (*Just Feel* and *Regulate*) were asked to describe their emotion-regulatory strategies to capture any spontaneous emotion regulation reported in the *Just Feel* condition as well as strategies reported in the *Regulate* condition.

Data reduction and coding of emotion-regulation strategies

Consistent with prior research (e.g., Ochsner, Bunge, Gross, & Gabrieli, 2002), the images elicited a mix of negative emotions.[1] Because we were interested in emotional intensity, we chose the emotion each person rated highest in intensity for each photo set, and then averaged these scores across all three photo sets to create a mean intensity score for each person. Participants' descriptions of their emotion-regulation efforts were transcribed verbatim and coded by trained research assistants. Data from Chinese participants were transcribed and translated into English by bilingual assistants to establish coding reliability between bilingual (i.e., English- and Chinese-speaking) and monolingual native English-speaking coders. Interrater reliability, calculated from approximately 25% of the transcriptions, was adequate for both the Chinese ($\kappa = .81$) and American ($\kappa = .85$) students' responses.

Emotion-regulation strategies were first coded into three broad categories reflecting the most common types of strategy participants suggested: Emotional Engagement, Emotional Disengagement, and Other. Drawing on prior emotion-regulation research (e.g., Kross & Ayduk, 2008; Sheppes, Catran, & Meiran, 2009), we further refined the coding within each category. Engagement strategies included reports such as: *crafting a background*, *self-encouragement*, and *thinking about the victim*. Disengagement strategies included *distancing*, *denial*, *deliberate shallow processing*, *distraction*, *positive reappraisal*, and *shifting focus*. The Other category included both emotional expression (16% of all responses; facial, physical, and verbal expression) and suppression/masking as well as uncodable and nonsense responses (10% of all responses). Responses in the Other category were excluded from subsequent analyses. "Nothing" and "don't know" answers were not coded or included in analyses.

Because we predicted that culture and gender would shape the extent to which people relied on engagement or disengagement regulatory strategies to manage negative emotion, we were particularly interested in the relative use of these types of strategy across multiple elicitations of intense negative emotion. Thus, a proportional score was calculated to assess the extent to which each person's responses represented emotional engagement vs. disengagement. We summed the number of times each person reported an engagement strategy (*crafting a background*, *self-encouragement*, *thinking about the victim*). Likewise, we summed the number of times each person reported a disengagement strategy (*distancing*, *denial*, *deliberate shallow processing*, *distraction*, *positive reappraisal*, and *shifting focus*). We then created a score for each person to indicate the proportion of disengagement strategies used by dividing the summed disengagement strategy score by the summed score of both engagement and disengagement strategies. In addition to studying gender and cultural differences in the three broad categories of strategy, we also studied the most often reported strategies within these broad categories (described below).

RESULTS

Intensity of emotion

A 2 (culture) × 2 (gender) × 2 (experimental condition) ANOVA examined how peak emotional intensity differed by culture and gender. Table 1 presents the means and standard deviations of peak emotional intensity for each cultural group, gender, and experimental condition. In support of

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[1]Means and standard deviations for each discrete emotion, calculated separately for each culture by gender group, are available on request.

TABLE 1
Mean peak intensity (and standard deviation) of emotion response to photos

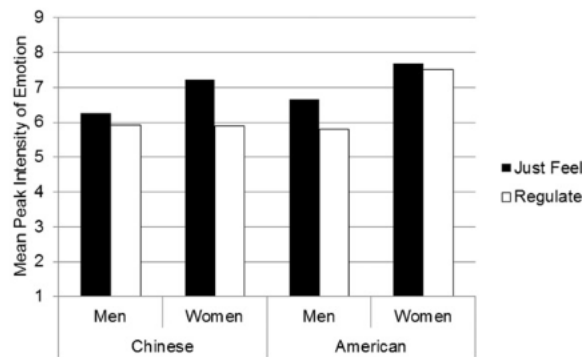| Experimental condition	China		United States	
	Male	Female	Male	Female
Just Feel	6.2 (1.8)	7.2 (1.4)	6.7 (1.6)	7.7 (1.3)
Regulate	5.9 (2.1)	5.9 (2.0)	5.8 (2.0)	7.5 (1.3)

Figure 1. Mean peak emotional intensity in response to stimuli.

the hypotheses, a significant main effect of culture, $F(1, 460) = 13.8$, $p < .0001$, $\eta_p^2 = .03$, indicated that American participants responded with higher mean peak intensity than did Chinese participants; and a main effect of gender, $F(1, 460) = 33.1$, $p < .0001$, $\eta_p^2 = .07$, revealed that women reported higher intensity emotion than men. In addition, a main effect of experimental condition, $F(1, 460) = 17.4$, $p < .0001$, $\eta_p^2 = .04$, showed that participants in the *Just Feel* condition reported more intense emotional responses to the photos than those in the *Regulate* condition.

A two-way interaction of culture and gender, $F(1, 460) = 8.0$, $p < .01$, $\eta_p^2 = .02$, was further qualified by a three-way interaction of culture, gender, and experimental condition, $F(1, 460) = 6.90$, $p < .01$, $\eta_p^2 = .02$ (Figure 1). Post-hoc *t*-tests revealed that Chinese men reported low peak emotion intensity that did not vary across the two conditions, $t(103) = .86$, $p = .39$, and that American women reported similar levels of high peak emotion intensity across conditions, $t(147) = .80$, $p = .43$. Only Chinese women, $t(113) = 4.04$, $p < .001$, and American men $t(89) = 2.22$, $p < .05$, reported lower levels of peak emotion intensity in

the *Regulate* condition than in the *Just Feel* condition.

Post hoc exploration of ethnic differences among American women

Given the ethnic diversity within the American sample, we explored whether the higher level of peak emotion intensity reported by these women was due mainly to participants who were not of East Asian descent. Women were equally divided among whites ($n = 35$) and East Asian Americans (i.e., women who self-identified as Chinese American, Vietnamese American, Japanese American, or Korean American; $n = 37$). Of the East Asian American women, 51% were born outside the United States, and 58% reported at least one foreign-born parent. White ($M = 7.3$, $SD = 1.5$) and Asian American women ($M = 7.7$, $SD = 1.3$), did not differ in emotional intensity, $t(70) = 1.4$, $p = .17$, suggesting that white women were not driving the observed cross-cultural differences.

Emotion-regulation strategies

We next compared culture and gender differences in emotion-regulation strategies. A total of 434 participants reported using at least one engagement or disengagement strategy for regulating their emotions (65% were disengagement strategies) and were included in this analysis. A 2 (culture) × 2 (gender) × 2 (experimental condition) ANOVA with the proportion of disengagement strategies entered as the dependent variable revealed a main effect of culture, $F(1, 426) = 38.36$, $p < .001$, $\eta_p^2 = .08$, and a main effect of experimental condition, $F(1, 426) = 26.74$, $p < .001$, $\eta_p^2 = .06$.[2] Americans reported disengagement strategies less often than did Chinese participants, and participants in the *Just Feel* condition reported disengagement strategies less frequently than participants in the *Regulate* condition.

These main effects, however, were qualified by a three-way interaction of culture, gender, and experimental condition, $F(1, 426) = 7.59$, $p = .006$, $\eta_p^2 = .02$ (Figure 2). Post-hoc *t*-tests indicated that Chinese men in the *Just Feel* ($M = .72$, $SD = .32$) and *Regulate* ($M = .77$, $SD = .34$) conditions did not differ in the frequency with which they used

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[2] An arc sine transformation was performed to correct for violations of normality associated with proportional data, and all analyses were run using both nontransformed and transformed data. Because patterns were identical regardless of the transformation, we present the nontransformed data for ease of interpretation.

disengagement strategies, $t(99) = .85$, $p = .40$. Chinese women, in contrast, used disengagement strategies more frequently when asked to regulate their emotions ($M = .87$, $SD = .29$) than when instructed to react naturally ($M = .65$, $SD = .35$), $t(103) = 3.53$, $p < .02$. American men also recruited disengagement strategies more frequently when asked to regulate their emotions ($M = .69$, $SD = .31$) than when told to respond naturally ($M = .40$, $SD = .30$), $t(81) = 4.33$, $p < .001$, as did American women, at a trend level (*Just Feel*: $M = .51$, $SD = .33$; *Regulate*: $M = .61$, $SD = .36$), $t(143) = 1.74$, $p = .085$.

To examine whether disengagement strategies were associated with the intensity of emotional experience, we correlated emotional intensity with the proportional disengagement score. Lower levels of negative emotion were related to greater use of emotional disengagement strategies, $r = -.17$, $p < .001$, consistent with previous literature (e.g., Kross & Ayduk, 2008). We also conducted a bootstrapped test of the significance of the indirect effect of disengagement strategies on the relation between culture and emotional intensity (Preacher & Hayes, 2004). This test showed that the indirect effect was significantly different from zero (95% CI = .02 .24), suggesting that Chinese participants reported less intense emotion because they used disengagement strategies more extensively.

Specific regulation strategies

To study specific strategies that contributed to cross-cultural and gender differences noted above, we examined the most commonly endorsed emotion-regulation strategies. Eight emotion-regulation strategies were mentioned by at least 10% of the participants. They included two strategies of emotional engagement (*crafting a background* and *thinking about the victim*), five strategies of emotional disengagement (*distancing, denial, deliberate shallow processing, distraction, and shifting focus*) and one other strategy (*expressive suppression/masking*). Examples of each strategy are given in Table 2.

To examine the relative use of each strategy, a proportional score for each strategy was calculated for each participant (see Table 3). We used a weighted score as opposed to a yes/no score
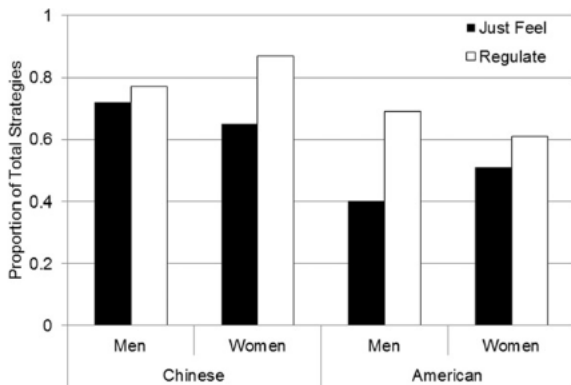

Figure 2. Mean proportion of disengagement strategies across all stimuli.

TABLE 2
Key emotion regulation strategies and examples

Engagement strategies	Examples
Crafting a background	I told myself the gunman was protecting the child, and the police were protecting society.
	I added a story to the pictures to make myself feel better.
Thinking about the victim	The child made me wonder what could be causing his sadness.
	I related myself to the old man and what he might be feeling.
Disengagement strategies	
Distancing	I tried to separate myself from them and look at them logically. Told self, "I'm not attached to these people and don't know them."
Denial	Told self, "that's not a real picture."
	Thought about how this wasn't real.
Deliberate shallow processing	I tried to keep my mind blank and not really think too much about what was shown.
	I avoided thinking about the photos so I would forget them.
Distraction	I thought about news and movies.
	I made myself think of something relaxing, like water.
Shifting focus	I explored the entire photo to look at other things besides the focal point.
	I closed my eyes.
Expressive suppression/masking	Tried to control facial expression.
	Tried not to frown or furrow my eyebrows.

TABLE 3
Mean proportions (standard deviation) of specific emotion-regulation strategies reported for photos ($n = 391$)

	China				United States			
	Male		Female		Male		Female	
Strategy	Just Feel ($n=47$)	Regulate ($n=43$)	Just Feel ($n=46$)	Regulate ($n=45$)	Just Feel ($n=38$)	Regulate ($n=43$)	Just Feel ($n=63$)	Regulate ($n=66$)
Distancing	.45 (.36)	.26 (.36)	.23 (.28)	.36 (.40)	.21 (.28)	.29 (.29)	.20 (.25)	.15 (.21)
Denial	.18 (.26)	.13 (.30)	.21 (.29)	.12 (.23)	.24 (.36)	.18 (.24)	.21 (.31)	.17 (.24)
Crafting a background	.02 (.07)	.01 (.05)	.05 (.14)	.01 (.04)	.15 (.25)	.09 (.21)	.13 (.24)	.07 (.16)
Deliberate shallow processing	.01 (.06)	.18 (.29)	.11 (.23)	.14 (.25)	.01 (.08)	.09 (.16)	.04 (.12)	.07 (.14)
Distraction	.03 (.10)	.08 (.24)	.01 (.04)	.05 (.04)	.01 (.06)	.05 (.15)	.01 (.05)	.08 (.20)
Thinking about the victim	.04 (.12)	.05 (.13)	.08 (.24)	.01 (.07)	.12 (.19)	.03 (.10)	.08 (.19)	.08 (.20)
Expressive suppression/masking	.10 (.18)	.03 (.12)	.13 (.27)	.03 (.17)	.15 (.26)	.18 (.29)	.18 (.25)	.18 (.26)
Shifting focus	.17 (.26)	.27 (.38)	.19 (.24)	.28 (.39)	.10 (.22)	.10 (.17)	.14 (.26)	.19 (.25)

because people could report the same strategy for more than one image. Thus, the number of times each specific strategy was reported across all six photos was summed and then divided by the summed score of reported use across the eight strategies. For example, a person who reported using *distancing*, *thinking about the victim*, and *shifting focus*, each one time, would receive a score of .33 for *distancing* ($1/3 = .33$), *thinking about the victim* ($1/3 = .33$), and *shifting focus* ($1/3 = .33$). In contrast, a person who reported using *distraction* two times and no other emotion-regulation strategies would receive a *distraction score of* 1 ($2/2 = 1$) and a score of 0 for the remaining strategies. 391 participants mentioned at least one of the eight strategies and were included in these analyses.

A 2 (culture) × 2 (gender) × 2 (experimental condition) MANOVA with the eight strategies as the dependent variables revealed that Chinese participants reported using *distancing*, *deliberate shallow processing*, *and shifting focus* to a greater extent than American participants, F values $(1, 391) > 8.4$, p values $< .01$, η_p^2 values $> .02$. Conversely, American participants reported using *crafting a background*, *thinking about the victim*, and *expressive suppression/masking* more extensively than did Chinese participants, F values $(1, 391) > 4.3$, p values $< .05$, η_p^2 values $> .01$.

In addition, participants in the *Just Feel* condition reported using *denial*, *crafting a background*, and *thinking about the victim* more than participants in the *Regulate* condition, F values $(1, 391) > 4.6$, p values $< .04$, η_p^2 values $> .01$. Participants in the *Regulate* condition reported using *deliberate shallow processing*, *distraction*, and *shifting focus* more than participants in the *Just Feel* condition, F values $(1, 391) > 4.4$, p values $< .04$, η_p^2 values $> .01$. A main effect of gender showed

that men reported using *distancing* more than women, $F(1, 391) = 4.5$, $p < .04$, $\eta_p^2 = .01$.

We also found significant three-way interactions of culture, gender, and experimental condition for *distancing*, $F(1, 391) = 13.0$, $p < .0001$, $\eta_p^2 = .03$ and *thinking about the victim*, $F(1, 391) = 6.8$, $p < .01$, $\eta_p^2 = .02$. To adjust for Type I error, we used a Bonferroni correction with the significance level set at .008 (.05/6) for the six post-hoc comparisons for each experimental condition. Within the *Just Feel* condition, Chinese men employed *distancing* more than Chinese women, American men, and American women, t values > 3.33, p values $< .008$. Within the *Regulate* condition, American women reported using *distancing* less than American men or Chinese women, t values > 2.76, p values $< .008$. Greater use of *distancing* was associated with less intense negative affect, $r = -.16$, $p < .01$. In post-hoc tests for analyses that examined *thinking about the victim* (using the Bonferroni-corrected significance level of .008), no significant differences were found in the *Just Feel* condition, t values < 2.6, p values $> .01$. Within the *Regulate* condition, American women employed *thinking about the victim* more than American men, $t(109) = 2.71$, $p = .008$. Greater use of *thinking about the victim* was associated with more intense negative affect, $r = .12$, $p < .05$.

DISCUSSION

The current study is one of the first cross-national examinations to empirically examine whether Eastern and Western cultures differed in self-reported emotional intensity and emotion-regulation strategies in response to negative

emotional stimuli. We hypothesized that culture and gender would interact to predict emotion experience and regulation. Specifically, we expected that Americans, especially American women, would report more intense negative emotion than would Chinese participants (particularly men). In addition, we predicted that Chinese participants, especially Chinese men, would more often report using disengagement strategies when regulating their emotions than would American participants, who in contrast would report using relatively more engagement strategies. Results largely confirmed our hypotheses.

Emotional intensity

As predicted, Americans reported more intense negative emotion than Chinese when viewing the stimuli. This finding is consistent with prior research showing that Western cultures emphasize the individual's "right" to experience and express emotion as it is and when it arises (e.g., Pennebaker & Graybeal, 2001), whereas Eastern cultures emphasize emotion moderation. These differences, however, were limited to the cross-national comparisons. In terms of ethnic differences within our American female sample, Asian Americans and white Americans did not vary in their reported emotional intensity. Prior studies also have found no differences in the emotional responses of Asian Americans and white Americans to visual stimuli (e.g., Tsai, Levenson, & Carstensen, 2000). The current study also underscores the importance of examining cultural differences or similarities with both cross-national and cross-ethnic approaches. Previous research in some areas (e.g., self-regard; Heine, Lehman, Markus, & Kitayama, 1999; academic achievement; Chen, Stevenson, Hayward, & Burgess, 1995) showed consistency between cross-national and cross-ethnic differences. In other areas, however, ethnic differences are less prominent than cross-national differences (e.g., the impact of peers on misconduct; Chen et al., 1995). Results of the current study appear to fit the second pattern. One explanation is that the East Asian American college students in our sample were substantially acculturated. A majority were born in the US and attending a US university. Their level of acculturation may have been sufficient to eliminate ethnic differences in this study.

The current study also found that women reported more intense negative emotion than did men. This finding fits with the few research studies that show stronger physiological and experiential responses to emotion elicitations in women (e.g., Chentsova-Dutton & Tsai, 2007), but contrasts with other studies revealing no gender differences in subjective experience (e.g., Kring & Gordon, 1998). Perhaps the mixed-gender group setting in which data were collected contributed to the gender differences found in the present study. This setting may have exerted subtle social pressure on men and women to respond in accordance with gendered stereotypes and expectations about emotion experience.

Examining the effects of gender and culture together, we found that Chinese men reported the lowest intensity of emotion, and American women reported the highest. These results confirmed our main hypothesis that culture and gender interact to predict emotion experience. Interestingly, this culture-by-gender interaction was further qualified by experimental conditions: Experimental conditions had the expected significant effect (that is, greater emotional intensity for the "Just Feel" condition than for the "Regulate" condition) for Chinese women and American men, but not for Chinese men and American women. One interpretation of this finding is that cultural and social norms pushed Chinese men to moderate their emotions at all times, in keeping with an ideal of emotional moderation. In contrast, social norms might have encouraged American women to experience and express intense emotions regardless of experimental conditions. It is unknown whether these two groups (Chinese men and American women) were particularly affected by the large-group testing situation. Future research should help specify the circumstances under which people show, or do not show, differences between *Just Feel* and *Regulate* conditions.

Culture, gender, and emotion regulation strategies

Chinese men reported using emotion-regulation strategies focused on disengagement more often than all other groups. American women used disengagement strategies least often. In addition, disengagement strategies were associated with lower levels of emotional intensity in response to the stimuli and the relation between culture and emotional intensity was indirectly influenced by use of disengagement strategies. These findings are consistent with studies showing that ruminative coping styles that promote a focus on the causes and consequences of negative emotion exacerbate distress (e.g., Nolen-Hoeksema et al., 1999). The specific emotion-regulation strategies that had the

strongest associations with culture, gender and emotional intensity were *distancing* and *thinking about the victim. Distancing* encompasses creating psychological space between oneself and the distressing event, situation, or stimulus— for example, by thinking about how the images depicted in the photos are irrelevant to one's own life, or thinking about how the images, however regrettable, are common occurrences in the real world. *Distancing* was used to a greater extent by people who reported the lowest levels of emotional intensity—that is, by Chinese participants, and by men. In contrast, *Thinking about the victim* requires a person to dwell on the plight of the protagonist. Although this strategy was not frequently mentioned, American women in the *Regulate* condition reported using this strategy more extensively than did Chinese women. This finding may explain why American women had the highest emotional intensity ratings.

The current study is the first to document gender and culture differences in the use of emotion-regulatory strategies other than suppression or reappraisal (e.g., Butler, Lee, & Gross, 2007; Gross & John, 2003) and suggests that it would be fruitful to examine cross-cultural differences in emotion regulation at multiple levels (e.g., types of strategies and specific strategies) with multiple approaches (i.e., cross-national and cross-ethnic).

Limitations and directions for future research

The current study used images that depicted three distinct types of negative event (brutality, misfortune, and mutilation), and participants were asked to rate their feelings of fear, anger, sadness, and disgust. We attempted to elicit similar types of emotion by choosing themes that we thought would correspond with discrete emotions (mutilation and disgust; misfortune and sadness), but nonetheless the most intense discrete emotion experienced varied widely across people even within culture and gender. Thus, we used an ideographic approach in which we chose the emotion reported with highest intensity by each individual. Future researchers may want to study reactions to stimuli that elicit the same discrete emotional experiences when examining cultural and gender differences in emotional intensity and emotion regulation—if such stimuli can be created. Future studies will also benefit from including physiological and behavioral assessments to

provide a more complete picture of emotional experience and reactivity.

Although we found a significant indirect path of culture to emotional intensity through the use of disengagement strategies, the cross-sectional nature of our design precludes an assumption of causality. Causal processes regarding the use and effectiveness of the emotion-regulation strategies in relation to emotional intensity cannot be discerned without a study that captures ongoing emotional experience and emotion regulation before, while, and after images are presented. Studying these temporal processes would also provide a means of estimating the effectiveness of the various regulatory strategies. Researchers have found that the effectiveness of cognitive reappraisal and suppression varies across cultures (e.g., Butler et al., 2007), and the effectiveness of other strategies may also vary across culture. Another task for future research would be to investigate motivations for using different regulatory strategies and how these might change emotion responding in social and nonsocial contexts. For instance, why do Chinese men use distancing more frequently in social contexts than women and Americans, and do they deliberately choose this strategy because they are aware of its effectiveness? Would the same group differences emerge if people described emotion responding in nonsocial contexts?

Despite its limitations, the current study provides one of the first examinations of the interactive role of culture and gender in emotion responding, and is one of the first to use a cross-national, cross-cultural design. Men and women from two different cultural groups react differently to the same emotion-evocative stimuli and respond to negative emotion with different regulatory strategies. Culture and gender appear to shape emotional experience and the regulatory repertoire from which people can draw when confronted with negative images.

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