

Emotion

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Motivated to Feel Better and Doing Something About It: Cross-Cultural Differences in Motivated Emotion Regulation During COVID-19

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Emotion regulation is linked to adaptive psychological outcomes. To engage in such regulation, people must be motivated to do it. Given that people in different countries vary in how they think about unpleasant emotions, we expected motivation to decrease unpleasant emotions to differ across countries. Furthermore, given that emotion regulation strategies operate in the service of motivation, we expected people who are less motivated to decrease unpleasant emotions to use emotion regulation strategies less across countries. To test these predictions, we conducted two studies during the COVID-19 pandemic: Study 1 in 2020 ($N = 1,329$) and Study 2 in 2021 ($N = 1,279$). We assessed the motivation to decrease unpleasant emotions and the use of emotion regulation strategies among members of East Asian countries (i.e., Japan, South Korea, and China) and Western countries (i.e., United States, United Kingdom, and Germany). Because we found substantial variation within these two broader cultural categories, we examined motivation and overall strategy use in emotion regulation at the country level. In both studies, motivation to decrease unpleasant emotions was the lowest in Japan and relatively high in the United States. As expected, across countries, weaker motivation to decrease unpleasant emotions was associated with using emotion regulation strategies less. We discuss implications of our findings for understanding cultural differences in motivated emotion regulation.


Keywords: emotion regulation, culture, motivation, emotion, emotion regulation strategies

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To alleviate distress and manage unpleasant emotions, people engage in emotion regulation (i.e., the process by which people try to change the trajectory of an emotional episode; Gross, 2015). Emotion regulation can promote psychological health, which makes

it important at times of stress, as when facing global health and economic threats (e.g., Cludius et al., 2020; Titov et al., 2020). In order to engage in emotion regulation, people must be motivated to do so and implement emotion regulation strategies (Gross, 2015;

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continued

Tamir, 2021). People who are more motivated to decrease their unpleasant emotions are more likely to invest effort in regulating their emotions, rendering them more likely to succeed (Gutentag & Tamir, 2022). Yet, how motivated people are to engage in emotion regulation may differ across countries (Miyamoto et al., 2017). In this investigation, we tested whether there are cultural differences in the motivation to decrease unpleasant emotions and, relatedly, in the overall use of emotion regulation strategies. We tested these questions in six countries, as people worldwide faced the distress of the COVID-19 pandemic.

Motivated Emotion Regulation

Emotion regulation is often directed toward decreasing unpleasant emotions (e.g., Gross et al., 2006; Riediger et al., 2009). Attempts to decrease unpleasant emotions have been the target of clinical interventions designed to promote mental health and emotional well-being (e.g., Berking et al., 2008). To engage in emotion regulation, however, people must be motivated to do so (Gross, 2015; Tamir, 2021). To decrease unpleasant emotions, in particular, people must be motivated to decrease unpleasant emotions. Motivation to regulate emotions can shape whether people engage in it and how much effort they invest (Tamir, 2016). For example, people who wanted to feel less sad were more likely to try to make themselves feel better during stressful times (e.g., Millgram et al., 2019).

Most of the research on motivated emotion regulation examined what people want to feel (e.g., Tamir, 2016; Tsai, 2007). However, what people want to feel and how much they want to change their feelings are not synonymous. What people want to feel reflects a desired end state, which may be context dependent (i.e., emotion goals; Mauss & Tamir, 2014) or general (i.e., ideal affect; Tsai, 2007). What people want to feel is conceptually and empirically distinct from what people actually feel (e.g., Tsai et al., 2006). In contrast, the motivation to change feelings is assumed to be a result of comparing desired to actual emotions (Mauss & Tamir, 2014; Tamir, 2021). People are motivated to change how they feel when there is a discrepancy between their desired emotions and their actual emotions (Hu et al., 2024). Furthermore, at least in theory, the motivation to change one's feelings (rather than desired emotions per se) dictates emotion regulatory behavior.

Research on motivated emotion regulation has been conducted primarily in samples from Western, educated, industrialized, rich, and democratic (WEIRD; Henrich et al., 2010) societies. Given that the ways people understand and think about emotions vary across cultural contexts (Mesquita & Leu, 2007), motivation to decrease unpleasant emotions and the scope of subsequent emotion regulatory behavior might also vary. Our investigation, therefore, sought to test how motivation to decrease one's unpleasant emotions

during stressful times and the overall use of emotion regulation strategies differ across cultural contexts.

Motivation to Regulate Emotions Across Cultures: What People Want

Cultures shape how people understand themselves and the world; what people want and value; and how they think, feel, and behave (e.g., Adams & Markus, 2004). In cultural contexts emphasizing independence (e.g., WEIRD cultures), individuals are typically expected to be unique and autonomous and promote personal success, fulfillment, and welfare (Heine et al., 1999). In cultural contexts emphasizing interdependence (e.g., East Asian cultures), individuals are typically expected to fit in with others and promote harmony, success, and the welfare of the ingroup (Heine et al., 1999; Markus & Kitayama, 1991). Such cultural models should shape how people make sense of their responses to the world, including unpleasant emotions and their regulation.

Different cultural models give rise to different ways of thinking about emotions (e.g., Mesquita & Leu, 2007). Independent cultures prioritize personal success and welfare, and emotions can serve as indicators of such success (Carver & Scheier, 2000). If unpleasant emotions signal failure in goal pursuit, people from independent cultures should consider unpleasant emotions undesirable. In contrast, interdependent cultures prioritize adjusting oneself to social standards and relational contexts, and unpleasant emotions can serve as a means to achieve it. Interdependent cultures, especially the self-effacing ones (i.e., East Asian), highlight the importance of fitting in even at the expense of personal pleasure (Kitayama et al., 2022).

If unpleasant emotions can facilitate personal improvement and social harmony (Heine, 2001), people from East Asian cultures may consider unpleasant emotions less undesirable than people from other cultures. These ideas are also consistent with dialectical thinking (i.e., the belief that reality is composed of opposites and is constantly changing), which is more dominant in East Asian cultures and highlights the importance of balancing pleasant and unpleasant emotions (Peng & Nisbett, 1999). To the extent that members of East Asian cultures consider unpleasant emotions less undesirable than members of WEIRD cultures (e.g., Bastian et al., 2012; Eid & Diener, 2001), they might be less motivated to decrease their unpleasant emotions.

Consistent with this proposition, there is evidence for cultural differences in the desirability of pleasant versus unpleasant affective states. European Americans valued pleasant affect more than unpleasant affect, to a greater degree than did Chinese Americans (Senft et al., 2023; Sims et al., 2015) and Chinese (Sims et al., 2015). Also, there are cultural differences in the motivation to decrease unpleasant emotions, more specifically. Miyamoto et al. (2014)

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found that following a failure, East Asian Americans wanted to decrease unpleasant emotions less than European Americans did.

Such cultural differences have generally been attributed to differences between independent cultures and interdependent cultures, primarily from East Asian origin. To support this interpretation, studies on cultural differences in motivated emotion regulation have typically compared two cultural groups, focusing on European Americans versus East Asian Americans (Miyamoto et al., 2014; Sims et al., 2015) or European Americans versus Chinese (Sims et al., 2015). These comparisons are based on the assumption that European Americans represent members of independent cultures, whereas Asian Americans or Chinese represent members of East Asian forms of interdependent cultures (see Sims et al., 2015). Whether differences between European Americans and East Asian Americans extend to other independent and East Asian cultural contexts, however, remains to be tested.

Indeed, some evidence already points to potential differences between countries within these broader cultural categories. There are substantial differences both between and within cultural categories in the desirability of emotions. For instance, patterns of emotion norms in Taiwan were more similar to those found in the United States than to those found in China (Eid & Diener, 2001). Also, there are differences in desired emotions between Western independent countries. For instance, Americans wanted to avoid unpleasant emotions more than Germans did (Koopmann-Holm & Tsai, 2014). While there are reasons to challenge common assumptions about homogeneity across independent countries and across East Asian countries, these assumptions are rarely tested directly.

The first goal of our investigation, therefore, was to test whether there are cultural differences in the motivation to decrease unpleasant emotions and whether such differences characterize independent versus East Asian forms of interdependent cultural contexts. To this end, we assessed motivated emotion regulation in three WEIRD and three East Asian countries. Based on the existing evidence, we hypothesized that members of East Asian countries would be less motivated to decrease their unpleasant emotions than members of WEIRD countries.

Emotion Regulation Strategy Use Across Cultures: What People Do

To change emotions in the desired direction, people implement emotion regulation strategies, and there is a wide array of strategies that they can use. For instance, the process model of emotion regulation (Gross, 1998) distinguishes between various categories of emotion regulation strategies that target different stages in the emotion generation process. For instance, situation selection involves selecting situations that are likely to induce desired emotions, distraction involves shifting attention away from stimuli that induce undesired emotions, and cognitive reappraisal involves changing the meaning assigned to an event to change its emotional impact.

People differ in the extent to which they use specific emotion regulation strategies, but they can also differ in how much they use emotion regulation strategies overall. One factor that is likely to influence the overall degree to which people use emotion regulation strategies is their motivation to regulate emotions. In general, greater motivation is linked to more regulatory behavior

(e.g., Locke & Latham, 1990). In the context of emotion regulation, greater motivation to decrease unpleasant emotions should be linked to more emotion regulatory behavior, which may be expressed by a greater overall use of emotion regulation strategies (Gutentag et al., in press).

A second goal of this investigation, therefore, was to test whether there are cultural differences in the overall use of emotion regulation strategies. We hypothesized that motivation to decrease unpleasant emotions would be positively associated with the overall use of emotion regulation strategies across cultures. We also hypothesized that, compared to members of WEIRD countries, members of East Asian countries would use emotion regulation strategies less overall.

The Current Investigation

This investigation tested how members of different cultures vary in their motivation to decrease their unpleasant emotions and whether there are corresponding cultural differences in the overall use of emotion regulation strategies. To test our hypotheses, we ran two cross-cultural studies (Study 2 was preregistered). We targeted three East Asian countries (i.e., Japan, South Korea, and China) and three WEIRD countries (i.e., the United States, the United Kingdom, and Germany) to test differences between and within these two cultural categories. Before comparing East Asian to WEIRD countries, we first tested whether countries within each cultural category cluster together.

We conducted our studies during COVID-19 at two different time points (2020 and 2021), as people were facing health-related, economic, and social threats (e.g., Oyebode et al., 2021). Participants reported emotional experiences, motivation to decrease unpleasant emotions, and the extent to which they used a variety of emotion regulation strategies. All reports targeted the past week. We predicted that members of East Asian cultures would be less motivated than members of WEIRD cultures to decrease their unpleasant emotions. We further predicted that, given such differences in motivation, members of East Asian cultures would use emotion regulation strategies to decrease their unpleasant emotions less than members of WEIRD cultures. We expected all cultural differences to hold even after controlling for potential differences in unpleasant emotional experiences or demographic characteristics (i.e., age, gender, and education level).

Study 1

Study 1 was conducted during the early stages of the pandemic as part of a larger project. It was administered online, with samples recruited from the general population and universities.

Method

Participants

The final sample included 1,329 participants from three WEIRD countries (i.e., United States, United Kingdom, and Germany) and three East Asian countries (i.e., Japan, South Korea, and China). Participants were included in the final sample if they were native-born, native language speakers, over 18 years old, and spent more than 5 min answering the questionnaire. We excluded 52 participants for responding in under 300 ms. Among them, there were three

participants from Japan, 34 from South Korea, 11 from China, one from the United Kingdom, and three from the United States. Participants received monetary compensation (equivalent to \$3–\$5) or course credit for their participation. Table 1 presents sample characteristics by country.

The study was part of a larger project investigating cultural differences in emotion regulation. In the larger project, we aimed to collect data from 200 participants per country. This target sample size was determined based on suggestions by Cheung and Au (2005) and Hox and Maas (2001), where a minimum of 100 participants per group is considered sufficient to conduct multilevel structural equation modeling, which we were planning to conduct to test research questions unrelated to the present investigation. To ensure sufficient power and allow for potential exclusions, we doubled that sample size and aimed for 200 participants per country. The study was approved by the Hebrew University and local ethics committees.

Materials

The reliability estimates of all measures are listed by country in Table 2.

Unpleasant Emotional Experiences. Participants rated how they felt in the past week (1 = *not at all*, 5 = *a lot*) using the Profile of Mood States Scale (Curran et al., 1995). The scale includes seven items for depression, three items for anger, five items for fatigue, four items for confusion, seven items for tension, and six items for vigor. An overall unpleasant emotional experience score was computed by averaging across depression, anger, confusion, fatigue, and tension.

Motivation to Decrease Unpleasant Emotions. Three items assessed how motivated participants were to decrease their unpleasant emotions during the past week (1 = *not at all*; 5 = *a lot*). These items targeted desirability (i.e., “To what extent did you want to decrease your unpleasant emotions?”), commitment (i.e., “How committed were you to trying to feel less negative?”), and effort (i.e., “How much effort did you invest to decrease your unpleasant emotions?”). A composite score of motivation score was computed by averaging across the three items (see Gutentag & Tamir, 2022).

Overall Emotion Regulation Strategy Use. To estimate the overall use of emotion regulation strategies, we assessed how much participants used each of nine emotion regulation strategies and summed across them. Participants rated how much they used each strategy in the past week in order to influence their emotions (1 = *I did not do this at all*; 5 = *I did this a lot*). We used single items that have been previously used to assess emotion regulation

in daily life (e.g., Grommisch et al., 2020; Kalokerinos et al., 2017). These included items to assess situation selection (“I took steps to change the situation I was in”), distraction (“I distracted myself from the situation”), cognitive reappraisal (“I changed the way I was thinking about the situation”), rumination (“I ruminated or dwelled on the situation”), expressive suppression (“I tried to hide the expression of my negative feelings”), body-focused strategies (“I tried to influence my body (e.g., by taking deep breaths)”), humor (“I tried to find humor in the situation”), acceptance (“I tried to accept my feelings without judgment”), and emotional support seeking (“I turned to someone close to me to help me feel less negative”). We summed across all strategy ratings to create an overall strategy use score. No missing data were recorded for this measure.

Procedure

Participants completed the study online between April and June 2020. They completed the study in their native language or their formal language of instruction. For non-English versions, we carried out iterations of translation and back-translation by independent bilinguals to obtain satisfactory versions. Separate gender-matched versions of the survey were used in languages that distinguish gender. After giving consent, participants were informed that this survey is conducted amid an ongoing COVID-19 pandemic and that it is designed to examine, in real time, how the pandemic is affecting people, including their actions, thoughts, and feelings. Participants then rated their emotional experiences. Afterward, they reported their motivation to decrease their unpleasant emotions and rated the extent to which they used different emotion regulation strategies. All questions referred to the past week. Participants completed additional measures that were not directly related to the current research question. Finally, they provided demographic information.

Analyses

Measurement Equivalence. To test whether our measures assessed the same constructs across cultures, we tested their cross-cultural equivalence (e.g., Fischer & Fontaine, 2012; van de Vijver & Leung, 2011). We followed standard procedures (e.g., Byrne et al., 1989; Vandenberg & Lance, 2000), using separate multigroup confirmatory factor analyses. We used multiple fit indices to evaluate the models, treating comparative fit index values $\geq .90$, root-mean-square error of approximation values $\leq .06$, and the standardized root-mean-square residual values $\leq .08$

Table 1
Sample Characteristics (Study 1)

Country	N	% Female	Language	Age	Population	Compensation	Unpleasant emotional experience	Education level
				M (SD)			M (SD)	M (SD)
United States	239	49.60	English	33.38 (12.35)	General	Cash	−0.27 (0.59)	3.60 (1.18)
United Kingdom	184	47.80	English	37.08 (13.96)	General	Cash	−0.35 (0.57)	4.16 (1.35)
Germany	155	83.90	German	21.26 (2.49)	Student	Credit	−0.38 (0.48)	3.06 (0.35)
Japan	278	54	Japanese	37.84 (10.48)	General	Cash	−0.15 (0.56)	3.30 (1.15)
China	276	57.60	Chinese	20.21 (1.62)	Student	Cash	−0.5 (0.51)	3.34 (0.68)
South Korea	197	49.20	Korean	24.65 (3.19)	General	Cash	−0.25 (0.39)	3.51 (0.97)

Table 2
Scale Reliabilities by Country (Study 1)

Scale	United States	United Kingdom	Germany	Japan	South Korea	China
Negative emotional experiences						
Depression	0.94	0.93	0.87	0.89	0.84	0.94
Anger	0.83	0.81	0.73	0.83	0.76	0.84
Fatigue	0.92	0.93	0.89	0.91	0.73	0.90
Confusion	0.75	0.79	0.72	0.66	0.38	0.72
Tension	0.90	0.89	0.80	0.88	0.67	0.90
Motivation to decrease unpleasant emotions	0.78	0.80	0.75	0.81	0.77	0.78
Overall use of emotion regulation strategies	0.70	0.73	0.43	0.76	0.84	0.79

(Hu & Bentler, 1999; Marsh et al., 2004) as indicating a reasonable model fit.

First, for each scale, we confirmed that all the items loaded on the same latent factor across cultures (i.e., configural invariance). Next, we tested whether the loadings of the items on the latent factor were equal across cultures (i.e., metric invariance). Partial metric invariance is sufficient to justify associations between variables as comparable across cultural samples (see the Supplemental Materials for the fit coefficients). All of our scales met the criteria for partial metric invariance (Byrne et al., 1989; Chen, 2007).

Response Biases. Cultural differences in response styles can be a concern when comparing mean levels of responses on subjective Likert scales. For instance, East Asians are less likely to use the endpoints of a scale than North Americans (Chen et al., 1995). To test for potential response biases in our sample, we summed all instances in which a participant marked one of the endpoints of the scale (Harzing, 2006; Johnson et al., 2005) across the items that assessed motivation to decrease unpleasant emotions and the items that assess emotion regulation strategies. Across the 13 items, participants from WEIRD countries were more likely to use the endpoints of the scale ($M = 3.17$; $SD = 2.52$) than were East Asian participants ($M = 2.06$; $SD = 2.50$), $t(1236.3) = 7.96$, $p < .001$, 95% confidence interval [0.83, 1.38]. Because ipsatization is problematic when items target the same domain and because it has been criticized as a potential solution for response biases (Fischer, 2004), we accounted for cross-cultural response bias using a recoding procedure (e.g., He & Van de Vijver, 2016). Since the key response scales in the present investigation ranged from 1 to 5, a moderation bias would manifest itself by using the Scale Point 2 instead of the Scale Point 1 and using the Scale Point 4 instead of the Scale Point 5. Consequently, we addressed differences in the response styles of the samples by recoding all the responses of 1 and 2 as -1 , all responses of 3 as 0, and all responses of 4 and 5 as 1. We conducted all analyses using both the raw scores and the response bias-corrected scores, and the results were equivalent (analyses with raw scores are reported in the Supplemental Materials).

Transparency and Openness

The data in Study 1 were collected as part of a larger research project. The larger project targeted a larger number of countries. Here, we focused specifically on six target countries to test predictions regarding East Asian versus WEIRD countries. Data were analyzed using R, Version 4.2.1 (R Core Team, 2022). All research materials, data, and analysis codes are available on

the Open Science Framework at https://osf.io/jxhd3/?view_only=42d1b5b081c542fcb38db7d1cf7e398e. We report how we determined our sample sizes, data exclusions, and all measures relevant to the current research questions. Study 1 was not preregistered. The study was approved by local ethics committees.

Results

Did East Asian and WEIRD Countries Form Two Distinct Clusters?

Before following our original analysis plan, we performed a cluster analysis to identify groups of samples with similar patterns of motivation and strategy use in emotion regulation. This analysis allowed us to test whether: (a) motivation and strategy use in emotion regulation differed across countries, (b) motivation to decrease unpleasant emotions was positively linked to emotion regulation strategy use, and (c) East Asian countries and WEIRD countries formed two distinct and coherent cultural categories.

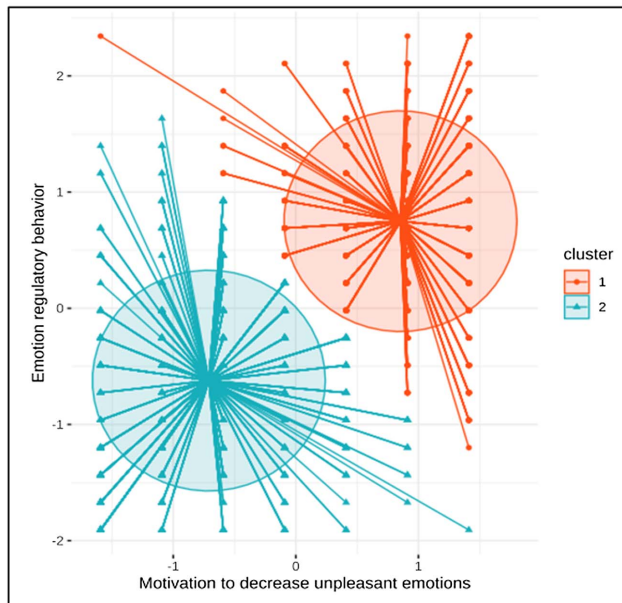
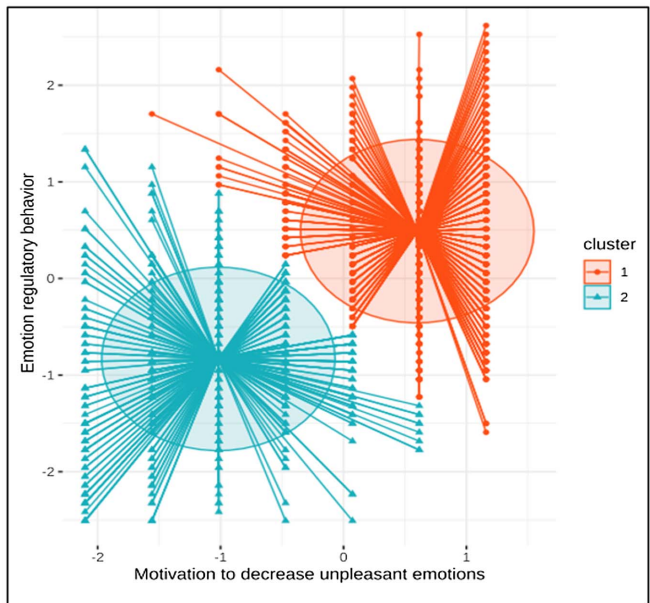
Motivation and strategy use variables were standardized. To conduct the cluster analysis, first, we computed the Hopkins statistics (Lawson & Jurs, 1990) to assess the clustering tendency of the data, using the `factoextra` package in R programming (Kassambara & Mundt, 2017). Results indicated that the data are clusterable ($H = .59$). Next, to determine the optimal cluster number, we used the `nbclust()` function, which assessed 30 different indices for determining the relevant number of clusters and provided the best clustering scheme with a majority rule (Charrad et al., 2014).

Results indicated that the optimal cluster size was two. We then validated the goodness-of-clustering results by examining the average silhouette coefficient, using the `fviz_silhouette()` function. As shown in Figure 1 (left panel), Cluster 1 is characterized by stronger motivation to decrease unpleasant emotions and greater overall use of emotion regulation strategies, and Cluster 2 is characterized by weaker motivation to decrease unpleasant emotions and less use of emotion regulation strategies. Table 3 (left panel) shows the distribution of countries across clusters. In general, participants in most countries fell evenly into Cluster 1 (i.e., higher motivation, higher overall emotion regulation strategy use) and Cluster 2 (i.e., lower motivation, lower overall emotion regulation strategy use), except for two countries. Japanese participants were more likely to fall into Cluster 2, whereas German participants were more likely to fall into Cluster 1.

These results indicate that motivation and strategy use in emotion regulation indeed differed across countries. Also, as expected, stronger motivation to decrease unpleasant emotions was positively

Figure 1

Visual Representation of the Clustering Solution of Motivation and Emotion Regulation Patterns by Culture (Study 1 and Study 2)

Study 1**Study 2**

Note. The length of the vector represents the distance or the degree of dissimilarity between the observation and its closest centroid (i.e., the center of each cluster). See the online article for the color version of this figure.

linked to the overall use of emotion regulation strategies. However, contrary to our expectation, East Asian countries and WEIRD countries did not form two coherent cultural categories. Consequently, in subsequent analyses, we focused on country-level comparisons. We also compared all East Asian countries to all WEIRD countries and report the results of these analyses in the Supplemental Materials.

Did Countries Differ in Demographic Variables and Emotional Experiences?

Potential differences in the motivation to regulate emotions may differ as a function of age, education, gender, or emotional

intensity, all of which may have differed across countries in our study. Therefore, before testing our key hypotheses, we first conducted a series of linear regression tests, using country to predict age and education level. Second, we conducted a chi-square test to assess whether the gender distribution was significantly different across countries. Third, we ran another linear regression, using country to predict unpleasant emotional experiences. We found country-level differences in age, $F(5, 1323) = 180.78, p < .001, \eta_p^2 = .41$; education, $F(5, 1319) = 25.32, p < .001, \eta_p^2 = .09$; gender, $\chi^2(10, 1329) = 85.26, p < .001, \text{Cramer's } V = 0.18$; and unpleasant emotional experiences, $F(5, 1323) = 14.39, p < .001, \eta_p^2 = .05$ (see Table 1 for country means).¹

Because our sample compositions differed across countries, when testing our key hypotheses, we controlled for participants' age, gender ($-1 = \text{male}, 1 = \text{female}, 0 = \text{unknown}$), and level of education ($1 = \text{primary education or less}, 2 = \text{secondary education}, 3 = \text{some tertiary education}, 4 = \text{complete tertiary education}, 5 = \text{graduate education}, 6 = \text{postgraduate degree}$). Given that cultures differ in the intensity of emotional experiences (Mesquita & Frijda, 1992) and such differences could account for potential differences in the motivation to regulate emotions, we also controlled for mean unpleasant emotional experiences. In all analyses, continuous variables were centered. Below, we report analyses in which we controlled for all covariates. We report results without covariates in the Supplemental Materials.

Table 3

Clusters by Country Distribution

Country	Study 1		Study 2	
	Cluster 1	Cluster 2	Cluster 1	Cluster 2
Germany	69.03%	30.97%	60.20%	39.80%
Japan	24.10%	75.90%	47.50%	52.50%
South Korea	41.12%	58.88%	53.02%	46.98%
China	53.26%	46.74%	77.88%	22.11%
United Kingdom	48.91%	51.09%	62.39%	37.61%
United States	46.44%	53.56%	74.38%	25.62%

Note. Cluster 1 represents stronger motivation to decrease unpleasant emotions and greater overall use of emotion regulation strategies, and Cluster 2 represents weaker motivation to decrease unpleasant emotions and lower overall use of emotion regulation strategies.

¹ Because four participants did not provide information about their level of education, the analysis that included education as a covariate included data from only 1,325 participants.

Did Countries Differ in the Motivation to Decrease Unpleasant Emotions?

To test whether there were country-level differences in motivation, we fitted a linear regression model in R, entering the categorical variable of country as the predictor and motivation as the outcome. To assess whether one or more significant differences existed among country levels, we used the *anova()* function in R to obtain an F statistic. To probe specific group differences, we conducted 15 pairwise comparisons, comparing motivation between all six countries, using the R package “emmeans” (Version 1.4.6; Lenth et al., 2020) and adjusting for multiple comparisons via Bonferroni correction. Between-country effect sizes (Cohen’s *d*) were estimated using the *eff_size()* function.

As expected, we found a main effect of country on motivation to decrease unpleasant emotions, $F(5, 1315) = 16.66, p < .001, \eta_p^2 = .06$. Figure 2 shows the mean by country and Table 4 shows the results of the pairwise comparisons. Japanese participants reported the lowest level of motivation to decrease unpleasant emotions, which was significantly lower than in all other countries, $ps \leq .005$. German participants reported stronger motivation to decrease unpleasant emotions than Americans and South Koreans did, $ps \leq .001$. South Koreans reported lower levels of motivation than Chinese participants did, $p = .002$.

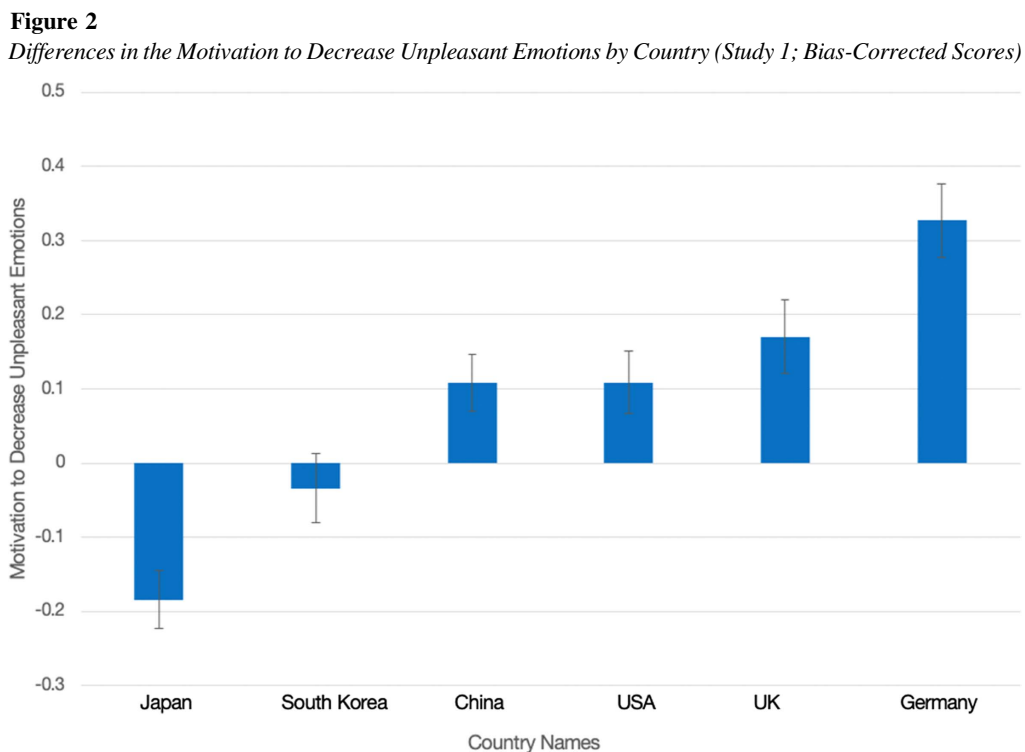
Did Countries Differ in Overall Emotion Regulation Strategy Use?

We repeated the above analysis predicting overall emotion regulation strategy use. As expected, there was a main effect of

country, $F(5, 1315) = 36.17, p < .001, \eta_p^2 = .12$. Figure 3 shows the mean by country, and Table 4 shows the results of the pairwise comparisons. We found that Japanese participants used emotion regulation strategies the least, significantly less so than participants in all other countries, $ps < .001$. German participants used emotion regulation strategies the most, more than participants from the United Kingdom, the United States, and South Korea, $ps \leq .001$.

Was Motivation Associated With Overall Strategy Use Across Countries?

To test whether motivation to decrease unpleasant emotions was associated with overall strategy use across countries, we tested whether motivation predicted overall strategy use and whether this effect was moderated by country. We used the *emrends()* function to test whether the simple slopes that represent the association between motivation and overall strategy use for each country differed from one another. As predicted, we found a main effect of motivation, $F(1, 1309) = 716.64, p < .001, \eta_p^2 = .35$, indicating that people who were more motivated to decrease their unpleasant emotions used emotion regulation strategies more overall. There was also a main effect of country, $F(5, 1309) = 23.68, p < .001, \eta_p^2 = .08$, showing that overall strategy use differed by country. These main effects were qualified by a significant interaction between motivation and country, $F(5, 1309) = 4.12, p = .001, \eta_p^2 = .02$. As shown in Figure 4, motivation to decrease unpleasant emotions was positively associated with emotion regulation strategy use in all countries. However, the strength of this positive association differed across countries, such that it was weaker in Germany than in China ($p = .015$) and South Korea ($p < .001$).



Note. Error bars represent standard errors. USA = United States of America; UK = United Kingdom. See the online article for the color version of this figure.

Table 4

Pairwise Comparisons for Country-Level Differences in Motivation to Decrease Unpleasant Emotions (Model 1) and in Overall Emotion Regulation Strategy Use (Model 2) Controlling for Age, Gender, Education, and Unpleasant Emotional Experiences (Study 1)

Contrast	Estimate	SE	df	t	p	95% CI	Cohen's d
Model 1: Did countries differ in the motivation to decrease unpleasant emotions?							
Japan–China	−0.46	0.07	1,315	−7.11	<.001	[−0.65, −0.27]	−0.74
Japan–Germany	−0.63	0.07	1,315	−8.75	<.001	[−0.84, −0.42]	−1.01
Japan–South Korea	−0.23	0.06	1,315	−3.58	0.005	[−0.42, −0.04]	−0.37
Japan–United Kingdom	−0.40	0.06	1,315	−6.54	<.001	[−0.59, −0.22]	−0.64
Japan–United States	−0.34	0.06	1,315	−6.08	<.001	[−0.51, −0.18]	−0.55
China–Germany	−0.17	0.06	1,315	−2.65	0.012	[−0.36, 0.02]	−0.27
China–South Korea	0.23	0.06	1,315	3.82	0.002	[0.05, 0.41]	0.37
China–United Kingdom	0.06	0.07	1,315	0.82	1	[−0.15, 0.26]	0.09
China–United States	0.12	0.06	1,315	1.90	0.858	[−0.06, 0.30]	0.19
Germany–South Korea	0.40	0.07	1,315	5.73	<.001	[0.19, 0.61]	0.64
Germany–United Kingdom	0.23	0.08	1,315	2.90	0.057	[−0.00, 0.46]	0.36
Germany–United States	0.29	0.07	1,315	4.07	<.001	[0.08, 0.50]	0.46
South Korea–United Kingdom	−0.17	0.07	1,315	−2.49	0.191	[−0.38, 0.03]	−0.28
South Korea–United States	−0.11	0.06	1,315	−1.79	1	[−0.30, 0.07]	−0.18
United Kingdom–United States	0.06	0.06	1,315	0.97	1	[−0.12, 0.25]	0.10
Model 2: Did countries differ in overall emotion regulation strategy use?							
Japan–China	−3.91	0.40	1,315	−9.85	<.001	[−5.08, −2.75]	−1.02
Japan–Germany	−4.81	0.44	1,315	−10.9	<.001	[−6.10, −3.51]	−1.25
Japan–South Korea	−2.58	0.40	1,315	−6.54	<.001	[−3.75, −1.42]	−0.67
Japan–United Kingdom	−2.59	0.38	1,315	−6.83	<.001	[−3.70, −1.47]	−0.67
Japan–United States	−2.27	0.35	1,315	−6.55	<.001	[−3.28, −1.25]	−0.59
China–Germany	−0.89	0.39	1,315	−2.28	0.341	[−2.04, 0.26]	−0.23
China–South Korea	1.33	0.37	1,315	3.60	0.005	[0.24, 2.42]	0.35
China–United Kingdom	1.33	0.43	1,315	3.11	0.028	[0.07, 2.58]	0.35
China–United States	1.65	0.38	1,315	4.34	<.001	[0.53, 2.76]	0.43
Germany–South Korea	2.22	0.43	1,315	5.20	<.001	[0.97, 3.48]	0.58
Germany–United Kingdom	2.22	0.48	1,315	4.65	<.001	[0.82, 3.62]	0.58
Germany–United States	2.54	0.43	1,315	5.88	<.001	[1.27, 3.81]	0.66
South Korea–United Kingdom	−0	0.43	1,315	0	1	[−1.26, 1.25]	0
South Korea–United States	0.32	0.39	1,315	0.82	1	[−0.82, 1.45]	0.08
United Kingdom–United States	0.32	0.38	1,315	0.83	1	[−0.81, 1.45]	0.08

Note. Significant associations are highlighted in bold. SE = standard error; CI = confidence interval.

Discussion

We expected East Asian countries and WEIRD countries to cluster into two distinct categories. Contrary to this expectation, in Study 1, East Asian and WEIRD countries did not form clear and distinct clusters. Country-level analyses indicated that Japanese participants were the least motivated to decrease unpleasant emotions, whereas German participants were the most motivated. Contrary to our prediction, Chinese participants were as motivated to decrease their unpleasant emotions as were British and American participants. As expected, the same patterns that were found with motivation also emerged when examining overall emotion regulation strategy use. Japanese used emotion regulation strategies the least, whereas Germans used them the most. Across countries, people who were more motivated to decrease their unpleasant emotions also used emotion regulation strategies more, although the strength of this association varied by country.

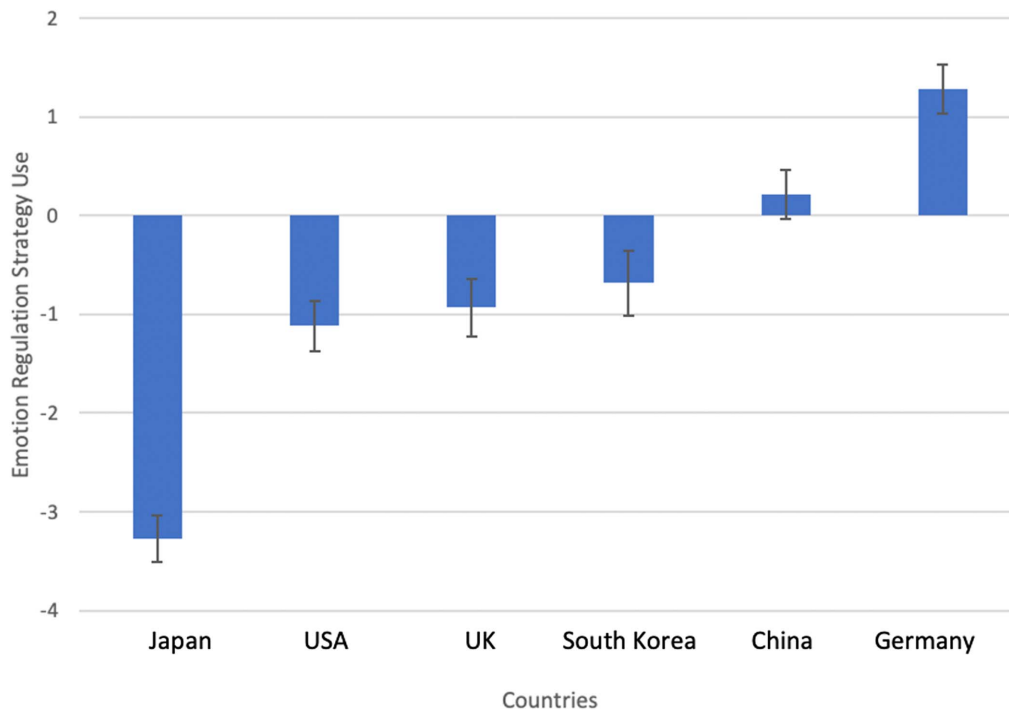
Study 1 had several limitations. First, samples differed by age, education level, and gender. Although we controlled for such differences, comparing more equivalent samples is preferable. Second, strategies were measured with single items, which made it difficult to assess reliability and cross-cultural equivalence. Third, when assessing emotion regulation strategy use, participants were

asked to indicate the extent to which they engaged in regulatory behaviors to influence their feelings, rather than to decrease their unpleasant emotions, in particular. This leaves open the possibility that participants used strategies to increase unpleasant emotions or to influence pleasant emotions. Fourth, our measure of unpleasant emotional experiences was designed to tap profiles of mood states rather than unpleasant emotions per se. We sought to address these limitations in Study 2.

Study 2

Study 2 was preregistered and conducted approximately 1 year after Study 1, in 2021 during the COVID-19 pandemic. In Study 2, we sought to test our initial hypotheses, while addressing the limitations of Study 1. First, to increase the equivalence of samples, participants in Study 2 were all university students. Second, we used a more reliable measure of emotion regulation strategy use, which included four items per strategy. Third, when measuring emotion regulation strategy use, we asked participants to indicate how much they implemented each behavior to decrease their unpleasant emotions, in particular. Finally, we included a different measure of emotional experiences that taps a broader range of emotion terms.

Figure 3
Differences in the Overall Use of Emotion Regulation Strategies by Country (Study 1; Bias-Corrected Scores)



Note. Error bars represent standard errors. USA = United States of America; UK = United Kingdom. See the online article for the color version of this figure.

Method

Participants

Our sample included 1,279 university students from the same six countries targeted in Study 1. The sample size was determined as in Study 1. Participants were included in the final sample if they were native-born, native language speakers, over 18 years old, spent more than 5 min answering the questionnaire, and passed two attention checks. In total, we removed 48 participants from the study. Of these, three were excluded because they responded in under 300 ms, 15 did not pass both attention checks, three were under 18 years of age, and 27 were not native-born. Participants received monetary compensation or course credit for their participation. Sample characteristics are summarized in Table 5. The study was approved by the Hebrew University and local ethics committees.

Materials

Reliability estimates of all measures are listed by country in Table 6.

Emotional Experiences. Participants rated how they felt in the past week (1 = *not at all*, 5 = *a lot*) using the Actual Emotions subscale of the Desired and Actual Emotions scale (Tamir et al., 2016). The scale included three items for sadness, four items for anger, and four items for fear. There were also four items for calmness, five items for excitement, and five items for love. Each emotion subscale score was computed by averaging the items

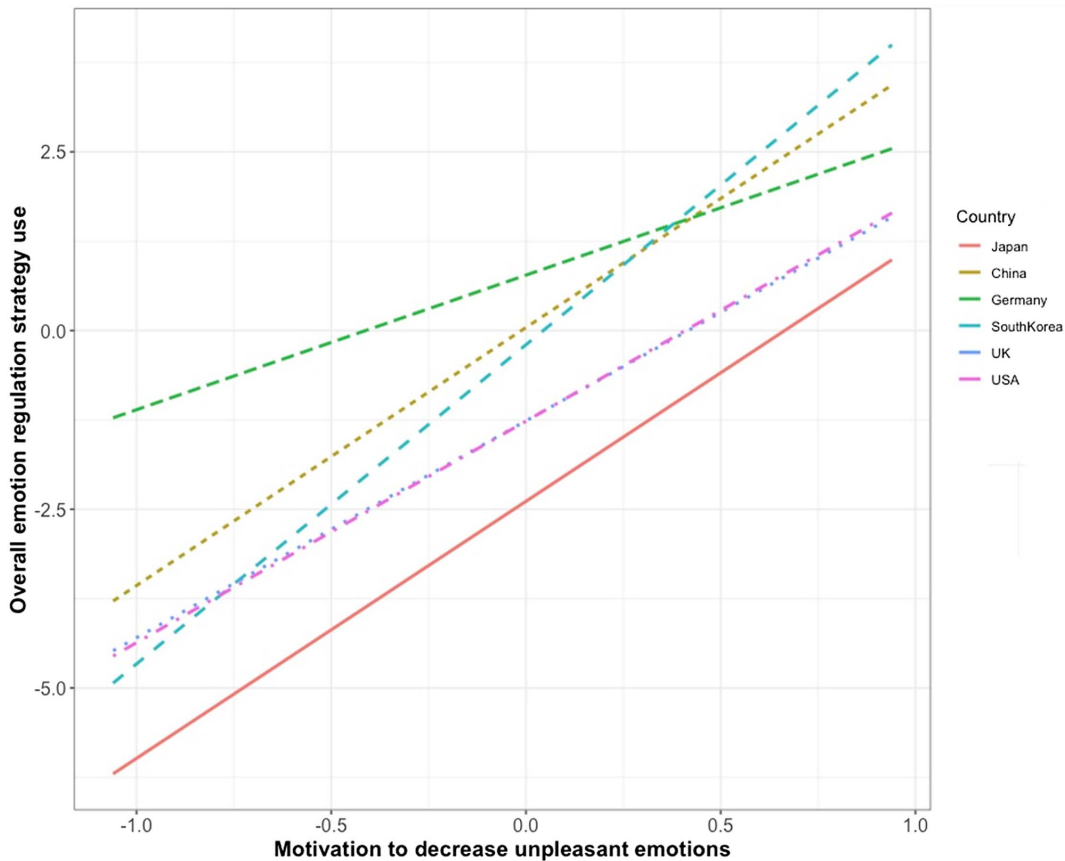
belonging to that emotion group. An overall unpleasant emotional experience score was computed by averaging sadness, anger, and fear.

Motivation to Decrease Unpleasant Emotions. This scale was similar to the one used in Study 1, except that the item concerning effort was replaced with an item concerning the perceived importance of decreasing unpleasant emotion, which is more directly reflective of motivation (i.e., “How important was it for you to make yourself feel better?”; 1 = *not at all*; 5 = *a lot*). A composite score of motivation was computed by averaging across the three items.

Overall Emotion Regulation Strategy Use. We assessed the extent to which participants used each of seven emotion regulation strategies and then summed across them (for more information on scale validation, see Tamir et al., 2023). Participants rated the extent to which they used each of seven emotion regulation strategies in the past week in order to decrease their unpleasant emotions on a scale of 1 (*I did not do this at all*) to 5 (*I did this a lot*). We used four items for each emotion regulation strategy category. These categories included situation selection (“I chose which situation to put myself in”), distraction (“I tried thinking about something else”), and cognitive reappraisal (“I tried to see the event that made me feel bad from a different perspective”). We also included items that measured rumination (“I ruminated or dwelled on the situation”), expressive suppression (“I made sure not to show my emotions”), acceptance (“I tried to accept my feelings without judgment”), and emotional support seeking (“I turned to someone close to me to help me feel better”). We first averaged across the four items that tapped

Figure 4

Associations Between the Motivation to Decrease Unpleasant Emotions and the Use of Emotion Regulation Strategies by Country (Study 1; Bias-Corrected Scores)



Note. UK = United Kingdom; USA = United States of America. See the online article for the color version of this figure.

each individual strategy (for information on reliabilities, see Tamir et al., 2023), and then we summed all strategy scores to estimate overall strategy use. No missing data were recorded for this measure.

Procedure

The procedure was identical to that of Study 1.

Analyses

Measurement Equivalence. As in Study 1, we first tested the cross-cultural equivalence of all our measures (e.g., Fischer & Fontaine, 2012; Van de Vijver & Leung, 2011). All our scales met criteria for partial metric or metric invariance (see Supplemental Table S2 for the fit coefficients).

Response Biases. We followed the same procedure as in Study 1 to test for potential response biases. As in Study 1, we found that participants from WEIRD countries were more likely to use the endpoints of the scale ($M = 7.73$; $SD = 5.61$) than East Asian participants ($M = 6.74$; $SD = 6.38$), $t(1237.5) = 2.95$, $p = .003$, 95% confidence interval [0.33, 1.66]. Thus, as in Study 1, we addressed differences in response styles by recoding all the responses of 1 and

2 as -1 , all responses of 3 as 0, and all responses of 4 and 5 as 1. We report analyses with raw scores in the Supplemental Materials.

Transparency and Openness

This study was preregistered (https://aspredicted.org/F6W_QB8). The study was part of a larger project. The larger project included many countries, but as indicated in the preregistration, here we targeted only six countries, to specifically compare East Asian to WEIRD countries. Data were analyzed using R, Version 4.2.1 (R Core Team, 2022). Data, analysis code, and study materials are available on the Open Science Framework at https://osf.io/jxhd3/?view_only=42d1b5b081c542fcb38db7d1cf7e398e.

Results

Did East Asian and WEIRD Countries Form Two Distinct Clusters?

We followed the same procedure as in Study 1 to conduct the cluster analysis. Hopkins statistics suggests that the data were clusterable ($H = .34$). As shown in Figure 1 (right panel), Cluster 1 is characterized by stronger motivation to decrease unpleasant

Table 5
Sample Characteristics (Study 2)

Country	N	% Female	Language	Age	Population	Compensation	Unpleasant emotional experience <i>M</i> (<i>SD</i>)
				<i>M</i> (<i>SD</i>)			
United States	242	85.10	English	19.98 (1.23)	Student	Cash and credit	-0.23 (0.42)
United Kingdom	218	50	English	23.31 (7.14)	Student	Cash	-0.41 (0.47)
Germany	196	49	German	23.55 (3.16)	Student	Cash	-0.35 (0.47)
Japan	200	44	Japanese	20.94 (2.92)	Student	Cash	-0.27 (0.54)
China	208	64.40	Chinese	21.69 (2.13)	Student	Cash	-0.46 (0.51)
South Korea	215	72.60	Korean	22.17 (2.66)	Student	Cash	-0.47 (0.49)

emotions and greater overall use of emotion regulation strategies, and Cluster 2 is characterized by weaker motivation to decrease unpleasant emotions and using emotion regulation strategies less. Table 3 (right panel) shows the distribution of countries across clusters. In Study 2, participants in most countries were more likely to fall into Cluster 1 (i.e., higher motivation, higher overall emotion regulation strategy use), except for Japanese participants, who were more likely to fall into Cluster 2 (i.e., lower motivation, lower overall emotion regulation strategy use).

These results indicate that motivation and strategy use in emotion regulation differed across countries. Also, as expected, stronger motivation to decrease unpleasant emotions was positively linked to the overall use of emotion regulation strategies. Contrary to our expectation and as in Study 1, East Asian countries and WEIRD countries did not form two coherent cultural categories. This led us to focus on country-level comparisons.

Did Countries Differ in Demographic Variables and Emotional Experiences?

As in Study 1, we conducted a series of linear regressions, using country to predict age and unpleasant emotional experiences. We also conducted a chi-square test to assess whether the gender distribution differed across countries. As all participants in Study 2 were university students, we did not control for education level in the analyses. We found country-level differences in age, $F(5, 1273) = 29.94, p < .001, \eta_p^2 = .11$; gender $\chi^2(10, 1279) = 134.28, p < .001$, Cramer's $V = 0.23$; and mean unpleasant emotional experiences, $F(5, 1273) = 9.82, p < .001, \eta_p^2 = .04$. Therefore, we controlled for these variables in subsequent analyses (results of analyses without

controlling for these variables are reported in the Supplemental Materials).

Did Countries Differ in the Motivation to Decrease Unpleasant Emotions?

We conducted equivalent analyses to those reported in Study 1. As shown in Figure 5, we found country-level differences in the motivation to decrease unpleasant emotions, $F(5, 1270) = 7.44, p < .001, \eta_p^2 = .03$. Table 7 presents the results of the pairwise comparisons. As in Study 1, Japanese participants reported the lowest level of motivation to decrease unpleasant emotions, which was significantly lower than in China ($p < .001$), United Kingdom ($p = .006$), and United States ($p < .001$) but not significantly lower than in South Korea or Germany. Unexpectedly, we also found that Chinese participants were more motivated to decrease unpleasant emotions than were German participants ($p = .049$).

Did Countries Differ in Overall Emotion Regulation Strategy Use?

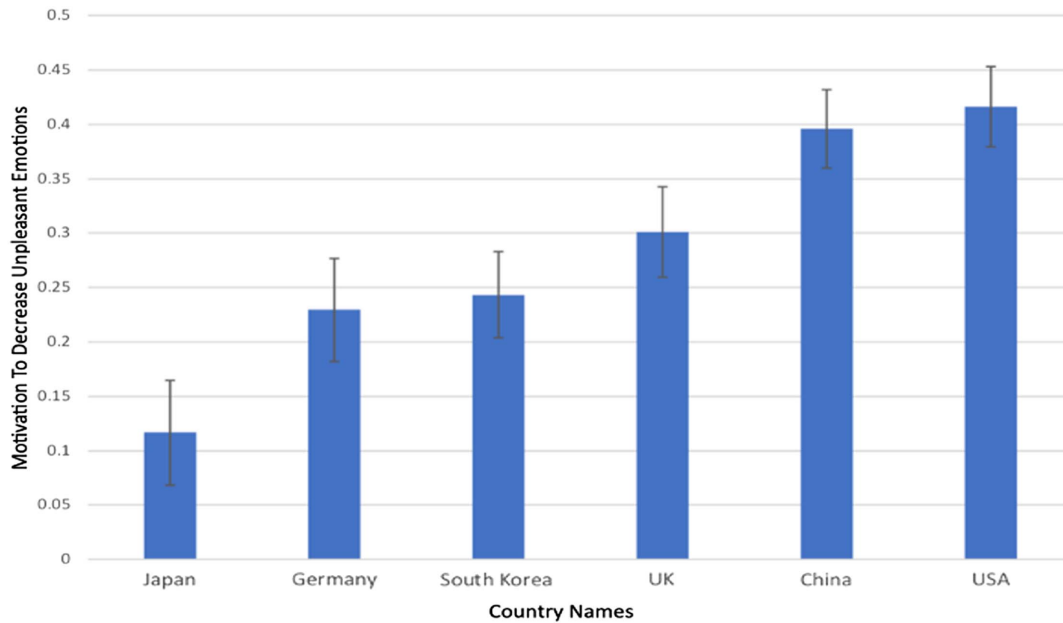
We repeated the above analysis predicting overall emotion regulation strategy use. As expected and shown in Figure 6, we found country-level differences, $F(5, 1270) = 30.67, p < .001, \eta_p^2 = .11$. See Table 7 for the pairwise comparisons. We found that Japanese participants used emotion regulation strategies significantly less than participants in all other countries; for United Kingdom, United States, China, and Germany $ps < .001$ and for South Korea $p = .006$. Unexpectedly, Chinese participants used emotion regulation strategies more than participants in all other

Table 6
Scale Reliabilities by Cultural Sample (Study 2)

Scale	United States	United Kingdom	Germany	Japan	South Korea	China
Emotion experiences						
Sadness	0.80	0.85	0.81	0.81	0.85	0.82
Anger	0.71	0.72	0.79	0.79	0.82	0.87
Fear	0.73	0.85	0.81	0.76	0.83	0.82
Motivation to decrease unpleasant emotions	0.77	0.78	0.84	0.80	0.74	0.66
Emotion regulation strategies						
Acceptance	0.78	0.75	0.66	0.79	0.74	0.69
Suppression	0.88	0.83	0.89	0.89	0.89	0.84
Reappraisal	0.88	0.85	0.87	0.86	0.82	0.79
Distraction	0.79	0.81	0.78	0.78	0.77	0.83
Support	0.71	0.78	0.78	0.71	0.67	0.71
Rumination	0.90	0.89	0.88	0.88	0.77	0.77

Figure 5

Differences in the Motivation to Decrease Unpleasant Emotions by Country (Study 2; Bias-Corrected Scores)



Note. Error bars represent standard errors. UK = United Kingdom; USA = United States of America. See the online article for the color version of this figure.

countries ($p < .001$). Finally, Americans used emotion regulation strategies more than South Koreans, $p < .001$.

Was Motivation Associated With Overall Strategy Use Across Countries?

We tested whether motivation predicted overall strategy use and whether this effect was moderated by country. First, there was a significant main effect of motivation, $F(1, 1264) = 495.35$ $p < .001$, $\eta_p^2 = .28$, indicating that people who were more motivated to decrease their unpleasant emotions used emotion regulation strategies more overall. There was also a main effect of country, $F(5, 1264) = 23.37$ $p < .001$, $\eta_p^2 = .08$, suggesting that there was country-level difference in overall strategy use. Contrary to Study 1, the interaction between motivation and country was not significant ($p = .148$), indicating that the association between motivation and overall strategy use did not significantly differ across countries.

Discussion

As in Study 1, Japanese participants reported the lowest level of motivation to decrease unpleasant emotions, significantly lower than in China, United Kingdom, and the United States. Also as expected, participants in the United States and the United Kingdom reported relatively higher levels of motivation to decrease unpleasant emotions. Contrary to our expectations but consistent with Study 1, Chinese participants used emotion regulation strategies the most. In addition, contrary to our expectations and contrary to the results in Study 1, German participants reported relatively low motivation to decrease unpleasant emotions. Across countries, people who were more motivated to decrease their

unpleasant emotions used emotion regulation strategies more overall.

General Discussion

Whether and how people engage in emotion regulation depends on their motivation to do so (Gross, 2015; Tamir, 2021). As people were coping with the unpleasant ramifications of COVID-19, we found that people from different countries varied in how motivated they were to decrease their unpleasant emotions. In particular, in two studies, Japanese participants were the least motivated to decrease their unpleasant emotions. Furthermore, we found that people who were less (vs. more) motivated to decrease their unpleasant emotions also used emotion regulation strategies less. Such differences, however, could not be attributed to East Asian versus WEIRD cultural contexts, questioning the utility of using these broad cultural categories to study cross-cultural differences in motivated emotion regulation.

Understanding Country Differences in Emotion Regulation

The current investigation builds on prior work showing that people from different cultures vary in how they think about and evaluate pleasant and unpleasant emotions. Whereas North Americans tend to consider pleasant emotions as primarily good and unpleasant emotions as primarily bad, people from East Asian cultures have more mixed and nuanced views of both pleasant and unpleasant emotions (An et al., 2017; Eid & Diener, 2001; Joshanloo et al., 2016; Uchida & Kitayama, 2009). These evaluations, in turn, could lead to cultural differences in the motivation to regulate

Table 7

Pairwise Comparisons for Country-Level Differences in Motivation to Decrease Unpleasant Emotions (Model 1) and in Overall Emotion Regulation Strategy Use (Model 2) Controlling for Age, Gender, and Unpleasant Emotional Experiences (Study 2)

Contrast	Estimate	SE	df	t	p	95% CI	Cohen's d
Model 1: Did countries differ in the motivation to decrease unpleasant emotions?							
Japan–Germany	−0.13	0.06	1,270	−2.09	0.555	[−0.31, 0.05]	−0.21
Japan–South Korea	−0.15	0.06	1,270	−2.55	0.162	[−0.33, 0.02]	−0.26
Japan–China	−0.31	0.06	1,270	−5.09	<.001	[−0.48, −0.13]	−0.51
Japan–United Kingdom	−0.21	0.06	1,270	−3.51	0.007	[−0.39, −0.03]	−0.35
Japan–United States	−0.28	0.06	1,270	−4.67	<.001	[−0.45, −0.10]	−0.46
Germany–South Korea	−0.03	0.06	1,270	−0.43	1	[−0.20, 0.15]	−0.04
Germany–China	−0.18	0.06	1,270	−2.95	0.049	[−0.36, −0.00]	−0.30
Germany–United Kingdom	−0.08	0.06	1,270	−1.39	1	[−0.26, 0.09]	−0.14
Germany–United States	−0.15	0.06	1,270	−2.43	0.229	[−0.33, 0.031]	−0.25
South Korea–China	−0.15	0.06	1,270	−2.62	0.135	[−0.32, 0.02]	−0.25
South Korea–United Kingdom	−0.06	0.06	1,270	−0.96	1	[−0.23, 0.12]	−0.09
South Korea–United States	−0.12	0.06	1,270	−2.12	0.515	[−0.29, 0.05]	−0.20
China–United Kingdom	0.10	0.06	1,270	1.64	1	[−0.08, 0.27]	0.16
China–United States	0.03	0.06	1,270	0.53	1	[−0.14, 0.20]	0.05
United Kingdom–United States	−0.07	0.06	1,270	−1.12	1	[−0.24, 0.11]	−0.11
Model 2: Did countries differ in overall emotion regulation strategy use?							
Japan–Germany	−1.48	0.26	1,270	−5.80	<.001	[−2.23, −0.73]	−0.60
Japan–South Korea	−0.89	0.25	1,270	−3.53	0.006	[−1.65, −0.17]	−0.36
Japan–China	−2.89	0.25	1,270	−11.58	<.001	[−3.63, −2.16]	−1.17
Japan–United Kingdom	−1.38	0.25	1,270	−5.58	<.001	[−2.11, −0.66]	−0.56
Japan–United States	−1.87	0.25	1,270	−7.62	<.001	[−2.59, −1.15]	−0.75
Germany–South Korea	0.59	0.25	1,270	2.38	0.265	[−0.16, 1.30]	0.24
Germany–China	−1.42	0.25	1,270	−5.64	<.001	[−2.16, −0.68]	−0.57
Germany–United Kingdom	0.09	0.25	1,270	0.39	1	[−0.63, 0.81]	0.04
Germany–United States	−0.39	0.25	1,270	−1.56	1	[−1.14, 0.35]	−0.16
South Korea–China	−2.01	0.24	1,270	−8.30	<.001	[−2.70, −1.28]	−0.81
South Korea–United Kingdom	−0.50	0.24	1,270	−2.06	0.599	[−1.19, 0.24]	−0.20
South Korea–United States	−0.99	0.24	1,270	−4.12	<.001	[−1.67, −0.26]	−0.40
China–United Kingdom	1.51	0.24	1,270	6.20	<.001	[0.80, 2.23]	0.61
China–United States	1.02	0.24	1,270	4.25	<.001	[0.32, 1.73]	0.41
United Kingdom–United States	−0.49	0.25	1,270	−1.98	0.715	[−1.21, 0.23]	−0.20

Note. Significant associations are reported in bold. SE = standard error; CI = confidence interval.

emotions (Miyamoto et al., 2014) and could shape how people regulate emotions.

Our findings offer several contributions to research on emotion regulation and culture. First, our findings show that the motivation to decrease unpleasant emotions differs across countries. Even in the face of a global pandemic, members of some cultures (e.g., Japan) were less motivated to decrease their unpleasant emotions than were members of other cultures (e.g., United States). Given that motivation is the defining feature and necessary prerequisite of emotion-regulatory behavior (Gross, 2015; Tamir, 2021), such differences may carry important downstream implications.

Second, we found that people who were less motivated to decrease unpleasant emotions were also likely to use emotion regulation strategies to a lesser extent overall. This association was true across countries, with differences in the strength of the association in Study 1 and no differences by country in Study 2. Although there is some research on cultural differences in the use of specific strategies (e.g., Choi & Miyamoto, 2023; Matsumoto et al., 1998), this is the first investigation to our knowledge that assesses cultural differences in the overall extent of emotion regulation strategy use and links it to differences in the motivation to regulate emotions.

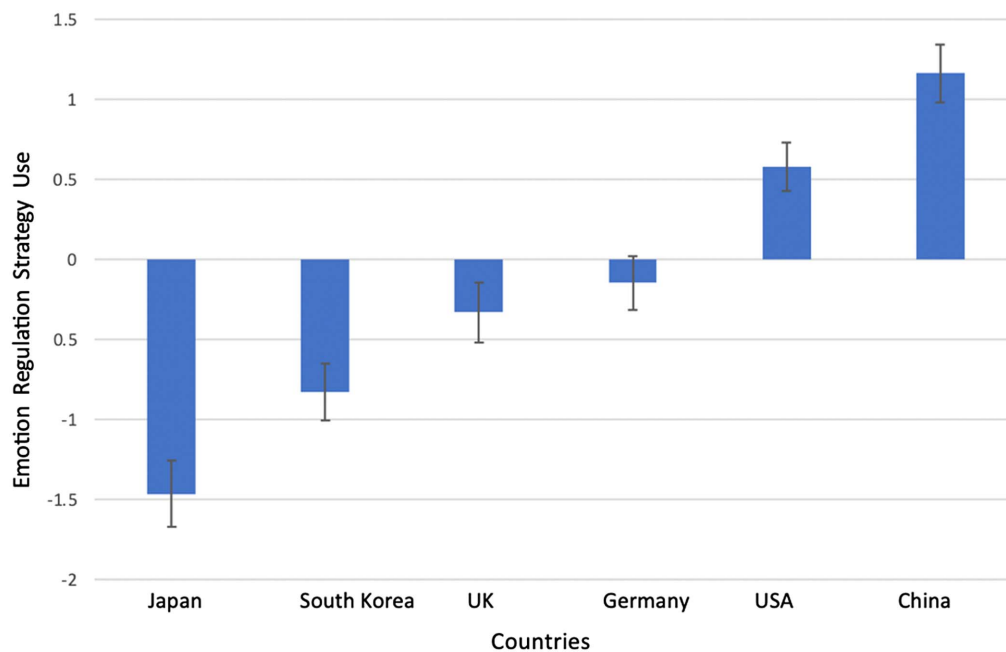
Third, in an attempt to understand the nature of potential cultural differences in motivated emotion regulation, our investigation

moved beyond North America and beyond a comparison of two cultural samples. By testing our hypotheses in three East Asian (i.e., Japan, South Korea, and China) and three WEIRD (i.e., United States, United Kingdom, and Germany) countries, we could assess differences both within and across cultural categories. Our findings in both studies clearly show that the East Asian versus WEIRD cultural distinction is not sufficient to account for the country-level differences in motivated emotion regulation.

Across studies, Japanese participants reported the lowest motivation to decrease unpleasant emotions and the lowest levels of emotion regulation strategy use. This finding is consistent with some available evidence (e.g., Miyamoto & Ma, 2011) and with characteristics of Buddhist teaching. Among East Asian cultures, the percentage of Buddhists are largest in Japan, followed by South Korea, and then China (Pew Research Center, 2012). Buddhism emphasizes noninterference with one's emotions as it holds that emotions naturally come and go on their own (Wilken & Miyamoto, 2020). Such a perspective could be related to the low motivation to regulate emotions and the low use of emotion regulation strategies among Japanese respondents.

The patterns found with Japanese participants, however, did not characterize members of the other East Asian countries. Whereas South Korea was somewhat similar to Japan, albeit less extreme, Chinese participants in both studies were more similar to WEIRD

Figure 6
Differences in the Overall Use of Emotion Regulation Strategies by Country (Study 2; Bias-Corrected Scores)



Note. Error bars represent standard errors. UK = United Kingdom; USA = United States of America. See the online article for the color version of this figure.

countries than to other East Asian countries. Our findings in China may be attributed to the particular sample demographics or to the specific regions within the country where data collection took place. Rice farming areas in China tend to be more collectivistic (Talhelm et al., 2014). Our Chinese samples were collected in an area where there is 50% percent of paddy fields per cultivated land (Talhelm & English, 2020). It is also possible that our findings were driven by differences in cultural belief systems. In particular, Confucianism prescribes not only how one should act but also how one should feel, emphasizing the importance of self-cultivation to align actions and emotions (Virág, 2014, 2017). Such teachings might be linked to Chinese respondents' motivation to regulate their emotions and their overall use of emotion regulation strategies. Finally, it is possible that our findings reflect changes and the westernization of Chinese culture (e.g., Sun & Ryder, 2016).

Differences were also observed among members of some WEIRD cultures. American participants showed relatively higher levels of motivation to decrease unpleasant emotions (at least compared to Japanese participants) and did not differ from British participants across studies. In contrast, German participants acted inconsistently across the two studies, showing a relatively strong motivation to decrease unpleasant emotions in Study 1 and a relatively weak motivation to decrease unpleasant emotions in Study 2. This may have been due to the different samples that were targeted in each study or perhaps to differences in the form of compensation.

Limitations and Future Directions

Our design had several strengths. We were able to examine reactions to a common and natural stressor that induced distress in

multiple countries. We were able to assess motivation to decrease unpleasant emotions in six different countries that presumably represent East Asian and WEIRD cultural contexts. Furthermore, we were able to replicate some of our findings in a second preregistered study. Nonetheless, our studies had limitations.

First, we originally intended to compare East Asian and WEIRD cultural contexts, assuming that countries within each cultural category would show similar patterns. Our findings, however, did not support this a priori assumption. Hence, the differences we found between East Asian countries and between WEIRD countries were not anticipated. Future research is needed to directly examine why it is that Japanese participants differed from all other countries, including East Asian ones, and why Chinese participants were more similar to WEIRD countries than to the other East Asian countries.

Second, our studies were not entirely consistent, which may have led to some inconsistency in the findings. Study 2 was conducted a year into the pandemic, after people have had the opportunity to experience its devastating effects. This may be why in Study 2, participants in all countries but Japan were more likely to report relatively higher motivation to decrease unpleasant emotions. Differences across studies may have also been due to differences in the equivalence of cultural samples. The samples in Study 1 were more diverse than in Study 2, making it harder to explain differences across countries. For instance, the German sample in Study 1 differed in both age and gender from the other samples. Also, how participants were compensated differed across countries and across studies. When such differences were eliminated in Study 2, findings for the German sample were more consistent with the existing literature, indicating a relatively lower motivation to decrease

unpleasant emotions compared to Americans (Koopmann-Holm & Tsai, 2014). We cannot know for certain how the context of the pandemic, the time during the pandemic when the studies took place, or the sample selection influenced our results. Future studies could try to replicate our effects with more equivalent samples outside of the COVID-19 context.

Finally, our investigation demonstrates that members of some East Asian countries (e.g., Japan) are less motivated than members of some WEIRD countries (e.g., United States) to decrease unpleasant emotions and are also likely to use emotion regulation strategies less. Future research could test whether differences in emotion regulation strategy use are driven by country-level differences in the motivation to decrease unpleasant emotions. Future research could also examine whether and how countries differ in the motivation to regulate pleasant emotions. Finally, it remains to be tested whether the consequences and implications of the motivation to decrease unpleasant emotions and of using emotion regulation strategies are consistent across cultures.

Constraints on Generalizability

Our data were collected during COVID-19 and, therefore, may or may not generalize to other times. The use of cross-sectional self-report surveys might also confine generalizability. Although self-reports are likely good indicators of conscious motivation, they may or may not accurately capture how people behave when regulating their emotions. Also, our investigation targeted six specific countries, and our findings may not generalize to other countries. Future research could assess motivated emotion regulation among people from different countries as it occurs in real time, in daily life.

Summary

In two cross-cultural studies, we found differences in the motivation to decrease unpleasant emotions, as people faced the stress of COVID-19. Across studies, Japanese participants were the least motivated to decrease their unpleasant emotions. However, such patterns could not be attributed to differences in interdependence versus independence or to the East–West distinction, as patterns were inconsistent between and within Western and East Asian countries. Across countries, the more motivated people were to decrease their unpleasant emotions, the more they used emotion regulation strategies. The motivation to feel better and what people do to satisfy it differ both between and within Western and East Asian countries.

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