

BRIEF REPORT

Is Expressive Suppression Always Associated With Poorer Psychological Functioning? A Cross-Cultural Comparison Between European Americans and Hong Kong Chinese

José A. Soto and Christopher R. Perez
Pennsylvania State University

Young-Hoon Kim
University of Pennsylvania

Elizabeth A. Lee and Mark R. Minnick
Pennsylvania State University

The habitual use of expressive suppression as an emotion regulation strategy has been consistently linked to adverse outcomes in a number of domains, including psychological functioning. The present study aimed to uncover whether the suppression–health relationship is dependent on cultural context, given differing cultural norms surrounding the value of suppressing emotional displays. We hypothesized that the negative associations between suppression and psychological functioning seen in European Americans would not be seen among members of East Asian cultures, in which emotional restraint is relatively encouraged over emotional expression. To test this hypothesis, we asked 71 European American students and 100 Chinese students from Hong Kong to report on their use of expressive suppression, life satisfaction, and depressed mood. A moderation analysis revealed that expressive suppression was associated with adverse psychological functioning for European Americans, but not for Chinese participants. These findings highlight the importance of context in understanding the suppression–health relationship.

Keywords: suppression, life satisfaction, depression, culture, emotion regulation

Expressive suppression (hereinafter *suppression*) refers to the “conscious inhibition of one’s own emotionally expressive behavior while emotionally aroused” (Gross & Levenson, 1993, p. 970). Over a decade of research has demonstrated that using suppression, either chronically or in experimental settings, is consistently associated with a number of negative outcomes. These correlates include increased sympathetic arousal, decreased experience of positive emotions, increased experience of negative emotions, disturbed interpersonal interactions, increased reports of depressed mood, and decreased reports of well-being and life satisfaction (Butler et al., 2003; Gross & John, 2003; Gross & Levenson, 1993, 1997; John & Gross, 2004). For the most part, these findings have emerged in largely European American samples; when multiethnic

samples were available, cultural moderations have not been reported.

Recently, increased attention has been paid to the role that culture and ethnicity may play in emotion regulation (Butler, Lee, & Gross, 2007, 2009; Roberts, Levenson, & Gross, 2008). These investigations have primarily examined whether the social, affective, or physiological consequences of using suppression in a laboratory setting are culturally variable. Surprisingly, little attention has been given to how culture influences the relationship between suppression and indices of psychological functioning, such as depressed mood and life satisfaction. These psychological measures may provide a more accurate assessment of the long-term “adaptiveness” of suppression and are readily observable variables in clinical settings in which issues of emotion regulation are frequently discussed. Understanding whether these relationships differ across cultures is therefore a critical component of culturally informed clinical practice. In keeping with this, the present study examined whether the relationship between suppression and psychological functioning differs among East Asians and European Americans, two cultural groups for which cultural norms surrounding the expression and suppression of emotion represent contrasting perspectives.

Culture, Suppression, and Health

From a theoretical perspective, culture is a logical moderator to consider when examining effects related to emotional expression

This article was published Online First June 27, 2011.

José A. Soto, Christopher R. Perez, Elizabeth A. Lee, and Mark R. Minnick, Department of Psychology, Pennsylvania State University; Young-Hoon Kim, Department of Psychology, University of Pennsylvania.

We thank Kevin P. Tam, Melody M. Chao, and Grace Ip for their assistance with data collection in Hong Kong and Jing Yang and the members of the Culture, Health, and Emotion Lab for their comments on earlier drafts of the manuscript.

Correspondence concerning this article should be addressed to José A. Soto, Department of Psychology, Pennsylvania State University, 615 Moore Building, University Park, PA 16802. E-mail: jososoto@psu.edu

and emotion regulation (Butler & Gross, 2009; Consedine, Magai, & Bonanno, 2002). A long history of cross-cultural research has demonstrated cultural differences in the ways emotions are labeled and understood, how individuals cope with their emotions, and beliefs about how and when emotions should be expressed and felt (e.g., Ekman, 1972; Matsumoto, 1990; Mesquita & Frijda, 1992). One contrast that has been especially highlighted in the literature is the difference between Asian/Eastern values encouraging emotional control and restraint (suppression) and American/Western values encouraging free and open emotional expression (see Butler et al., 2009, and Soto, Levenson, & Ebling, 2005, for greater discussion). These differences are believed to reflect the collectivistic/interdependent focus of many Asian cultures and the individualistic/independent focus common in many American and Western cultures (Markus & Kitayama, 1991; Matsumoto, 1990). For instance, free expression of emotions, especially negative ones, may draw attention to the individual and cause momentary disruptions in group harmony. From a traditional Asian-values perspective, these would typically be considered unwanted aftereffects, whereas from a Western/American-values perspective, they may be relatively less problematic.

Research examining cultural variability in expression and emotion regulation has certainly borne this out. Several studies have documented that Asian participants often report less emotion in response to an emotion elicitation task than do other cultural groups (Mauss & Butler, 2010; Soto et al., 2005) or endorse more frequent use of suppression than do other groups (Butler et al., 2007; Gross & John, 2003). More important, fewer negative outcomes have been associated with suppression among those who value emotional restraint over expression. For example, Butler et al. (2007) demonstrated that those with more Western-European values (valuing expression over suppression) showed greater negative emotion associated with the habitual use of suppression and showed lower quality interactions when instructed to suppress their emotions during a social task. However, these negative outcomes were reduced among those who endorsed Asian values as much as Western values. Similarly, Mauss and Butler (2010) found that valuing emotional restraint led to a more favorable physiological response to an anger provocation among Asian Americans, but not among European Americans. The above findings provide an empirical basis from which to expect that the use of suppression by individuals from these two cultures may also have very different associations with health.

Despite the expectation of cultural differences in health outcomes associated with suppression, there have been few empirical investigations of how culture influences the relationship between suppression and health outcomes. Research on self-reported physical health has demonstrated ethnic variation in the relationship between suppression and markers of health and disease among older adults (Consedine, Magai, Cohen, & Gillespie, 2002; Consedine, Magai, & Horton, 2005). Of particular relevance to the present study are findings demonstrating that the negative health correlates of emotion inhibition (i.e., suppression) appear to be attenuated among some immigrant populations (Consedine et al., 2005). In terms of well-being, there is evidence that the experience of emotions may be a stronger predictor of life satisfaction among members of individualist nations, where emotions and their displays are emphasized, than among those in collectivist nations, where suppression may be more normative (Suh, Diener, Oishi, &

Triandis, 1998). These studies support the notion that cultural differences in the suppression–health relationship should be further studied.

The Present Study

The present study compares a sample of European American and East Asian students on measures of emotion regulation and psychological functioning to determine whether the negative associations observed previously are moderated by culture. Consistent with literature pertaining to emotional practices in these cultures and with previous findings in this area of research, we expected that East Asian participants would report greater use of suppression than would European Americans. We also hypothesized that the use of suppression among European Americans would be associated with poorer psychological functioning (greater depressed mood, decreased life satisfaction), but we did not expect this relationship among East Asian participants. As a point of comparison, we also compared both groups on the use of cognitive reappraisal (henceforth *reappraisal*; changing the meaning of an event in order to regulate the associated emotions) and its relationship to our psychological functioning variables. We did not expect differences between groups related to the use of reappraisal because the cultural norms presented above are specific to suppression of emotional behaviors that others can see and should not impact regulation strategies having to do with more internal processes, such as reframing an emotional event.

Method

Sample

Participants were 71 European American (EA) college students at a public university in the northeastern United States (U.S.) and 100 Hong Kong Chinese (HKC) college students from two universities in Hong Kong. Participants in the U.S. completed the study for course credit and those in Hong Kong completed the study on a volunteer basis. The gender breakdown of the entire sample was 54% women, with 59% and 52% women among the EA and HKC groups, respectively. Average age for the sample was 20.04 years ($SD = 1.62$), with EAs ($M = 19.22$, $SD = 1.55$) being significantly younger than HKC ($M = 20.61$, $SD = 1.41$), $t(166) = -6.035$, $p < .001$.

Eligibility

Specific inclusion criteria for ethnic and cultural background were adopted for this study to ensure adequate exposure among our participants to their culture of origin. In order to determine eligibility, all participants were asked to complete a demographics screener that included questions about participants' birthplace, birthplace of parents and grandparents, ethnicity of parents and grandparents, and the participants' fluency in English. To be designated as EA, participants needed to self-identify as White or Caucasian and have been born in the U.S., and their parents and grandparents had to also have been U.S. born. Participants who described their parents' ethnicity as Jewish or Italian were excluded from the study because these ethnic groups have been known to show patterns of emotional expression that may be

distinct from other European American ethnicities (Lipton & Marbach, 1984; Zborowski, 1952). Eligible HKC had to self-identify as Chinese and their place of birth, as well as their parents' and grandparents' places of birth, had to have been China or Hong Kong. Because English is an official language of Hong Kong, bilingualism was not required. Nevertheless, 60% of the HKC reported being bilingual in Chinese and English and 90% reported being moderately to very proficient in English.

Procedure

Participants were directed to a Webpage (hosted via SurveyMonkey.com or PsychData™) at which they could complete the study at their convenience. All materials were presented in English, regardless of collection site; primary measures included in the survey have been used previously with individuals in Hong Kong (Chi & Boey, 1993; Kang, Shaver, Sue, Min, & Jing, 2003; Matsumoto et al., 2008). Participants were asked to complete several questionnaires taking 30–45 minutes, preceded by an informed consent statement. Upon completion, participants were provided with an on-screen debriefing statement.

Measures

Expressive suppression and cognitive reappraisal. The expressive suppression and cognitive reappraisal subscales of the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) were used to assess the usage of suppression and reappraisal, respectively. The ERQ consists of 10 items rated on a 7-point, Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*) with four items measuring suppression and six items measuring reappraisal. The summed scores for each subscale represent general usage of these strategies as they pertain to both positive and negative emotions. Past studies have shown the ERQ to be psychometrically sound (Gross & John, 2003). Our internal reliability (measured using coefficient alpha) for the suppression subscale was .80 overall (EA = .84, HKC = .69) and .84 overall (EA = .87, HKC = .82) for the reappraisal subscale.

Psychological functioning. We used the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) as a measure of psychological well-being. Responses to this 5-item, 7-point, Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*) are summed to create a single global factor of life satisfaction. Reliability and validity of the SWLS has been established in prior studies utilizing this measure (see Diener et al., 1985). Our alpha coefficient for the SWLS was .86 (EA = .87, HKC = .82).

To measure psychological distress, we used the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). This scale consists of 20 items corresponding to depressive symptomatology. In relation to the individual's experiences during the previous week, the items are rated on a 4-point Likert scale from 0 (*rarely or none of the time [less than 1 day]*) to 3 (*most or all of the time [5–7 days]*) in order to specifically assess the affective component of depression (i.e., depressed mood). Item responses are summed with higher scores indicating greater depressed mood. Internal consistency has been good in prior research and was .91 for our sample (EA = .94, HKC = .96).

Data Analytic Plan

In order to test our hypothesis that the relationship between suppression and psychological functioning would be moderated by culture, we conducted two separate hierarchical multiple regressions with depressed mood and life satisfaction serving as criterion variables. The first step in each model included the ERQ suppression subscale as a predictor, followed next by culture, and the culture-by-suppression interaction term in the third and final step.¹ An identical set of analyses was conducted with cognitive reappraisal as the criterion variable.

Results

Table 1 provides mean comparisons for each group on our primary variables of interest. An examination of the data reveals that HKC participants reported significantly lower levels of life satisfaction and higher levels of depressed mood than EAs, consistent with past research (Uchida, Norasakkunkit, & Kitayama, 2004). Also consistent with previous research, HKC reported using suppression with significantly greater frequency than EAs. There were no differences in the use of reappraisal.

Moderation Analyses

A hierarchical regression to test our hypothesis that culture would moderate the relationship between suppression and depressed mood revealed a significant culture \times suppression interaction, $F(1, 167) = 5.42, p < .05, \Delta R^2 = .028$. To decompose the interaction, we analyzed the correlation between suppression and depressed mood separately for each group. For EA participants we found a significant positive correlation between suppression and depressed mood ($r = .34, p < .01$). In contrast, suppression and depressed mood were not significantly correlated for HKC ($r < .00, ns$; see Figure 1), in support of our hypothesis. Main effects of suppression and culture also emerged. Specifically, suppression was significantly associated with greater depressed mood, $F(1, 169) = 12.54, p = .001, R^2 = .069$, and HKC were also more likely to show greater depressed mood, $F(1, 168) = 6.78, p = .01, \Delta R^2 = .036$.

The above analyses were repeated with life satisfaction as the criterion variable, and the results replicated exactly. There was a significant culture \times suppression interaction, $F(1, 167) = 4.08, p < .05, \Delta R^2 = .019$. We again decomposed the interaction and analyzed the correlation between suppression and life satisfaction separately for each group. Consistent with our predictions, there was a significant negative correlation among EAs ($r = -.34, p < .01$), whereas, this relationship was absent among HKC ($r = .01, ns$; see Figure 1). Once again, main effects of suppression and culture emerged such that those who suppressed more often were more likely to be less satisfied with their lives, $F(1, 169) = 13.93, p < .001, R^2 = .076$, and more likely to be from Hong Kong, $F(1, 168) = 22.65, p < .01, \Delta R^2 = .011$.

Our final analysis involved repeating the moderation analyses described above, substituting the cognitive reappraisal subscale of the ERQ for the suppression subscale. The culture \times reappraisal

¹ Identical analyses including gender as a predictor did not change our results. We therefore excluded gender from any subsequent analyses.

Table 1
Mean (SD) Scores on Predictor and Criterion Variables by Ethnic Group

Construct	Ethnic group		<i>t</i> (169)	Cohen's <i>d</i>
	Hong Kong Chinese	European American		
Expressive suppression	16.74 (3.9)	13.13 (4.7)	5.41*	0.83
Cognitive reappraisal	29.32 (5.5)	29.73 (5.7)	-0.48	-0.07
Psychological functioning				
Depressed mood	19.94 (8.7)	14.21 (11.3)	3.74*	0.58
Life satisfaction	20.01 (5.5)	24.90 (5.1)	-5.88*	-0.90

* *p* < .001.

interaction was not significant for either depressed mood, $F(1, 167) = 0.61, ns, \Delta R^2 < .00$, or life satisfaction, $F(1, 167) = 1.16, ns, \Delta R^2 = .01$, consistent with our expectations.

Post Hoc Analyses

Two post hoc analyses were conducted to address remaining questions. First, we reran the regression models for depressed mood and life satisfaction adding age as a full predictor to determine whether our results were influenced by the significant age difference between groups. The only significant interaction to emerge was a three-way interaction among age, culture, and suppression in predicting depression, $F(1, 160) = 4.42, p < .05, \Delta R^2 = .023$. Age did not influence the findings among HKC, but the positive correlation between suppression and depression among EAs was significantly stronger for those who were older. However, the very narrow age range in our sample limits the interpretation of these analyses.

The second question raised by our findings, given our conception of depressed mood and life satisfaction as two aspects of psychological functioning, is whether they capture two aspects of the same process or reflect two independent processes. To address this question, we repeated our primary regressions while including the other criterion variable as the first step in each model (depressed mood in Step 1 of the life satisfaction regression, and vice versa). Depressed mood and life satisfaction were highly and

negatively correlated ($r = -.50, p < .001$). The culture \times suppression interactions were no longer predictive of depressed mood or life satisfaction when controlling for the other criterion variable, suggesting that the two analyses are tapping a common outcome process such as overall psychological functioning (comprising elements of psychological distress and psychological well-being).

Discussion

Important differences with respect to how and when individuals from different cultures regulate their emotions have been shown to moderate the relationship between use of particular strategies and at least some of the outcomes previously associated with those strategies (Butler et al., 2007; Perez & Soto, 2011). The present study examined whether habitual use of suppression was associated with negative psychological functioning—as measured by depressed mood and life satisfaction—equally for two cultural groups with very different normative values surrounding the suppression of emotions: Hong Kong Chinese (HKC) and European Americans (EAs). Our results confirmed our hypotheses that in cultures in which use of suppression is more normative (e.g., HKC), the tendency to suppress emotions is not associated with adverse psychological functioning, as it is among cultures in which expressiveness is the norm (e.g., EA).

Contextual influences on suppression. Our hypothesis of cultural moderation was predicated on the notion that use of

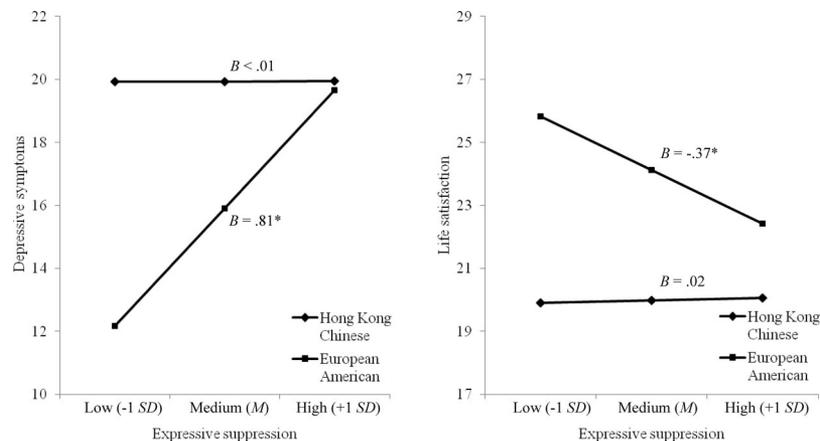


Figure 1. Relationship between expressive suppression and depressed mood and life satisfaction among Hong Kong Chinese and European Americans. * *p* < .01.

suppression is more consistent with traditional Asian values around emotional moderation (Markus & Kitayama, 1991; Potter, 1988; Russell & Yik, 1996), whereas it is relatively less consistent with emotional norms among EA culture. This normative difference was corroborated by the greater reports of suppression among HKC in relation to EAs—a finding consistent with those of previous studies (Butler et al., 2007; Gross & John, 2003).

The fact that the observed difference in use of suppression among both groups translated into different relationships between suppression and our indices of psychological functioning provides additional evidence for the necessity of considering cultural context. Prior research had already established differential consequences of suppression between these groups in other domains of functioning (e.g., social interactions, cardiovascular physiology; Butler et al., 2007; Mauss & Butler, 2010). Our results contribute to this growing literature by demonstrating that the differences extend to differential associations with indicators of psychological functioning. As a whole, these findings present a marked departure from findings that demonstrate a number of negative associations with the use of suppression (see John & Gross, 2004). That our findings did not apply to reappraisal is highly consistent with the fact that there are contrasting norms in these two cultural groups surrounding emotional expression and suppression, but not regarding reappraisal.

Interestingly, we did not see that suppression was associated with positive psychological functioning among HKC, but rather that it was unrelated. This may represent an empirical instantiation of the notion advanced by Potter (1988) that although emotional displays can definitely be seen in Chinese culture, they simply do not matter or do not garner much attention. Alternatively, the lack of a positive relationship between suppression and psychological functioning among our HKC sample may represent an intermediate position between EAs and more traditional segments of the Chinese population. Future research examining Chinese individuals who have been relatively isolated from Western influence, or have actively resisted such influence, may show yet a different pattern of relationships between these variables.

Limitations

Some limitations of the present study are worth noting. First, the correlational nature of our data does not allow us to rule out the possibility that increased depressed mood and decreased life satisfaction among EAs may lead to greater use of suppression. However, the fact that our depressive symptom measure (CES-D) asks about symptoms within the past 2 weeks and the ERQ asks about general use of suppression suggests that this interpretation is unlikely. Second, although we propose that the mediating mechanism in the divergent findings for EAs and HKC is normative values regarding the expression of emotions, we did not measure these norms directly. Although we did have an indirect measure of what behaviors are normative (i.e., HKC suppress more), future studies should also measure values and attitudes toward emotional expression to assess whether these values mediate the relationship between suppression and psychological functioning.

Conclusion

The role of culture in the relationship between suppression and psychological outcomes is slowly being elucidated. Empirical ev-

idence in support of both cultural differences (Butler et al., 2007; Perez & Soto, 2011) as well as cultural similarities (Roberts et al., 2008) has been advanced. Our study supports the developing picture that cultural context can meaningfully alter the form, frequency, and function of commonly studied emotion regulation strategies. Although we have argued that the pattern of these relationships is to be expected on the basis of the cultural norms observed in the cultures represented by our samples, these contextual influences are often overlooked in clinical settings. For example, the default assumption in clinical practice is that individuals suppress their emotional expressions at the expense of psychological and physical health. Our findings provide a major qualification to this approach when working with those from other cultures. Future considerations of these and other factors can ensure a more nuanced approach to how emotion regulation affects healthy functioning in individuals from diverse cultures.

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Received July 21, 2010

Revision received January 18, 2011

Accepted January 28, 2011 ■