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# Cross-cultural comparison of the association between trait emotional intelligence and emotion regulation in European-American and Japanese populations

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ABSTRACT

Although a large body of evidence supports trait emotional intelligence as a positive indicator of well-being, the processes that underlie trait emotional intelligence remain unclear. Emotion regulation is considered a core component of trait emotional intelligence. Given that the consequences of emotion regulation strategies differ between European-American and Eastern Asian populations, culture could moderate the association between these strategies and trait emotional intelligence. Two studies examined whether culture moderated the link between trait emotional intelligence and emotion regulation strategies in European-American and East Asian Japanese populations. The results revealed important cultural similarities and differences in the association between trait emotional intelligence and emotion regulation. Regarding cultural similarities, trait emotional intelligence was positively associated with reappraisal in both groups. With respect to cultural differences, trait emotional intelligence was negatively associated with suppression in European-American, but not Japanese, individuals. These findings are consistent with the notion that emotionally intelligent people are more likely to use adaptive strategies and less likely to use maladaptive strategies to regulate their emotion within their own cultural frameworks. Moreover, the current research provided novel insight into the moderating effect of culture on the emotion regulation process underlying the trait emotional intelligence construct.

## 1. Introduction

Since emotional intelligence (EI) was originally proposed, it has attracted considerable attention from researchers, and there are two predominant conceptualizations of EI: ability EI and trait EI. Ability EI refers to "the ability to carry out accurate reasoning about emotions and the ability to use emotions and emotional knowledge to enhance thought" (Mayer, Roberts, & Barsade, 2008, p. 527), and it is measured via the assessment of maximum performance. Trait EI refers to "a constellation of emotional self-perceptions located at the lower levels of personality hierarchies" (Petrides, Perez-Gonzalez, & Furnham, 2007, p. 26), and it is measured using self-report scales that assess typical performance. This study focused on trait EI, as it is more strongly associated with subjective well-being relative to ability EI (Sánchez-Álvarez, Extremera, & Fernández-Berrocal, 2016).

### 1.1. The process model of emotion regulation underlying the EI construct

Although a large body of evidence supports trait EI as a positive indicator of psychological and physical health, job and academic performance, the quality of interpersonal relationships, and well-being (Di Fabio & Saklofske, 2014; Martins, Ramalho, & Morin, 2010; Petrides et al., 2016), the processes underlying trait EI remain unclear. To overcome this limitation, recent research emphasized the importance of linking EI with theoretical frameworks used in emotion research (Mestre, MacCann, Guil, & Roberts, 2016). Peña-Sarrionandia, Mikolajczak, and Gross (2015) suggested that the process model of emotion regulation (Gross, 1998b) is key in characterizing the emotion regulation process underlying the EI construct.

According to the process model, emotion is regulated at five points in the emotion generation process: (1) *situation selection*, the earliest point at which emotion is regulated, refers to taking action that increases or reduces the likelihood that individuals will find themselves in a situation that evokes certain emotion; (2) *situation modification* refers to modifying aspects of a situation to alter emotion; (3) *attentional deployment* refers to redirecting attention as a means of influencing emotion; (4) *cognitive change* refers to changing one's interpretation of a situation; and (5) *response modulation* refers to making direct changes to

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physiological, experiential, or behavioral responses.

Gross and John (2003) focused on a small number of well-defined strategies rather than studying all of the numerous emotion regulation strategies simultaneously. They selected the following as representative strategies: *reappraisal*, which is a form of cognitive change that involves interpreting a potentially emotion-eliciting situation in a way that changes its emotional impact, and *suppression*, which is a form of response modulation that involves the inhibition of ongoing emotionally expressive behavior (Gross, 1998a). Numerous studies have since focused on these two strategies (e.g., Blalock, Kashdan, & Farmer, 2015; Haga, Kraft, & Corby, 2007; John & Gross, 2004; Soto, Perez, Kim, Lee, & Minnick, 2011).

Based on the process model, the consequences of reappraisal and suppression strategies differ. Reappraisal is an antecedent-focused strategy, in that it occurs early and intervention occurs before emotional responses have been fully activated. Previous studies have repeatedly shown that reappraisal was efficient in altering the entire subsequent emotional trajectory and associated with positive outcomes such as higher levels of well-being and enhanced interpersonal functioning (Gross & John, 2003; John & Gross, 2004; Webb, Miles, & Sheeran, 2012). In contrast, suppression is a response-focused strategy that occurs relatively late in the emotion-generation process and primarily modifies the behavioral aspect of emotional responses without reducing the experience of negative emotion. Therefore, it requires effortful management of emotional response tendencies, and these repeated efforts consume cognitive resources that could be used to achieve optimal performance (John & Gross, 2004). Previous studies have repeatedly shown that suppression could not alter the entire subsequent emotional trajectory efficiently and was associated with negative outcomes, such as lower well-being levels and poor interpersonal functioning (e.g., Gross & John, 2003; Webb et al., 2012).

How is trait EI associated with these two emotion regulation strategies? A meta-analysis revealed that trait EI was associated with emotion regulation strategies that were used habitually (Peña-Sarrionandia et al., 2015). In addition, it was positively associated with reappraisal ($d$ = 0.61, 95% CI [0.58, 0.65]) and negatively associated with suppression ($d$ = −0.43, 95% CI [−0.47, −0.39]). These results suggested that emotionally intelligent people were more likely to use adaptive strategies and less likely to use maladaptive strategies in regulating their emotions.

### 1.2. Potential cultural effects on the association between trait EI and emotion regulation

However, the study whose findings are described above relied mainly on studies in Western populations. Indeed, no studies reviewed in the meta-analysis by Peña-Sarrionandia et al. (2015) included East Asian populations in examining the relationship between trait EI and positive reappraisal ($k$ = 10) or suppression ($k$ = 9). Nevertheless, previous studies have shown that the consequences of emotion regulation strategies differed between Western and Eastern populations (Butler, Lee, & Gross, 2007; Soto et al., 2011). For example, Soto et al. (2011) reported that habitual reappraisal was associated with positive outcomes, such as greater satisfaction with life and lower levels of depression, in both European-American and East Asian populations. In contrast, suppression was associated with negative outcomes, such as less satisfaction with life and higher levels of depression, in the European-American population, while these relationships were non-significant in the Eastern Asian population. These cultural differences are believed to reflect the consistency between suppression and traditional Asian values, which encourage emotional restraint, and the inconsistency between suppression and emotional norms in European-American values, which encourage free and open emotional expression (Markus & Kitayama, 1991; Soto et al., 2011).

### 1.3. The current study

Given these cultural differences in the association between suppression and its outcomes, the relationship between trait EI and suppression could also differ between European-American and Eastern Asian populations. However, to the best of our knowledge, no studies have addressed this important research question to clarify cultural differences in the emotion regulation processes underlying the EI construct. To fill this research gap, the current study examined whether culture moderated the link between trait EI and emotion regulation strategies in European-American and East Asian (i.e., Japanese) populations. This study hypothesized that if trait EI was associated with greater likelihood of the use of adaptive emotion regulation strategies and less likelihood of maladaptive emotion regulation strategies within their own cultural framework, trait EI would be negatively associated with suppression in the European-American but not Japanese, population. This study also hypothesized that the association between trait EI and positive reappraisal would not be moderated by European-American or Japanese. As previous studies reported gender and age differences in trait EI and emotion regulation (e.g., Haga et al., 2007; John & Gross, 2004; Saklofske, Austin, & Minski, 2003), these two variables were included as control variables.

## 2. Study 1

### 2.1. Method

#### 2.1.1. Participants and procedure

With respect to the European-American population, 264 participants (145 men, 119 women, *M*age = 34.82, *SD* = 9.92 years) recruited via Amazon Mechanical Turk (MTurk) completed an online questionnaire. All the participants in this group were European-American and lived in the USA. Regarding the Japanese population, 260 participants (130 men, 130 women, *M*age = 40.17, *SD* = 10.83 years) completed an online questionnaire. They were recruited via a Japanese participant recruitment and data collection company (Cross Marketing Inc.) and lived in Japan. A power analysis was conducted with G*Power (Faul, Erdfelder, Lang, & Buchner, 2007). It showed that approximately 243 participants per group would be necessary to achieve 80% power to detect small effect size ($f^2$ = 0.02). The sample size fulfilled this requirement. Because the study was part of a larger research project, the survey included other measures focusing on the perceived effectiveness of extrinsic emotion regulation strategies that were unrelated to the current research.

#### 2.1.2. Measures

Trait EI was assessed using the Profile of Emotional Competence (PEC; Brasseur, Gregoire, Bourdu, & Mikolajczak, 2013; Nozaki & Koyasu, 2016).[3] This scale consists of 50 items divided between two second-order subscales: intrapersonal EI (facet related to one's emotions) and interpersonal EI (facet related to other's emotions). Each subscale contains five first-order factors: identification, comprehension, expression, regulation, and utilization of emotion. Participants' responses are provided using a five-point scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). The PEC was chosen because the strength of this measure is that it can comprehensively assess both self-related and other-related emotional competency as separate factors (Nozaki &

[3] The authors of the PEC prefer the term “emotional competence” to “emotional intelligence” because they think that it is more consistent with recent results showing that these competences can be taught and learned unlike intelligence (Mikolajczak et al., 2015). However, this distinction is not strict. They use the term “emotional competence” as a synonym for trait EI. For example, they used the term “emotional intelligence” in several recent studies using the PEC (e.g., Mikolajczak, Brasseur, & Fantini-Hauwel, 2014; Mikolajczak & Van Bellegem, 2017). In accordance with these studies, this study also uses the term trait EI.