

Emotion regulation and well-being among Puerto Ricans and European Americans

**Arielle Riutort, McNair Scholar
The Pennsylvania State University**

**McNair Faculty Research Advisor:
Jose A. Soto, Ph.D
Assistant Professor of Psychology
Department of Psychology
College of Liberal Arts
The Pennsylvania State University**

**Graduate Assistant: Christopher Perez, B.A.
Ph.D Student
Clinical Psychology
The Pennsylvania State University**

Abstract

This study examined emotion regulation and well-being differences and the relationship between these two constructs among 182 European Americans and 266 Puerto Rican students. In this context, emotion regulation refers to expressive suppression (hiding emotions) and cognitive reappraisal (thinking about a situation differently). Prior research has shown that minorities in the U.S. are more likely than European Americans to suppress and that frequent use of suppression is linked to decreased well-being, while frequent use of reappraisal is linked to increased well-being. These relationships have not previously been examined among Latinos who are in a majority context (i.e., Puerto Rico). Our results concluded that Puerto Ricans engaged in cognitive reappraisal more compared to European Americans while no significant difference was found between the two groups regarding expressive suppression. Furthermore, we found no evidence for culture moderating the relationship between emotion regulation and wellbeing. These results were contrary to our hypotheses, but suggest a need for further research on this topic.

Introduction

Interest in how emotion regulation impacts different aspects of an individual's life is growing within the scientific field of psychology. Everyone experiences emotions--regardless of age, gender, and race--and those emotions are often managed, checked or otherwise altered to meet our needs. The present study focuses on these various strategies and how their use is related to important individual and group differences. Before turning attention to emotion regulation, however, it is important to define what emotions are and what they do.

Different definitions of emotions have been proposed by various researchers. Gross (2002) states that "emotions call forth a coordinated set of behavioral, experiential, and physiological response tendencies that together influence how we respond to perceived

challenges and opportunities.” This statement highlights the psychological and physiological aspects associated with emotions. One of the most well-known studies of emotion, carried out by Paul Ekman and his colleagues, also focused on these two aspects of emotions: universal facial expressions (physiological) and rules and strategies for altering these (psychological). Ekman (1987) posited the existence of universal facial expressions for six basic emotions: anger, disgust, surprise, happiness, sadness, and fear. Subsequent research has supported this assertion (Ekman’s, 1971, 1979)

Ekman also left room for cultural variability proposing the notion of display rules as a mechanism for people within different cultures to modulate their expressions (Ekman, 1979). Ekman’s research provided the foundation for further research in emotions and how emotions are expressed (and possibly controlled) similarly and differently across cultural contexts. His neurocultural theory of emotions (1979) paved the way for research on emotion and culture and may be seen as the beginnings of research looking at how the regulation of emotion can differ across cultures in ways to help individuals function and interact with others within their particular society. This study examines the way in which cultural background influences the use of emotion regulation strategies and how those strategies affect the well-being of an individual within that particular culture.

Culture and Emotion Regulation

Although Ekman suggested that facial expressions may be the same across cultures, he suggested that emotion regulation should be the focus of cultural variation. Culture provides a system of values, ethics, moral beliefs, and other information that can influence how, when, or where emotions are shown (Matsumoto, Yoo, & Nakagawa, 2008). These rules or meaning systems allow members of a group to function at its highest potential within that culture and therefore allows the group to survive, pursue happiness and well-being, and to concoct their own personal meaning of life. Every culture has a set of norms about what is considered to be desirable and undesirable behavior and emotions that are connected to display rules (Matsumoto, 1990, Matsumoto & Ekman, 1989). Matsumoto & Ekman defined display rules as “learned, culture specific rules governing the management of and control of emotional expression in specific social contexts. Of course, different cultures display and value emotions differently. These display rules may vary along with various other dimensions such as the I-C dimension (individualism-collectivism). In an individualistic culture, emphasis is placed on meanings and practices that are unique and valued to the individual (Mesquita, 2001). In a collectivistic culture, meanings and practices that are based around the general well-being of the in-group are emphasized. For example, Soto, Levenson and Ebling (2005) argue that in Chinese culture emotional control and being able to know when to show (or not show) emotions is considered a positive attribute. Accordingly, Chinese culture may encourage suppression in order to maintain a positive group image. This is different compared to European American culture where hiding emotions is not emphasized. Different ethnic or cultural groups may hold different emotion display rules. Display rules are defined as “learned, culture specific rules governing the management of and control of emotional expression in specific social contexts” (Matsumoto & Ekman, 1989).

Emotions may also be viewed differently in individualistic and collectivistic cultures. For example, Mesquita (2001) describes emotions in collectivistic cultures as stressing and reinforcing the self in relation to in-group members. In individualistic cultures, emotions are a reflection of the self and do not enforce the collective identity of groups to which the individual

belongs. Groups that fall under a collectivistic or interdependent culture are Japanese and other Asian cultures, African tribes, and different Latin American groups (Markus & Kitayama, 1991). Another difference that has been empirically demonstrated is that Americans are much more likely to report feeling positive emotions than Japanese (Kitayama, Markus, & Kurokawa, 2000). This particular finding is consistent with other studies concluding that individuals in individualistic cultures are more likely to have higher levels of subjective well-being compared to members of a collectivistic culture (Diener & Diener, 1996; Oishi & Diener, 2001). In addition, similarities exist between individualistic and collectivistic cultures. Results from a study conducted by Scollon, Diener, Oishi, and Biswas-Diener (2004) revealed that European Americans and Hispanics place great emphasis on pleasant and happy feelings that lead to feeling more pride compared to Japanese and other Asian American groups.

Emotion Regulation and Health

The use of the term emotion regulation above was used in the general sense, but there are many ways to think about how to define emotion regulation because there are different aspects that affect emotion regulation both psychologically and physiologically. More specifically, emotion regulation includes all conscious and unconscious strategies we use to decrease, increase, or maintain different components of an emotional response during an emotion eliciting situation (Gross, 2001). It is the ability to manage personal emotional reactions during a situation to have some sort of individual gain (Matsumoto et al., 2008). Emotion regulation strategies are classified as antecedent focused or response focused strategies (Gross & John, 2003). Antecedent focused strategies are summarized as the things individuals do before emotion responses are activated to the maximum potential and have changed the individual's behavioral response. Response focused strategies are explained as the things an individual does after an emotion is elicited.

The two most commonly studied emotion regulation strategies are cognitive reappraisal and expressive suppression (Gross, 2002). Cognitive reappraisal is defined as a form of change in an individual's cognitions during a situation that elicits emotions in order to alter the emotional impact that the individual experiences. It is a matter of changing one's thoughts in order to view the situation as a more positive experience with better outcomes. Cognitive reappraisal is used to eliminate negative emotion and the behaviors associated with negative emotion. Reappraisal happens early on after consciously evaluating a situation.

Expressive suppression is defined as inhibiting behavior that is emotionally expressive in situations in order to achieve a specific outcome (Gross, 2002). Expressive suppression occurs after reappraisal to alter behavioral responses of negative emotions. This behavioral response can be classified as a response focused strategy because suppression occurs after an emotional response has been evaluated (Butler, Egoff, Wilhelm, Smith, Erickson, & Gross, 2003). Individuals who frequently engage in suppression experience and express less positive emotions compared to an individual who uses cognitive reappraisal (John & Gross, 2004). Therefore a clear association exists between using suppression and experiencing more negative emotions.

These particular emotion regulation strategies have been shown to impact other areas such as health and well-being. For example, Gross and Levenson (1993) reported a correlation between expressive suppression and an increase in sympathetic activity of the cardiovascular system. This included increases in blood pressure. In another study by Roberts, Levenson, and Gross (2008), results were found supporting the conclusion that suppression leads to more health risks involving the cardiovascular system. Another important finding from this study was that

ethnic minorities, who engage in suppression more than European Americans, are at higher risk for poor health outcomes especially those that deal with the heart. Suppression was linked with increases in the cardiovascular system including an increase in blood pressure (Roberts et al., 2008). Emotion regulation can also be a reliable predictor of well-being. A study conducted by Gross (1998), revealed that using antecedent strategies such as cognitive reappraisal was positively related to well-being. These results suggest that achieving a healthy well-being may be promoted by frequent use of cognitive reappraisal, but not suppression.

Emotion regulation, Well-being, and Culture

Usage of emotion regulation strategies and how often they are used in certain contexts may also differ depending on culture. The literature on emotion regulation and culture is limited to few ethnic groups and contains many gaps regarding differences in emotion regulation among cultures. The most common cultures examined regarding emotion regulation are Japanese Americans, Chinese Americans, Hispanics (mainly Mexican Americans), and European Americans. For example, one study that looked at the relationship between emotion regulation and culture used this relationship to determine if recognition of emotions and emotion regulation has a significant impact on intercultural adjustment in a sample of participants from different Asian backgrounds (Yoo, Matsumoto, LeRoux, 2006). In order to have a positive intercultural adjustment experience, it is important for the individual to use emotion regulation and to be able to recognize emotions in a different cultural context. Matsumoto and his colleagues (2008) examined emotion regulation within different countries using country-level data. Results implied that suppression can have some positive consequences such as maintaining a social life in order to function at a particular culture.

One particular study did examine emotion regulation and the relationship with culture and how emotion regulation impacts other areas such as health and well-being as previously mentioned. Gross and John (2003) focused on four major ethnic groups for their study on emotion regulation and culture. The groups consisted of African Americans, Asian Americans, European Americans, and Hispanics. They studied how these different ethnic groups used and evaluated cognitive reappraisal and suppression. Results showed that European Americans used suppression the least compared to the other minority groups. Across four ethnic groups, men used suppression more than women, suggesting that a gender difference exists in relation to engaging in certain emotion regulation strategies. However, no gender difference was reported in the usage of cognitive reappraisal.

Mental health and well-being may also differ according to culture (Robitschek & Keyes, 2009). Psychological well-being refers to the degree that an individual has a sense of self-acceptance and purpose in life. Psychological well-being has proven to be correlated with life satisfaction and happiness but neither is considered an indicator of well-being (Ryff & Keyes, 1995). Gross and John (2003) found that when participants used more suppression, they scored lower on the satisfaction with life scale suggesting that there is a relationship between using emotion regulation strategies and satisfaction with life.

As mentioned before, the research that analyzes culture and well-being included very few ethnic groups. Ryff's study (1989) did not include participants from any ethnic minority background. From a psychological standpoint, little research is conducted with Hispanics regarding how well-being and emotion regulation are related to cultural factors. Gross and John (2003) had a small percentage of participants that were Hispanic but to this date, there has not been a study where Hispanics were analyzed and compared against another ethnic group such as

European Americans in terms of emotion regulation and well-being exclusively. The purpose of the current research is to uncover similarities and differences concerning Hispanics and European Americans from a psychological perspective.

We have demonstrated that emotion regulation strategies can have a meaningful impact on an individual's well-being and that culture can have a meaningful impact on how an individual regulates their emotion. In Gross and John's study (2003), out of the four ethnic groups, European Americans were the least likely to use expressive suppression. This project focuses on how Latinos and European Americans differ in the use of emotion regulation strategies such as cognitive reappraisal and suppression, in addition to looking at differences in the relationship between well-being and emotion regulation across these cultural groups.

Hypotheses

Based on the previous research on emotion regulation and ethnic minorities, this study will examine the association between emotion regulation, culture, and well-being. The following hypothesis will be tested:

- I. Puerto Ricans will report a greater tendency to engage in expressive suppression compared to European Americans.
- II. Puerto Ricans will not differ in their tendency to engage in cognitive reappraisal when compared to European Americans
- III. We expect that culture will moderate the relationship between emotion regulation and well-being. Specifically, we expect that:
 - a) culture will moderate the relationship between cognitive reappraisal and well-being and that
 - b) culture will moderate the relationship between expressive suppression and well-being.

Method

Participants

The total sample for the study consisted of 448 undergraduate students of European American background (n=182) and Puerto Rican nationality (n=266), who were enrolled at the Pennsylvania State University and the University of Puerto Rico, Mayagüez respectively. The mean participant age was 19.82 for the Penn State students and 20.3 years for the Puerto Rico students. The percentage of participants who identified their gender as female was 61% for the Penn State students and 57% for students from the University of Puerto Rico. The percentage of participants who identified as male was 39% for students at Penn State and 42% for students at the University of Puerto Rico. However, 1% of the participants from the University of Puerto Rico did not respond to the gender question.

Measures

Scales of Psychological Well-Being (SPWB; Ryff, 1989; Ryff & Keyes, 1995)

The SPWB consists of 84 items that measure well-being across different domains of an individual's life. The six subscales included are: autonomy, environmental mastery, personal growth, purpose in life, self-acceptance, and positive relations with others (Ryff, 1989; Cooper, Okamura, & McNeil, 1995). High and low scores in each dimension of psychological well-being reflect higher or lower psychological well-being in each subscale (Ryff & Singer, 2006). *Autonomy* revolves around the idea of independence and to extent to which individuals depend

on themselves for approval instead of depending on others for their approval. *Environmental mastery* captures the extent that an individual is able to successfully deal with and cope with various situations that may arise in their environment. *Personal growth* is described as an individual growing and continuously developing their unique talents and abilities. Personal growth is correlated with high motivation in an individual. *Purpose in life* refers to the idea that an individual needs to have a goal or a general direction in life that they wish to fulfill. Purpose in life is highly correlated with positive mental health (Ryff & Singer, 2006). *Self-acceptance* refers to having positive attitudes and feelings about oneself and is essential to healthy psychological functioning. *Positive relations with others* focuses on the degree of warmth, supportiveness, caring, and trustfulness of a particular relationship (Cooper et al., 1995). The scale consists of a total of 84 items with internal consistency for each 14-item scale ranging from .82 to .90 (Ryff, Lee, Essex, & Schmutte, 1994). The test-retest reliability over a 6 week period ranged from .81 to .88. In addition, divergent and convergent measures with other measures of well-being have demonstrated that Ryff's SPWB is valid and reliable (Ryff, 1989). For the present study, a composite psychological well-being score was calculated for each participant from the sum of the standardized scores (z-scores) from each of the individual subscales. Thus, instead of examining six separate dependent variables, we used on a super factor which represented all the scales in single dependent variable.

Emotion Regulation Questionnaire (ERQ; Gross & John, 2002)

This scale uses 10 items such as "I control my emotions by changing the way I think about the situation I'm in," and "I control my emotions by not expressing them," to measure the emotion regulation strategies of cognitive reappraisal and suppression. The ERQ uses a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) for each of the statements. The average internal reliability (alpha) for statements examining cognitive reappraisal was .79 and the average internal reliability for suppression was .73. For both cognitive reappraisal and suppression, test-retest reliability across three months was .69.

Procedures

Students from the University of Puerto Rico, Mayaguez were recruited through the use of an email distributed via a listserv to students on campus. The recruitment email included a link to the online questionnaires.. Students from the Pennsylvania State University registered for this study through the psychology subject pool that included a mass screening. Afterwards, participants were given a link to the online survey to register for and to complete the survey. The questionnaires took approximately one hour to complete. Participants from Puerto Rico were paid \$8 for their participation and those at Penn State received course credit for their participation. Once the questionnaire was completed, participants were given a debriefing form that contained contact information and explained the nature of the study.

Results

An independent samples *t*-test was used to test hypothesis 1 that Puerto Ricans would report greater habitual use suppression than European Americans (see table 1). An examination of the mean ERQ suppression scores revealed that European Americans reported using suppression ($M = 13.21$; $SD = 4.70$) at levels similar to Puerto Ricans ($M = 13.54$; $SD = 5.83$). The Levene's test for equality of variances between the two groups showed a significant

difference, $F = 7.07$, $p < .01$. After correcting for inequality of variances, the difference between Puerto Ricans and European Americans mean suppression score was not significant, $t(433) = -0.65$, ns, therefore hypothesis one was not supported.

In addition to suppression, cognitive reappraisal was predicted to not be significantly different between Puerto Ricans and European Americans. Looking at mean reappraisal scores, a small difference was observed between Puerto Ricans ($M = 30.96$; $SD = 6.92$) and European Americans ($M = 29.26$; $SD = 5.14$). Once again, the Levene's test for equality of variances showed a significant difference between the groups, $F = 14.676$ and $p < .001$. After correcting for inequality of variances, the difference between Puerto Ricans and European Americans use of reappraisal was significant, $t(441.5) = -2.98$, $p < .01$. These results were contrary to predictions and consequently we rejected Hypothesis II. The effect size for the mean difference in cognitive reappraisal between groups, $d = -0.28$, represented a small to medium effect size.

To test for the interaction between emotion regulation and culture in predicting well-being, multiple hierarchical regression analyses were used. Separate hierarchical regressions were conducted to examine whether culture moderates 1) the relationships between cognitive reappraisal and wellbeing and 2) the relationship between suppression and wellbeing. The dependent variable for both of these analyses was our overall well-being composite score based on the sum of the standardized Ryff's well-being subscale scores.

To test for cultural moderation between reappraisal and well-being we included ethnicity and cognitive reappraisal scores (centered) as predictors in step 1 of a regression model (see figure 1). This model suggested that reappraisal and ethnicity, combined, account for a significant amount of variance (10%) in the well-being composite score, $F(2, 443) = 25.94$, $p < .01$. Step 2 of the hierarchical regression included the interaction of reappraisal and ethnicity as the third predictor. The addition of the interaction term did not lead to a significant change in R^2 , $F(1, 442) = .720$, ns, $R^2\Delta = .001$. Only an additional 0.5% of variance in well-being was accounted for by the interaction of ethnicity and cognitive reappraisal. Therefore, culture did not moderate the relationship between cognitive reappraisal and well-being.

To test for cultural moderation between suppression and well-being, we included ethnicity and suppression scores (centered) as predictors in step 1 of a regression model (see figure 2). This regression model suggested that suppression and ethnicity, combined, account for a significant amount of variance (9%) in the well-being composite score, $F(2, 443) = 24.150$, $p < .01$. In step 2 of the hierarchical regression model, the interaction of suppression and ethnicity were included as the third predictor. The addition of the interaction term did not lead to a significant change in R^2 , $F(1, 442) = .003$, $p > .05$, ns, $R^2\Delta = .001$. Only an additional 0.8% of variance in well-being was accounted for by the interaction of ethnicity and suppression. Therefore, culture did not moderate the relationship between suppression and well-being. Based on the analyses of both hierarchical regression models, culture did not moderate the relationship between emotion regulation and well-being contrary to our hypotheses.

Discussion

In this study, we examined cultural differences between Puerto Ricans and European Americans with regards to two emotion regulation strategies, cognitive reappraisal and expressive suppression, and differences between the two groups in the relationship between regulation and on well-being. This study filled a gap in the literature on Latino populations and emotion regulation. Unlike the samples and analyses that Gross and John (2003) used, our sample contained a large ethnic sample allowing us to study one ethnic minority group in detail. In general, we found few cultural differences between Puerto Ricans and European Americans and those we did find were contrary to our predictions.

Expressive Suppression

We expected that Puerto Ricans will report a greater tendency to engage in expressive suppression compared to European Americans. However, there were no differences in the usage of suppression between the two groups. In our study, Puerto Ricans and European Americans reported using suppression in similar amounts. One reason for this may be that the Puerto Ricans were sampled from Puerto Rico where they are the primary majority of the population. Hispanics from Gross and John's (2003) study were taken from a minority context and consequently may have been dealing with acculturation factors or societal demands that may have led to reporting more usage of suppression. In addition, regional differences must be taken into consideration because our sample came from two different universities in two distinctly different cultural contexts (Northern California versus Central Pennsylvania and Puerto Rico).

Cognitive Reappraisal

We expected that Puerto Ricans would not differ in their tendency to engage in cognitive reappraisal compared to European Americans given previous research showing that the use of cognitive reappraisal among minorities is comparable with the usage of cognitive reappraisal reported from European Americans. Results from this study contradict findings from previous research. In fact, we rejected hypothesis 2 because an unexpected difference emerged where Puerto Ricans reported using more cognitive reappraisal than European Americans. One reason for Puerto Ricans in this study to engage in reappraisal more may be because our sample only consisted of college students and the different pressures or situations that they must deal with even if they are the part of the majority ethnic group. Perhaps our results would have turned out differently if we sampled other groups besides college students in Puerto Rico.

Emotion Regulation and Well-Being

Our prediction of culture acting as a moderator between emotion regulation and well-being was not supported. We expected that the relationship between emotion regulation and well-being would be modified by culture. The fact that no moderation was found suggests a number of possible alternatives. First, it's possible that there are, in fact, no differences across cultures in the relationship between regulation and wellbeing. Another possibility is that personality traits or other variables not considered may be playing a more important role than culture. A final consideration is that culture may be interacting with a third variable that moderates its influence on this relationship. Future studies should examine possible higher level interactions with culture to test for such an effect.

Limitations and future directions

The present study has several limitations that are indicated in order to inspire future research in the areas of culture, emotion regulation, and well-being. From this study, it was implied that Puerto Ricans represented all Latinos but, of course, this does not reflect the true variability among Latinos. Instead of only sampling Puerto Ricans, it would be prudent for future studies to sample different Latino groups such as Mexican Americans, Cubans, Colombian and other Spanish speaking. Second, the Puerto Ricans in the present study were from a majority minority context (i.e., minorities are the majority) and results may have turned out differently if the Latinos sampled were from a strictly minority context. Location (urban or rural setting) should also be a variable for future consideration as emotion regulation strategies may vary based on social norms associated with rural or urban life. A final limitation of this study was that we did not examine gender differences either within and between cultures. Men and women may display or engage in their emotion expressivity differently and studying these gender differences across cultures is crucial to understanding differences regarding emotion regulation in different contexts around the world. Cultural norms for each gender exist within each cultural group and since emotion regulation strategies are used differently by men and women, it would be crucial to examine gender differences across cultures to better understand how men and women use emotion regulation.

Future studies should also consider the use additional measures such as the Rosenberg self-esteem scale since self-esteem is related to well-being. In addition, different constructs for well-being such as subjective well-being might be targeted in future studies in order to measure all facets of well-being. Subjective well-being is defined as a personal evaluation of an individual's life in terms of relationships, careers, progression towards goals, and experience of positive emotions (Diener, Sapyta, & Suh, 1998). Diener and colleagues argue that subjective well-being is a stronger indicator of well-being than Ryff's psychological well-being because it focuses more on values which allow for greater variation within cultures. In addition, future research should consider how emotion regulation is affected by being a member of a cultural minority versus the extent to which individuals experience their minority status. Lastly, it will also be important to determine how culture impacts the relationship between emotion regulation and mental health in a variety of populations.

In conclusion, it appears that culture plays a rather limited role in emotion regulation when considering Puerto Ricans and European Americans. In our study, Puerto Ricans and European Americans displayed similar tendencies to engage in emotion regulation strategies and the relationship between emotion regulation and well-being was also not affected by culture. The only difference between the two groups emerged on cognitive reappraisal with Puerto Ricans reappraising more than European Americans. This finding was unexpected but suggests that there may be a more complicated picture when it comes to the role of culture in emotion regulation. This study is only the beginning step necessary in gaining a better perspective on how this important emotional process differs across cultures.

References

- Butler, E.A., Egloff, B., Wilhelm, F.H., Smith, N.C., Erickson, E.A., & Gross, J.J. (2003). The social consequences of expressive suppression. *Emotion, 3*, 48-67.
- Diener, E., & Diener, C. (1996). Most people are happy. *Psychological Science, 7*, 181-185.

- Diener, E., Emmons, R.A., Larsen, R.J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71-75.
- Diener, E., Sapyta, J.J., & Suh, E. (1998). Subjective well-being is essential to well-being. *Psychological Inquiry, 9*, 33-37.
- Ekman, P., & Oster, H. (1979). Facial expressions of emotion. *Annual Review of Psychology, 30*, 527-554.
- Ekman, P., Friesen, W.F., Sullivan, M., Diacoyanni-Tarlatzis, I., Krause, R., Pitcairn, T., Scherer, K., et al. (1987). Universals and cultural differences in the judgments of facial expressions of emotion. *Journal of Personality and Social Psychology, 53*, 712-717.
- Gross, J.J. (1998). Antecedent and response focused emotion regulation: divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74*, 224-237.
- Gross, J.J. (2001). Emotion regulation in adulthood: Timing is everything. *Current Directions in Psychological Science, 10*, 214-219.
- Gross, J.J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology, 39*, 281-291.
- Gross, J.J., & John, O. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*, 348-362.
- Gross, J.J., & Levenson, R.W. (1993). Emotional suppression: physiology, self-report, and expressive behavior. *Journal of Personality and Social Psychology, 64*, 970-986.
- Kitayama, S., Markus, H.R., & Kurokawa, M. (2001). Culture, emotion, and well-being: Good feelings in Japan and the United States. *Cognition and Emotion, 14*, 93-124.
- Markus, H.R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.
- Matsumoto, D. (1990). Cultural similarities and differences in display rules. *Motivation and emotion, 14*, 195-214.
- Matsumoto, D., & Ekman, P. (1989). American-Japanese cultural differences in intensity ratings of facial expressions of emotions. *Motivation and Emotion, 13*, 143-157.
- Matsumoto, D., Yoo, H. S., & Nakagawa, S. (2008). Culture, emotion regulation, and adjustment. *Journal of Personality and Social Psychology, 94*, 925-937.
- Mesquita, B. (2001). Emotions in collectivist and individualist contexts. *Journal of Personality and Social Psychology, 80*, 68-74.
- Oishi, S., & Diener, E. (2001). Goals, culture, and subjective well-being. *Personality and Social Psychology Bulletin, 27*, 1674-1682.
- Robitschek, C, & Keyes, C.L. (2009). Keyes's model of mental health with personal growth initiative as a parsimonious predictor. *Journal of Counseling Psychology, 56*, 321-329.
- Ryff, C.D (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069-1081.
- Ryff, C.D., & Keyes, C.L. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*, 719-727.
- Ryff, C.D., Lee, Y.H., Essex, M.J., & Schmutte, P. S. (1994). My children and me: Evaluations of grown children and of self. *Psychology and Aging, 9*, 195-205.
- Scollon, C.N., Diener, E., Oishi, S., & Biswas-Diener, R. (1994). Emotions across cultures and methods. *Journal of Cross-Cultural Psychology, 35*, 304-326.

- Soto, J.A., Levenson, R.W., & Ebling, R. (2005). Cultures of moderation and expression: Emotional experience, behavior, and physiology in Chinese Americans and Mexican Americans. *Emotion, 5*, 154-165.
- Yoo, S.H., Matsumoto, D., & LeRoux, J.A. (2006). The influence of emotion recognition and emotion regulation on intercultural adjustment. *International Journal of Intercultural Relations, 30*, 345-363.

Table 1

Mean Scores of emotion regulation and well-being by ethnic group

(Standard Deviations in Parentheses)

Construct	Ethnic group	
	European American	Puerto Rican
Cognitive reappraisal	29.26 _a (5.14)	30.96 _b (6.92)
Expressive suppression	13.21 _a (4.71)	13.54 _a (5.83)
Well-being	-0.46 _a (4.20)	0.40 _a (5.50)

Note. Means in the same row that do not share a common subscript differ significantly at $p < .05$.

Figure 1

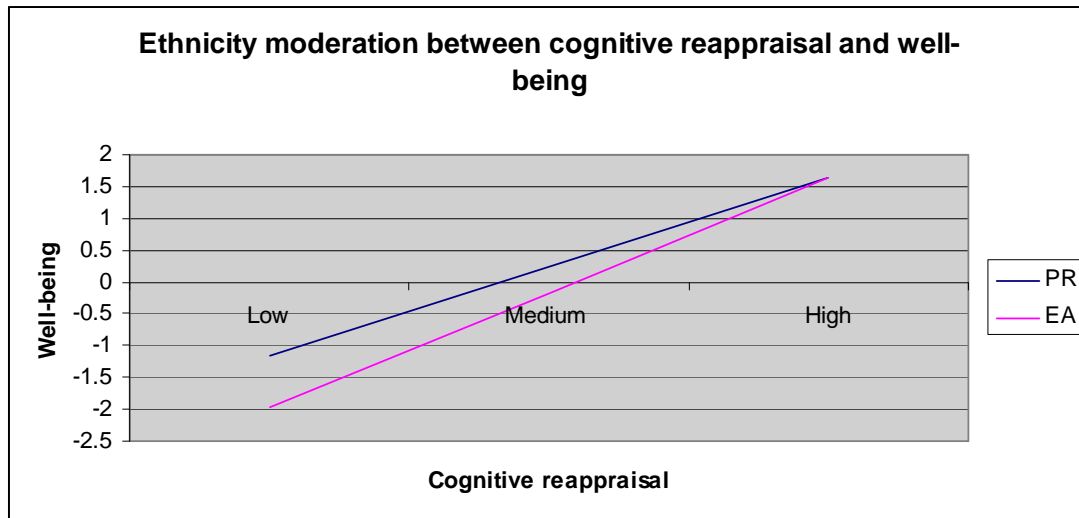


Figure 2

