A CROSS-CULTURAL COMPARISON OF EMOTION REGULATION IN COUPLES WITH AND WITHOUT CHILDREN

By

ELANA JUDITH WEIL

_____

A Thesis Submitted to The Honors College

In Partial Fulfillment of the Bachelors Degree With Honors in Psychology

THE UNIVERSITY OF ARIZONA

MAY 2011

Professor Emily A. Butler

Approved by:

_____

Dr. Emily A. Butler

Department of Family Studies and Human Development

The University of Arizona Electronic Theses and Dissertations
Reproduction and Distribution Rights Form

Name (Last, First, Middle) Weil, Elana, Judith	
Degree title (eg BA, BS, BSE, BSB, BFA): BA	
Honors area (eg Molecular and Cellular Biology, English, Studio Art): Psychology	
Date thesis submitted to Honors College: 05/04/11	
Title of Honors thesis: A Cross-Cultural Comparison of Emotion Regulation in Couples with and without Children	
:The University of Arizona Library Release	I hereby grant to the University of Arizona Library the nonexclusive worldwide right to reproduce and distribute my dissertation or thesis and abstract (herein, the "licensed materials"), in whole or in part, in any and all media of distribution and in any format in existence now or developed in the future. I represent and warrant to the University of Arizona that the licensed materials are my original work, that I am the sole owner of all rights in and to the licensed materials, and that none of the licensed materials infringe or violate the rights of others. I further represent that I have obtained all necessary rights to permit the University of Arizona Library to reproduce and distribute any nonpublic third party software necessary to access, display, run or print my dissertation or thesis. I acknowledge that University of Arizona Library may elect not to distribute my dissertation or thesis in digital format if, in its reasonable judgment, it believes all such rights have not been secured. Signed: Elana Weil Date: 05/04/11

Last updated: Nov 15, 2009

STATEMENT BY AUTHOR

This thesis has been submitted in partial fulfillment of requirements for a degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Signed: Elana Weil

Acknowledgement

The author wishes to acknowledge and thank the many individuals who contributed to the research: Deepti Duggi, Department of Psychology, Karnatak University, India; Shanmukh V. Kamble, Department of Psychology, Karnatak University, India; Emily A. Butler, Department of Family Studies and Human Development, University of Arizona.

This research was supported in part by the Frances McClelland Institute for Children, Youth, and Families, in the Norton School of Family and Consumer Sciences at The University of Arizona. Information about the Frances McClelland Institute is available at: http://McClellandInstitute.arizona.edu.

Abstract

Emotion regulation refers to monitoring, evaluating, and modifying emotional reactions to achieve an objective. Little is known about emotion regulation in parents versus adults without children. Emotion suppression is more prevalent in collectivistic cultures, but little is known about cultural differences in other forms of emotion regulation. Furthermore, little is known about whether having children influences emotion regulation differently across cultures. To investigate this, six emotion regulation strategies (action, enlisting partner, communal coping, reappraisal, suppression, and avoidance) were assessed in romantic couples with and without children in the United States and India. Participants included 90 Indian married couples (41 love marriages, 49 arranged marriages), and 64 United States couples. Participants completed a baseline measure and then a daily questionnaire once a day for 7 days, which assessed emotion regulation strategies. Using a dyadic multilevel model, I found: 1. Parents reported significantly lower levels of effective emotion regulation strategies as compared to couples without children. Parents reported similar levels of ineffective emotion regulation strategies as couples without children. 2. American couples reported significantly lower levels of all six emotion regulation strategies as compared to Indian couples. Results from this study may have clinical implications relating to family therapy across cultures.

A Cross-Cultural Comparison of Emotion Regulation in Couples With and Without Children

Emotion regulation is the process of monitoring, evaluating and modifying one's emotions (Thompson, 1994). There is a great deal of literature about the different kinds of emotion regulation strategies and how they are influenced by circumstances, personality types, and other variables. To our knowledge, no studies have utilized daily questionnaires to examine the relationship of parenthood to emotion regulation, or to examine the relationship of culture to various emotion regulation strategies. An extensive review found that the existing literature focuses mainly on emotion regulation in children, but there is little information about variations of emotion regulation in parents compared to adults without children. The lack of information regarding parenthood and emotion regulation is significant because differences in parental emotion regulation strategies have been shown to affect children's development (Eisenberg, Cumberland, & Spinrad, 1998; Marie, Allen, & Sheeber, et al., 2007). In a study on marital interaction and suppression (a kind of emotion regulation), poor marital interaction and greater levels of suppression have been linked to adverse effects on children (Gottman & Levenson, 1988).

Emotion Regulation

Emotion regulation encompasses both external and internal processes that allow an individual to achieve a goal by monitoring, evaluating, and modifying one's emotional reactions (Thompson, 1994). There are a variety of forms of emotion regulation. Two

main categories of emotion regulation are *problem-focused*, which tend to be effective, and emotion focused, which are generally effective if they are *antecedent-focused*, and generally ineffective if they are *response-focused* (John & Gross, 2004) (See *Appendix A* for Emotion Regulation Model).

Problem-focused Emotion Regulation Strategies

Emotion regulation strategies can be classified as active versus passive. Active emotion regulation strategies involve a proactive action-based effort to diminish potential stressful situations early on before they induce an unwanted emotion (Aspinwall, Taylor, Shelley, 1997). Taking action, enlisting one's partner, and communal coping, are all prime examples of problem-focused, active coping emotion regulation strategies, and are shown to be positive and effective in accomplishing one's goals**.**

Taking action is "direct" and the most basic of the problem focused emotion regulation. It can be defined as an active response to a threatening situation with the intention of removing the threat (Fortes-Ferreira, Peiro, Gonzalez-Morales, & Martin, 2006). While taking action is a problem-focused type of emotion regulation on an individual level, Emily Butler, Ph.D. created the construct, "enlisting partner" as a problem-focused type of emotion regulation on a social level (a social version of the action based problem-focused coping). She defines enlisting partner as the process by which an individual tries to get his or her partner to do something (to take action) to help solve a problem. Communal coping is also a problem-focused type of emotion regulation on a social level. It occurs when an individual encourages his or her partner to view a situation as a communal problem ("ours," not "yours" or "mine") and work together toward solving it (Rohrbaugh & Shoham, in press*)*. Enlisting one's partner and

communal coping can essentially be thought of as communal versions of active coping. Problem-focused emotion regulation strategies such as the one's described above, have been shown to be positive and effective ways to deal with problems (Fortes-Ferreira, et al., 2006).

Emotion-focused Emotion Regulation Strategies

Emotion-focused regulation is an effort to change emotions directly, rather than to change the situations that evoke those emotions. Emotion-focused regulation can either be antecedent-focused or response-focused. Antecedent-focused regulation is practiced before an emotion is experienced. This kind of emotion regulation is used in response to events before those events trigger unwanted emotional responses (Kashdan et al., 2006), which is why they are effective. In contrast to antecedent emotion-focused regulation, response-focused emotion regulation strategies are implemented after an event has already generated an emotional response (Kashdan et al., 2006), and are usually ineffective (John & Gross, 2004).

Reappraisal is an antecedent emotion-focused form of regulation. It is a conscious effort to change the way a threatening situation is evaluated prior to its occurrence (Kashdan et al., 2006). Garland, Gaylord and Park (2009) describe positive reappraisal as an adaptive meaning-based coping mechanism in which stressful situations are reinterpreted in a positive light as benign, valuable, or even beneficial. While it is not a problem-focused emotion regulation strategy, it is similar to that class because it is effective. Research has shown that the ability to extract benefits out of difficult events is correlated with positive, healthy outcomes (Garland, Gaylord, & Park, 2009). If an individual is able to alter their thinking about a negative situation before they go into it, it acts as a protective buffer against the negative aspects of that situation, and therefore

makes it easier to handle. Studies have demonstrated that like problem-focused emotion regulation (action, enlisting partner, communal coping), reappraisal is an effective strategy to cope with negative emotions. In a study by John and Gross (2003), reappraisal was associated with reduced negative emotional experiences, increased positive emotion, better interpersonal functioning, and positively related to well being. Reappraisal has also been shown as linked with higher levels of optimism and self-esteem, and lower levels of anxiety (Carver Scheier, & Weintraub, 1989).

The second category of emotion-focused regulation is response-focused, which is ineffective (John & Gross, 2004). Two types of response-focused regulation are suppression and avoidance. Response emotion-focused regulation occurs when a negative emotion emerges before an individual has a chance to address it, and response-focused regulation regulates the already existing emotion by trying to push it down and/or get rid of it. Suppression is a conscious and active effort to inhibit a continuous stream of both covert and overt emotions (Kashdan et al., 2006) with extra focus on inhibiting the expression of that emotional response (Butler, Lee & Gross, 2007). Emotion suppression has shown to sometimes be effective in decreasing expressive behavior, but ineffective in reducing negative subjective experience (Gross & Levenson, 1997) and studies have shown its association with psychological distress and harmful social effects (Kashdan et al., 2006, Gross 2002). Gross & John (2003) showed suppressors experience and express lesser positive emotion and greater negative emotion, and that it is associated with worse interpersonal functioning. They also found that using suppression is related negatively to well being (Gross & John, 2003). Avoidance, also known as avoidant coping, is the strategic effort to escape and remove oneself from

stressful events and situations (Kashdan et al., 2006). Like suppression, avoidance has also been shown to be ineffective at reducing negative experience in the long run and is associated with increased negative affectivity over time (Kashdan et al., 2006). In summary, problem-focused regulation has shown to be effective, antecedent emotion-focused regulation has shown to be effective, but response emotion-focused regulation has shown to be ineffective.

Emotion Regulation and Parenting

Close relationships, such as parent-child relationships, are often chaotic and a source of stress that can affect efforts to manage emotion (Thompson, 1994). Being a parent is stressful, and highly stressful situations and environments exacerbate cognitive load (Pearlin, Menaghan, Lieberman, & Mullan, 1981). The effects of a heavy cognitive load compromise initial appraisals of a potential stressor (Kruglanski & Webster, 1996), and thus affect emotion regulation. There is not much literature on parents and emotion regulation, but one can speculate that having children could undermine emotion regulation. Parents have more emotional demands and the parent-child relationship evokes a lot of emotion. More emotional challenges leads to more emotion regulation. There is evidence that the capacity for self-regulation is a limited resource subject to temporary depletion and emotion regulation uses cognitive resources that become depleted (Muraven, Tice, and Baumeister, 1998). More emotion regulation along with the highly stressful situations parents find themselves in, would likely lead to more draining of cognitive resources (cognitive depletion). Problem-focused and emotion-focused antecedent forms of regulation are beneficial and effective, but their drawback is that they require sustained attention to the potential problem, and thus take a great deal of

cognitive energy to implement (Aspinwall, Taylor, Shelley, 1997). Regarding reappraisal, when one is exhausted, it is much more difficult to be positive about a situation. The draining of cognitive resources that parents may experience could lead to lower levels of effective emotion regulation (because these ones take effort to practice). People should inherently know which emotion regulation strategies are effective and which ones are not and thus attempt to practice effective ones more often than ineffective ones (if they have the cognitive resources to do so). There are times though when it would be difficult to use the effective regulation strategies action, enlisting partner, communal coping and reappraisal. In these cases of exhaustion, suppression and avoidance are the only way to regulate the negative emotions that have arisen (Gross, 2002). Parents should have a higher cognitive load than non-parents, and thus have fewer cognitive resources to practice the effective forms of emotion regulation. Ineffective emotion regulation strategies may be immune to this cycle because they are last resort efforts to regulate emotions when one does not have the time or energy to practice the effective active ones.

Culture and Emotion Regulation

Emotion regulation occurs within a cultural context, which affects the way individuals regulate emotions in social interactions (Butler et al., 2007). Cultures dictate the appropriate emotional responses to different circumstances (Kitayama, Markus, & Kurokawa, 2000; Markus & Kitayama, 1991; Mesquita, 2001; Frijda & Mesquita, 1994; Scherer, 1997). In general, when examining Eastern collectivistic cultures versus Western individualistic cultures, Asian cultures place high value on relationship harmony, social cohesion, and norm conformity (Markus & Kitayama, 1991). Openly

displaying anger and frustration may threaten the in-group cohesion that is so valued in collectivistic society (Hui & Triandis, 1986). Consistent with these values, emotion suppression may be a useful technique for maintaining these cultural pro-social goals. Asian cultures encourage the moderation and control of emotion expression (Markus & Kitayama, 1991; Matsumoto, 1991; Russell & Yik, 1996). Individualistic cultures are more permissive of expressing anger openly as compared to collectivistic cultures (Matsumoto, 1991; Matsumoto, Yoo, & Chung, 2010). Studies have demonstrated that individuals from collectivistic cultures report lower levels of emotional sharing (Rime, Finkenauer, Luminet, Zach, & Philippot, 1998) and higher levels of emotion suppression (Butler, et al., 2007). While studies show collectivistic cultures practice greater levels of suppression, little is known about differences in levels of other emotion regulation strategies such as taking action, enlisting one's partner, communal coping, reappraisal, and avoidance. In contrast to Eastern collectivistic culture, Western values placed on individualism and independence, encourage openly expressing emotions in most circumstances (Markus & Kitayama, 1991; Oyserman, Coon, & Kemmelmeier, 2002; Tsai & Levenson, 1997; Wierzbicka, 1993, 1994). One might expect therefore, that Indian cultures would practice higher levels of emotion regulation than United States culture due to their communal values.

Indian culture, while collectivistic, has modernized and come to accept some elements of individualistic cultures (Sinha & Tripathi, 1994), notably the acceptance and adoption of marriages based on love in addition to pre-existing marriages based on traditional arrangement by families. Love marriages in India are more similar to American marriages than Indian arranged marriages because each partner selects his or

her spouse based on emotional connection (Yelsma & Athappily, 1988). Yelsma and Athappilly (1988) note that communication styles in Indian love marriages are more similar to communication styles of American couples than they are to Indian arranged marriage couples. Based on this knowledge, it is reasonable to predict that there may be differences between emotion regulation levels between not only cultures, but also between marriage types. One can hypothesize that Indian-arranged couples would present higher levels of emotion regulation than both Indian-love and United States couples, and Indian-love couples would exhibit higher levels of emotion regulation than United States couples, due to the fact they are within a more collectivistic society.

Associations Between Culture, Parenting, and Emotion Regulation

To our knowledge, there is a gap in the literature regarding the interaction of parenthood and culture in relation to emotion regulation strategies. Children's behavior and temperament may predict parental processes (Oldehinket et al., 2006; Kim, Conger, Lorenz, & Elder, 2001). Rossi (1968) notes that in American society, there are a few cultural guidelines to successful parenthood. Because there is less extended cultural support for American parents, this may make their task of parenting more challenging and draining. The individualistic American society that places lesser value on relationship harmony may produce more combative children.

Due to the lack of directly relevant literature, the interaction portion of this present study is exploratory. The study investigates these two contrasting hypotheses, specifically: (a) United States culture may have less built-in family support and more combative children, therefore the American family may be more stressful, and thus the effects of having children in American families would be more cognitively depleting,

leading to lower levels of emotion regulation as compared to Indian culture, or (b) Parenting is equally draining regardless of the cultural context, and therefore the same parenting effects will be seen across all marriage types (effective emotion regulation is reduced among all parents, regardless of culture).

Research Questions and Hypotheses

The present study investigates six emotion regulation strategies (*taking action, enlisting one's partner, communal coping, reappraisal, suppression,* and *avoidance*) in couples with and without children from the United States and India (with Indian couples broken down into two groups: Indian arranged marriage and Indian love marriage). It investigates the main effects of having children versus having no children, and marriage type on emotion regulation, as well as the interaction between parenthood and marriage type. It addresses the following questions using data from a baseline questionnaire and from daily diaries:

(1) Is being a parent versus having no children associated with differing levels of the six emotion regulation strategies? Based on the existing literature, I hypothesized that parents (couples with children) would report reduced levels of the effective emotion regulation strategies (problem-focused and emotion-focused antecedent) compared to couples without children. I also hypothesized that levels of ineffective emotion regulation strategies would remain the same regardless of whether couples had children or not.

(2) Do the six emotion regulation strategies differ between American couples, Indian arranged-marriage couples and Indian love-marriage couples? While I expect having children to undermine only effective emotion regulation, I expect couples in Indian

culture will report higher levels of all emotion regulation forms no matter whether they are of the effective or ineffective kind, due to the collectivistic nature of their culture. Therefore, based on the existing literature, I predicted that American couples would show lower levels of all six emotion regulation strategies, as compared to Indian-arranged couples and Indian-love couples. I also predicted that Indian-love couples would show lower levels of the six emotion regulation strategies, in comparison to Indian-arranged couples.

(3) Is there an interaction between being a parent and one's culture? Are there cultural differences in the effects of having children versus not having children on the six emotion regulation strategies? Based on the research presented, I developed two contrasting hypotheses: (a) Due to less extended cultural support and more combative children, United States couples with children will show an even bigger decrease in emotion regulation than both Indian-arranged and Indian-love couples with children, versus (b) Differences in levels of emotion regulation strategies between couples with and without children will not significantly differ between cultures.

Methods

Participants and Recruitment

Community samples of heterosexual, committed romantic couples were recruited in the United States and India. The United States sample was collected by asking undergraduate students at the University of Arizona to distribute flyers to eligible couples (see criteria below). If the student was in a committed romantic relationship and eligible, the student and his or her partner could participate in the study instead of distributing the flyer. Students received extra academic credit in their course in exchange for recruiting

participants for the study. The Indian sample was recruited through class announcements at Karnatak University. Flyers were also placed around the Karnatak University campus, encouraging eligible students to participate as well as to enlist family and friends to participate. All participants were required to meet the following criteria: 1) at least 18 years of age, 2) both partners had to be willing to participate in the study, and 3) the partners had been in a romantic relationship for at least six weeks.

The sample included a total of 154 couples (N=308), ranging in age from 18 to 73 years old (*M=33.5, SD*=10.7). Participants included 64 couples from the United States (*N*=128) and 90 couples from India (41 in love marriages, 49 in arranged marriages) (*N*=180). Approximately 34.6% of the couples from the United States were married and 49.7% were living together. 100% of the Indian couples were married and living together, regardless of marriage type. The relationship length for American couples ranged from 2 months to 37 years (*M*= 7.0 years, *SD*=9.9 years). The relationship length for Indian-love marriages ranged from 2.1 to 36.4 years (*M*= 9.5 years, *SD*=7.5 years) and for Indian-arranged couples it ranged from 1.8 to 42.2 years (*M*= 12.4 years, *SD*=9.0 years).

Procedures:

Participants from the United States were requested to log-on to a secure website to read a full disclosure invitation and register for the study. Online instructions asked participants to complete all measures individually and to not discuss them with their partners. Each participant was asked to create a web-ID from the first 3 letters of their last name and the first 3 letters of their partner's last name followed by an "M" or "F" to designate whether they were the male or female partner. This allowed the study's

investigators to identify data from participants across time and connect data within couples. Participants then completed a baseline survey that included items assessing demographics and individual difference measures. After completing the baseline survey, participants were instructed to visit the website for 7 consecutive days to complete daily diary measures. Reminder emails were sent to participants each day of the study. No compensation was given for participation; therefore there was no coercion.

In India, interested participants called the research assistant and a time was arranged to meet in their home. All Indian participants were fluent in English and all items in the baseline survey and daily diary were identical for the American and Indian samples. The only exception was the addition of an item assessing marriage-type and caste for the Indian sample. At the first meeting participants completed the full disclosure invitation. Following informed consent, participants were given the baseline survey in paper-form to complete. This baseline survey was completed only once, and took approximately 15 minutes. Participants were also given a package with 7 daily dairy forms and an explanation of when to fill them out (one time per day at the end of the day). Participants were asked not look at the diaries after they filled them out and to not discuss or show them to their partner. Each daily questionnaire took approximately 15 minutes. The research assistant then arranged to collect the completed study materials at the end of the 7 days. In total, participants spent approximately 2 hours on this study. If at any time participants felt uncomfortable, they were free to quit. The data was entered into an excel file and was sent as a password protected data file with no identifying information to the principle investigator in the United States.

On average, across both the American and the Indian samples, participants completed five days of the daily diary (range 1-14 days, *SD*=2.3) and this did not differ across marriage-types. Missing data was not associated with marriage type, age, relationship satisfaction, or any of the demographic variables assessed.

Measures

Baseline Survey. Participants were asked to complete a baseline survey, which included questions on age and relationship length (in months and years). It also included a single item that assessed parenthood, "*Do you have any children? (Please check the appropriate answer),"* with responses including Yes or No. Additionally, Indian participants were asked to indicate their marriage type (Arranged, Love, or Other). The parental status and culture were face-valid single-item measures, so no scale scoring was necessary. The survey also included additional demographic, health, and individual difference measures not relevant to the analyses included in this paper. (See *Appendix B* for Baseline Survey questions.)

Daily Measures.

The daily diaries included items assessing various types of emotion regulation strategies. For all types of emotion regulation, the initial portion of the item took the form: "*To what extent did you do each of the following things to try to solve a problem, or to control or change your emotions?*" The item for each type of emotion regulation strategy continued with a statement. Participants selected a number from a Likert scale ranging from 0= "*not at all"* to 10 = "*extremely*" in response to each item. The "Taking Action" item took the form: *"I took action and tried to do something about a situation."* The "Enlisting Partner" item took the form: *"I tried to get my partner to do something*

that would help to solve the problem or would make me feel better." The "Communal Coping" item took the form: *"My partner and I tried to work together to solve a problem."* The "Reappraisal" item took the form: "*I tried to look on the bright side, or to see something good in a situation.*" The "Suppression" item took the form "*I kept my emotions to myself.*" Finally, the "Avoidance" item took the form: *"I tried to avoid a problem or to ignore my emotions about it*." (See *Appendix C* for Daily Questionnaire items.) The hypotheses focused on the level of each reported emotion regulation strategy across the week, not the daily fluctuations of each emotion regulation strategy. Due to this, I calculated the mean of values for each emotion regulation strategy over the week for each person in each couple.

Data Analysis

I used a dyadic multilevel model that included three categorical predictor variables. Marriage-type was a categorical variable with 3 levels: American, Indian-love, and Indian-arranged. Gender was a categorical variable with 2 levels: male and female. Children was the last categorical variable with 2 levels: with children and without children. These variables were included as both main effects and in interaction with one another. The six dependent variables: *action, enlisting partner, communal coping, reappraisal, suppression,* and *avoidance,* were treated as a continuous variables that were centered around the sample mean.

To account for statistical non-independence inherent in repeated measurement of interacting partners' emotion regulation strategies, I estimated a dyadic multilevel model with Proc Mixed in SAS version 9.2 (SASInstitute, 2004), incorporating random intercepts for both persons and dyads. In summary, this multilevel model enabled the

analysis of differences between all condition means, while simultaneously taking into account the dyadic nature of the data (Kenny, Kashy, & Cook, 2006). Preliminary analyses were conducted with gender as a categorical predictor variable, however it was found to have no main effects or interaction on any of the emotion regulation variables; thus, it was not included as a predictor. Therefore the results presented do not include it as a control variable and fixed effects are pooled over gender.

Results

Table 1 provides frequency data in terms of number of couples in each marriage type with and without children. Table 2 provides descriptive statistics (means and standard deviations for all outcome variables) separated by sex. Men tended to have higher levels of the four effective emotion regulation strategies than women, although this difference was not significant. Table 3 presents means and standard errors for groups for each of the outcome variables. The table presents the results relevant to hypothesis one and two. (H1) parental status had a significant main effect on lowering levels of the four effective emotion regulation strategies but had no significant main effect on levels of the two ineffective emotion regulation strategies. (H2) marriage type had a significant main effect on lowering levels of all six emotion regulation strategies. (H3) there was no significant interaction between parental status and marriage type on emotion regulation.

For each outcome variable (the six emotion regulation strategies), significant group differences were tested for marriage type and presence of children. Table 3 contains superscripts that indicate significant group differences. Groups with same superscripts are not significantly different from one another, while groups with different superscripts are significantly different at $p < .05$. As seen in **Figure 1**, for the outcome

variable *action,* there was a significant main effect for marriage, F (2, 1538) = 46.68, p<.05, and a significant main effect for child status, F (1,1538) = 7.83, p<.05. As seen in Figure 1, both Indian marriages had similar high levels of action, as compared to the Americans. Figure 1 also illustrates that individuals with children (across all marriage types) had lower levels of action as compared to couples without children.

As seen in **Figure 2**, for the outcome variable *enlisting partner,* there was a significant main effect for marriage, F (2, 1540) = 75.30, p<.05, and a significant main effect for child status, F (1,1540) = 14.20, p<.05. As seen in Figure 2, both Indian marriages had similar high levels of enlisting of partner, as compared to the Americans. Figure 2 also illustrates that individuals with children (across all marriage types) had lower levels of enlisting partner as compared to couples without children.

As seen in **Figure 3**, for the outcome variable *communal coping,* there was a significant main effect for marriage, F (2, 1539) = 67.40, p<.05, and a significant main effect for child status, F (1,1539) = 10.36, p<.05. As seen in Figure 3, both Indian marriages had similar high levels of communal coping, as compared to the Americans. Figure 3 also illustrates that individuals with children (across all marriage types) had lower levels of communal coping as compared to couples without children.

As seen in **Figure 4,** for the outcome variable *reappraisal,* there was a significant main effect for marriage, F (2, 1538) = 37.44, p<.05, and a significant main effect for child status, F (1,1538) = 9.83, p<.05. As seen in Figure 4, both Indian marriages had similar high levels of reappraisal, as compared to the Americans. Figure 4 also illustrates that individuals with children (across all marriage types) had lower levels of reappraisal as compared to couples without children.

As seen in **Figure 5**, for the outcome variable *suppression,* there was a significant main effect for marriage, F (2, 1538) = 8.71, p<.05, but the main effect for child status was not significant, F (1,1538) = 1.06, p = .3031 (n.s.). As seen in Figure 5, both Indian marriages had similar high levels of suppression, as compared to the Americans. Figure 5 also illustrates that individuals with children (across all marriage types) did not significantly differ in levels of suppression as compared to couples without children. As seen in **Figure 6**, for the outcome variable *avoidance,* there was a significant main effect for marriage, F (2, 1540) = 15.43, p<.05, but the main effect for child status was not significant, F (1,1540) = 0.64, p = .4232 (n.s.). As seen in Figure 6, both Indian marriages had similar high levels of avoidance, as compared to the Americans. Figure 6 also illustrates that individuals with children (across all marriage types) did not significantly differ in levels of avoidance as compared to couples without children.

In summary, as predicted I found parental status differences in the four of the six emotion regulation strategies. Parents reported lower levels of effective emotion regulation (problem-focused: action, enlisting partner, communal coping, and antecedent emotion-focused: reappraisal) than couples without children, but there was no significant difference between parents and couples without children on the levels of the two ineffective emotion regulation strategies (response emotion-focused: suppression and avoidance). I also found significant marriage-type differences in levels of all six emotion regulation strategies. Both Indian-arranged and Indian-love couples reported higher levels of each emotion regulation than American couples, but contrary to our hypothesis there was no significant difference between Indian-arranged and Indian-love couples on levels of any of the six emotion regulation strategies. It is notable however, that the

Indian-arranged couples reported higher levels of all emotion regulation strategies as compared to Indian-love couples.

Turning to the third research question, no significant interactions between marriage type and parent status were found. Effects of having children on emotion regulation did not differ between marriage types. As seen in Figure 1, for the outcome variable *action*, there was no significant interaction effect for marriage*child, F (2, 1538) = 0.71, p = 0.4911 (n.s.). As seen in Figure 2, for the outcome variable *enlisting partner*, there was no significant interaction effect for marriage*child, F (2, 1540) = 1.49, p = 0.2253 (n.s.). As seen in Figure 3, for the outcome variable *communal coping*, there was no significant interaction effect for marriage*child, F (2, 1539) = 1.74, p = 0.1764 (n.s.). As seen in Figure 4 , for the outcome variable *reappraisal*, there was no significant interaction effect for marriage*child, F (2, 1538) = 1.32, p = 0.2668 (n.s.). As seen in Figure 5 , for the outcome variable *suppression,* there was no significant interaction effect for marriage*child, F (2, 1538) = 3.43, p = 0.0827 (n.s.). As seen in Figure 6 , for the outcome variable *avoidance,* there was no significant interaction effect for marriage*child, F (2, 1540) = 1.18, p = 0.3065 (n.s.).

Summary

In summary, our first hypothesis was confirmed. Couples without children reported lower level of emotion regulation, on the four effective emotion regulation types tested (action, enlisting partner, communal coping, reappraisal), and levels of the two ineffective emotion regulation types (suppression and avoidance) did not differ based on the presence of children. Regarding our second hypothesis, as predicted, Indian couples showed significantly higher levels of all six emotion regulation strategies than

Americans. Contrary to our prediction however, there was no significant difference between Indian-arranged couples and Indian-love couples on reported levels of any emotion regulation strategies. In respect to the exploratory analysis of the interaction, our second competing hypothesis was confirmed and no significant interaction effect was found.

Discussion

The study began with three broad questions: (1) Are there differences in levels of emotion regulation among individuals with children compared to individuals without children? (2) Are there cultural and marriage-type differences in levels of emotion regulation? (3) Are there cultural differences in the effects of having children (versus not having children) on emotion regulation? In general the answer to the first two questions was "yes." The answer to the third question was "no." However, some of the details differed from predictions. The following sections contain more nuanced responses to each of these questions.

Are There Differences in Levels of Emotion Regulation Between Couples With Children Compared to Couples Without Children?

Levels of six kinds of emotion regulation types were compared between couples with and without children. Based on the literature, it was predicted that couples with children would show lower levels of effective emotion regulation as compared to couples without children. Consistent with this prediction, couples with children across all marriage-types did in fact report significantly reduced levels of emotion regulation: *taking action, enlisting partner, communal coping, and reappraisal* as compared to couples without children, and couples with children did not significantly differ from

couples without children in levels of the two ineffective emotion regulation strategies, *suppression* and *avoidance*. The finding that only the effective emotion regulation strategies were undermined by the presence of children is significant. As previously discussed, taking action, enlisting one's partner, communal coping, and reappraisal all require a significant amount of exertion of cognitive resources to practice. Response-focused levels of suppression and avoidance, both emotion-focused regulation strategies, were not significantly reduced in couples with children. This discrepancy may be explained in the following way: Problem-focused and antecedent emotion focused emotion regulation strategies may require more cognitive resources than response-focused emotion regulation strategies. Couples without children have more cognitive energy reserves than parents and thus are better able to utilize problem-focused and antecedent emotion-focused regulation strategies. Parents are less likely to have the energy to practice active effective emotion regulation. Ineffective emotion regulation strategies are last resort efforts to get rid of negative emotions that have already emerged. Because all individuals feel negative emotion regardless of whether or not they have children, this is likely to explain why there is not much difference between couples with children and couples without children on levels of the ineffective emotion regulation strategies suppression and avoidance.

Are There Cultural Differences in Levels of Emotion Regulation?

Emotion regulation strategies were compared between American, Indian-love, and Indian-arranged couples. Based on the literature, I first predicted that American couples would show less emotion regulation than Indian-love and Indian-arranged couples. I secondly predicted that Indian-love couples would show less emotion regulation as

compared to Indian-arranged couples. Consistent with the first hypothesis, American couples did in fact show significantly less emotion regulation across all six types of emotion regulation, as compared to Indian-love and Indian-arranged couples. Contrary to the second hypothesis however, I found that Indian-love couples were more similar to Indian-arranged couples than to American couples, and that there was no significant difference in emotion regulation levels between Indian-love couples and Indian-arranged couples. One explanation for this lack of difference between the marriage types is that in Indian collectivistic society the high cultural value placed on moderating and restraining emotions for the sake of nurturing interpersonal relationships (Hui & Triandis, 1986) overrides the degree to which those in Indian-love marriages have adopted the traits inherent in individualistic cultures.

Are There Cultural Differences in the Effects of Having Children on Levels of Emotion Regulation?

Our study did not find significant cultural differences in the effects of having children on levels of emotion regulation, meaning I saw the same parental status effects across all marriages. This suggests that parenting is equally draining regardless of the cultural context. One possible explanation for the lack of this finding is that in our sample, most Indian couples had children (all were married) and most U.S. couples did not have children (many were not married).

Implications of the Research

This study is one of the first to examine whether being a parent influences emotion regulation across different cultural contexts. The results of this research provide findings useful to the advancement of research in cultural, familial and even clinical

psychology. This study's findings reveal how both culture and parenthood are associated with varying levels of emotion regulation. This is significant because parents' emotion regulation strategies have effects on children in their development (Marie, et al., 2007). According to Melnick and Hinshaw (2000), parents' emotion regulation abilities influence their interactions with children, which then can predict patterns of their children's socioemotional functioning. According to Thompson (1994), parents who practice unhealthy emotion regulation strategies such as suppression, in front of their children, will make it more likely that their children will internalize these ineffective strategies. Understanding how familial structure (having children as opposed to having no children) relates to ways that individuals in different cultures practice emotion regulation, can start to give researchers and clinicians a better sense of how family therapy can be adjusted and specialized to couples and families based on culture.

Limitations and Future Directions

Take-home daily self-report measures are beneficial in helping researchers understand dynamic processes in a natural environment, but they can also introduce error into a study. Because the questionnaires were completed in participants' homes, researchers did not have control over whether participants followed instructions. Furthermore, in India, the questionnaires were take-home and in written form, while in the U.S., questionnaires were online. This difference is a limitation, but a logistical necessity because the Indian population did not have easy access to the Internet unlike participants from the United States. Participants may have violated directions and may have shared their responses and emotions with their partner, or changed their answers on diaries from previous days. They may have also been dishonest in their responses or they

perhaps may have forgotten to fill out the daily questionnaire one day, and compensated by filling in that day's questionnaire later in order to catch up. Any of these events would create nuisance error.

The study does not control for length of marriage, or age of children, which could be significant influences on emotional regulation levels. This design also does not control for depression, anxiety, or other mental disorders, which may create strain in some marriages, thus affecting participant's responses. Family environments containing marital conflict or parental depression have been shown to have adverse effects on emotional regulation (Southam-Gerow & Kendall, 2002). These variables could be measured and controlled for in future studies.

Another limitation is the nature of the cross-cultural sample. The Indian sample from our study was primarily well-educated, from the middle-class, and from an urban area in the southern part of the country. That being said, the American sample was also primarily well-educated, from the middle class and from an urban area, making it more likely that results were due to differences in culture rather than the other variables mentioned above. Only one cultural factor was compared, and that was based upon marriage-types. Other differentiating factors across cultures could be compared in future studies. The exact cultural differences that result in differences of emotion regulation are still unknown. Finally, another limitation is the uncertainty as to whether questions were interpreted consistently across cultures, despite the fact that the Indian participants were fluent English speakers.

Potential Future Studies

The baseline survey and daily questionnaires contained many items that were not examined in this particular study. There are myriad main effects and interactions that have the potential to be explored in future studies by creating different models than the one produced in this study. Arguing, couple satisfaction, couple closeness, positive emotion related to partner, negative emotion related to partner, and other relationship characteristics, are just some of the variables that can be used to create models that explore main effects and interactions on average or on a daily basis.

Expanding the collection of data to other cultures is another possibility for a future study. Future studies could also examine a number of cross-cultural differences in the ways in which parents deal with their children. Within specific cultures, it would be interesting to examine parental styles/characteristics in relation to emotion regulation. Results from future studies mentioned above, could potentially advance the efficacy of family therapy, couple therapy, and therapy for emotional regulation.

Works Cited

Aspinwall, Lisa G. & Taylor, Shelley E., (1997). A Stitch in time: Self-regulation and proactive coping. *Psychological Bulletin*, 121 (3), 417-436.

Butler, E. A., Lee, T. L., & Gross, J. J. (2007). Emotion regulation and culture: Are the social consequences of emotion suppression culture-specific? *Emotion,* 7, 30-48.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.

Eisenberg, N., Cumberland, A., & Spinrad, T. L. (1998). Parental socialization of emotion. *Psychological Inquiry, 9* (4), 241–273.

Frijda, N.H., and Mesquita, B. (1994) The social roles and functions of emotions. *Emotion and Culture*. Published by American Psychological Association, p. 51-87.

Garland, E., Gaylord, S., & Park, J. (2009) The role of mindfulness in positive reappraisal. *Explore (NY),* 5 (1), 37-44.

Gross, J.J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, 39, 281-291.

Gross, J.J. & Levenson, R.W. (1993). Emotional suppression: Physiology, self-report, and expressive behavior. *Journal of Personality and Social Psychology*, 64, 970-986.

Gross, J.J., & Levenson, R.W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology*, 106, 95-103.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology,* 85, 348-362.

Hui, C. H., & Triandis, H. C. (1986). Individualism-collectivism: A study of cross-cultural researchers. *Journal of Cross-Cultural Psychology,* 17, 225-248.

John, O.P., & Gross, J.J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and lifespan development. *Journal of Personality*, 72, 1301-1334.

Kashdan, T. B., Barrios, V., Forsyth, J. P., Steger, M.F. (2006). Experiential avoidance as a generalized psychological vulnerability: Comparisons with coping and emotion regulation strategies. *Behaviour Research and Therapy,* 44, 1301-1320.

Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York: Guilford Press.

Kim, K. J., Conger, R. D., Lorenz, F. O., and Elder, G. H. (2001). Parent-adolescent reciprocity in negative affect and its relation to early adult social development. *Developmental Psychology,* 37(6): 775–790.

Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: "Seizing" and "freezing." *Psychological Review,* 103*,* 263-283.

Fortes-Ferreira, Lina, Peiro, Jose M., Gonzalez-Morales, M. Gloria, and Martin, Isabel. (2006). Health and Disability: Work-related stress and well-being: The roles of direct action and palliative coping. *Scandinavian Journal of Psychology*, 47 (4), 293-302.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review,* 98, 224-253.

Marie, B. H., Allen, N., & Sheeber, L. (2007). Using an Emotion Regulation Framework to Understand the Role of Temperament and Family Processes in Risk for Adolescent Depressive Disorders. *Clinical Child and Family Psychology,* 10 (2), 180-196.

Matsumoto, D. (1991). Cultural influences on facial expressions of emotion. *Southern Communicational Journal 56*, 128-137.

Matsumoto, D., Yoo, S. H., & Chung, J. (2010). The expression of anger across cultures. In *International Handbook of Anger* (pp. 125-137). New York: Springer.

Melnick, S. M. and Hinshaw, S.P. (2000). Emotion Regulation and Parenting in AD/HD and Comparison Boys: Linkages with Social Behaviors and Peer Preference. *Journal of Abnormal Child Psychology,* 28 (1), 73-86.

Muraven, M., Tice, D. M., & Baumeister, R. F. (1998). Self-control as limited resource: Regulatory depletion patterns. *Journal of Personality and Social Psychology,* 74, 774-789.

Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social Behavior,* 22*,* 337-356.

Rime, B., Finkenauer, C., Luminet, O., Zech, E., & Philippot, P. (1998). Social sharing of emotion: New evidence and new questions. In W. Stroebe & M. Hewstone (Eds.), *European Review of Social Psychology* (pp. 146-189). Chichester, England: Wiley.

Rohrbaugh, M. J., & Shoham, V. (in press). Family Consultation for Couples Coping with Health Problems: A Social Cybernetic Approach. In H.S. Friedman (Ed.), *Handbook of Health Psychology*. New York: Oxford University Press.

Rossi, Alice S. (1968). Transition to Parenthood. *Journal of Marriage and Family*, 30(1), 26-39.

Russell, J. A., & Yik, M. S. M. (1996). Emotion among the Chinese. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 166-188). New York: Oxford University Press.

SASInstitute. (2004). SAS user's guide, version 9.2. Cary, NC: Author.

Sinha, D., & Tripathi, R. C. (1994). Individualism in a collectivist culture: A case of coexistence

of opposites. In U. Kim, H. C. Triandis, C. Kagitcibasi, S.-C. Choi & G. Yoon (Eds.), *Individualism and collectivism. Theory, method, and applications* (pp. 123-136). Thousand Oaks, CA: Sage.

Southam-Gerow, Michael A. and Kendall, Phillip C. (2002) Emotion regulation and understanding: implications for child pathology and therapy. *Clinical Psychology Review.* 22 (2), 189-222.

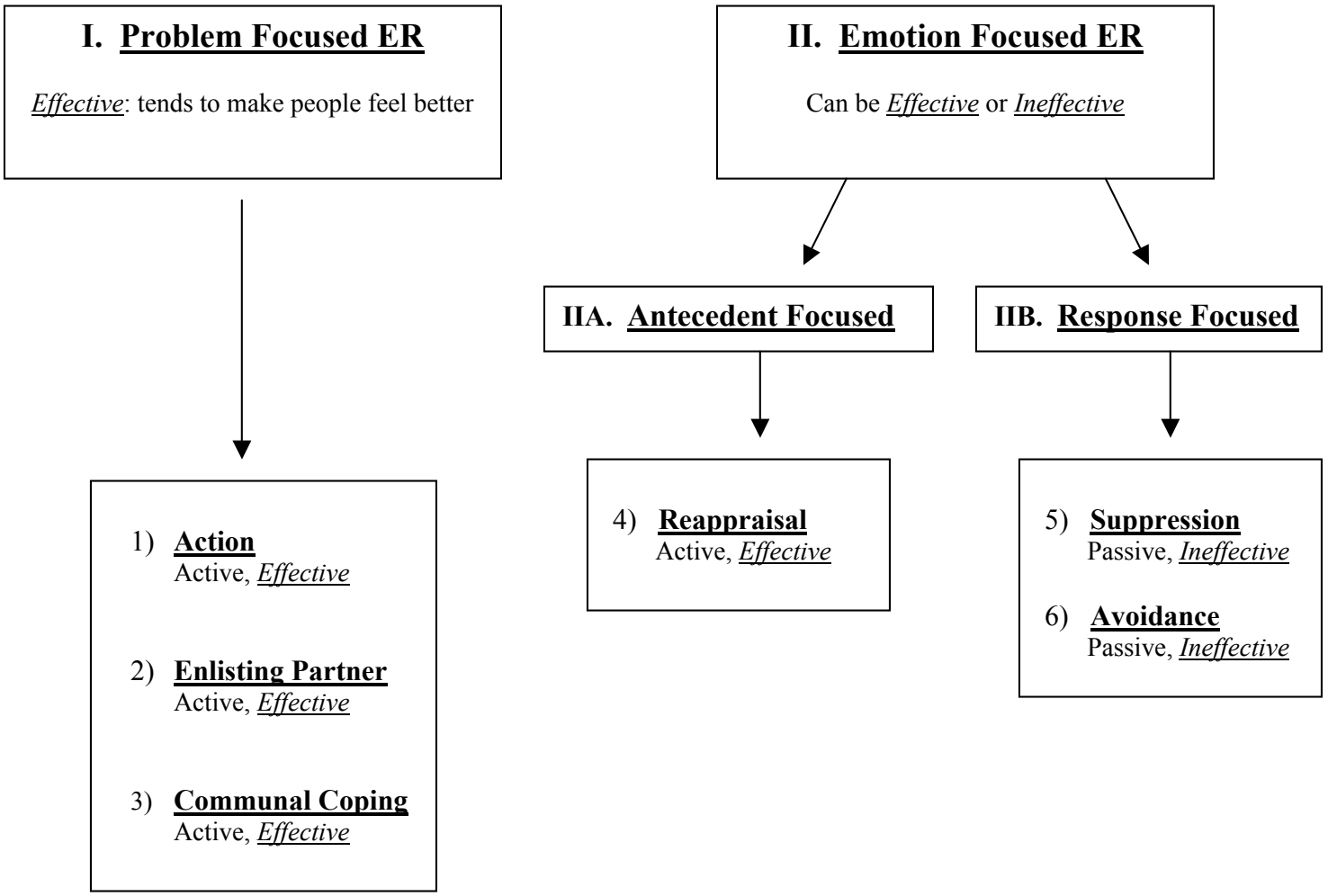
Thompson, R. A. (1994). Emotional regulation: a theme in search for definition. In N. A. Fox, The development of emotion regulation: behavioral and biological considerations. Monographs of the Society for Research in Child Development, 59, 25-52.

Wierzbicka, A. (1993). A conceptual basis for cultural psychology. *Ethos,* 21, 205-231.

Wierzbicka, A. (1994). Emotion, language, and cultural scripts. In S. Kitayama & H. R. Markus (Eds.), Emotion and culture. (pp. 133-196). Washington, D.C.: American Psychological Association.

Yelsma, P., & Athappilly, K. (1988). Marital satisfaction and communication practices: Comparisons among Indian and American couples. *Journal of Comparitve Family Studies, 19*, 37-54.

Appendix A. Emotion Regulation Model.



Appendix B. Questions from Baseline Survey that measure gender, culture, and parental status.

Gender: Couple ID: Husband ____ or Wife ____
(Men coded as = 0, Women coded as = 1)

Culture: Based on whether survey is in distributed in America (coded as = 0), or in India, response to the following item:
Marriage: Arranged Marriage _____ Love Marriage _____ other _____
(Arranged Marriage coded as = 1, Love Marriage coded as = 2)

Children: Do you have any children? (Please check the appropriate answer) __yes __no
(Without children coded as = 0, With children coded as = 1)

Appendix C. Items from Daily Questionnaires that measure the constructs of emotion regulation, and how they will be analyzed.

14. To what extent did you do each of the following things to try to solve a problem, or to control or change your emotions?

I took action and tried to do something about a situation.

0	1	2	3	4	5	6	7	8	9	10
not at all					moderately					extremely

I tried to get my partner to do something that would help to solve the problem or would make me feel better.

0	1	2	3	4	5	6	7	8	9	10
not at all					moderately					extremely

I kept my emotions to myself.

0	1	2	3	4	5	6	7	8	9	10
not at all					moderately					extremely

My partner and I tried to work together to solve a problem.

0	1	2	3	4	5	6	7	8	9	10
not at all					moderately					extremely

I tried to look on the bright side, or to see something good in a situation.

0	1	2	3	4	5	6	7	8	9	10
not at all					moderately					extremely

I tried to avoid a problem or to ignore my emotions about it.

0	1	2	3	4	5	6	7	8	9	10
not at all					moderately					extremely

Data Analysis: After the 7 days, the mean composite score for each item will be calculated for each individual.

Table 1. Descriptive Statistics: Frequency of Marriage x Child (numbers of participants in each category).

	India Love Marriage	**India Arranged Marriage**	**US Marriage**
No Child	10	10	96
Child	72	88	32

Table 2. Descriptive Statistics: means and standard deviations for men and women for each outcome variable.

DV	**Men (Mean, SD)**	**Women (Mean, SD)**
ACTION	6.8 (2.8)	6.7 (2.8)
ENLISTP	6.6 (3.1)	6.4 (3.0)
COMCOPE	6.8 (2.9)	6.5 (3.0)
REAP	7.0 (2.7)	6.9 (2.7)
SUP	4.2 (3.0)	4.4 (3.1)
AVOID	4.3 (3.1)	4.3 (3.1)

Table 3. Means and standard errors for each outcome variable by marriage type by child.

	Love		Arranged		US	
DV	**Child**	**No Child**	**Child**	**No Child**	**Child**	**No Child**
ACTION	7.3 (0.2) [a]	8.2 (0.3) [c]	7.5 (0.2) [a]	8.4 (0.3) [c]	4.4 (0.3) [b]	5.3 (0.2) [d]
ENLISTP	7.2 (0.2) [a]	8.4 (0.3) [c]	7.5 (0.2) [a]	8.7 (0.3) [c]	3.4 (0.3) [b]	4.6 (0.2) [d]
COMCOPE	7.4 (0.2) [a]	8.4 (0.3) [c]	7.6 (0.2) [a]	8.6 (0.3) [c]	3.8 (0.3) [b]	4.8 (0.2) [d]
REAP	7.4 (0.2) [a]	8.3 (0.3) [c]	7.6 (0.2) [a]	8.5 (0.3) [c]	5.0 (0.3) [b]	5.9 (0.2) [d]
SUP	4.4 (0.2) [a]	4.8 (0.4) [a]	4.9 (0.3) [a]	5.3 (0.4) [a]	3.2 (0.3) [b]	3.6 (0.2) [b]
AVOID	4.6 (0.3) [a]	5.0 (0.5) [a]	5.1 (0.3) [a]	5.4 (0.5) [a]	2.7 (0.4) [b]	3.1 (0.2) [b]

Note: Groups with same superscripts are not significantly different from one another, while groups with different superscripts are significantly different at $p < .05$

Figure 1. Action

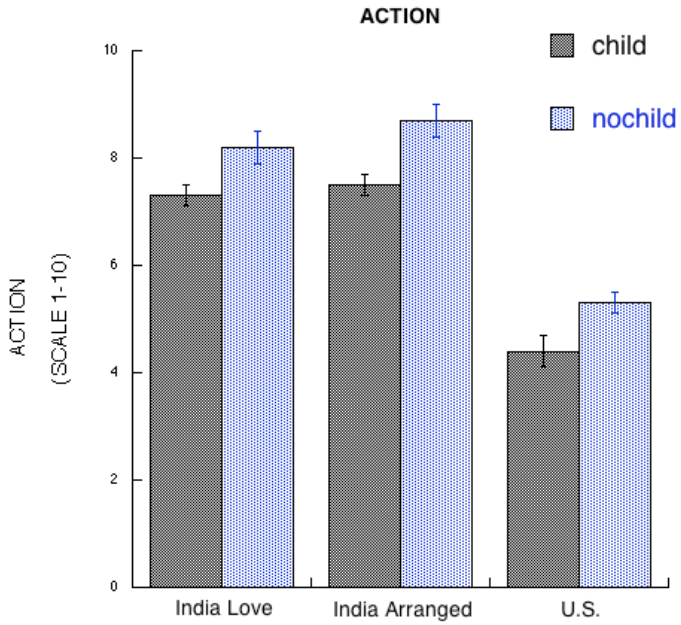


Figure 2. Enlisting Partner

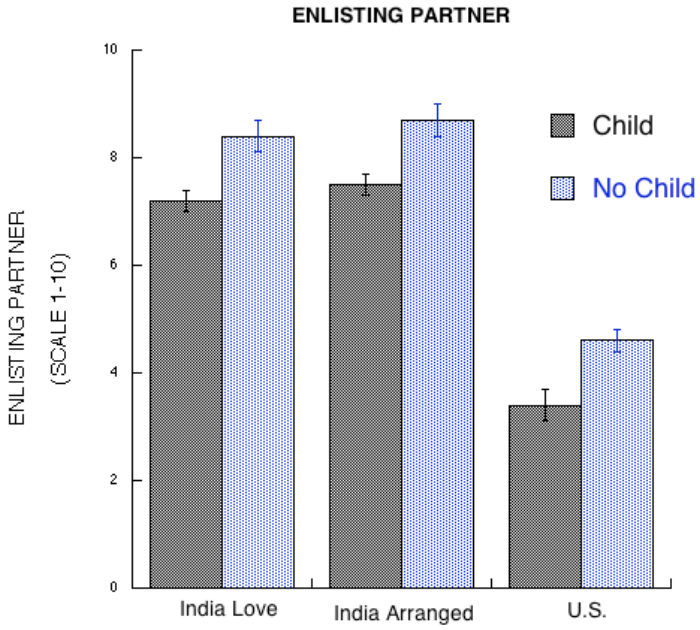


Figure 3. Communal Coping

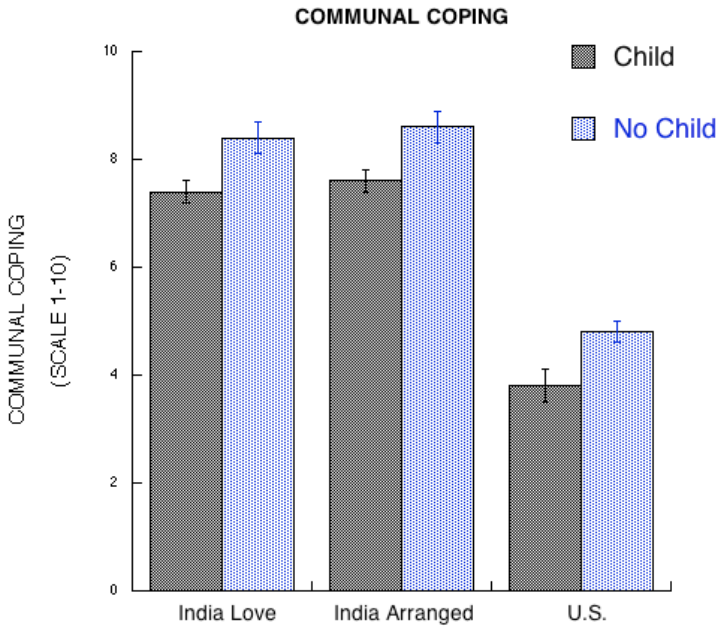


Figure 4. Reappraisal

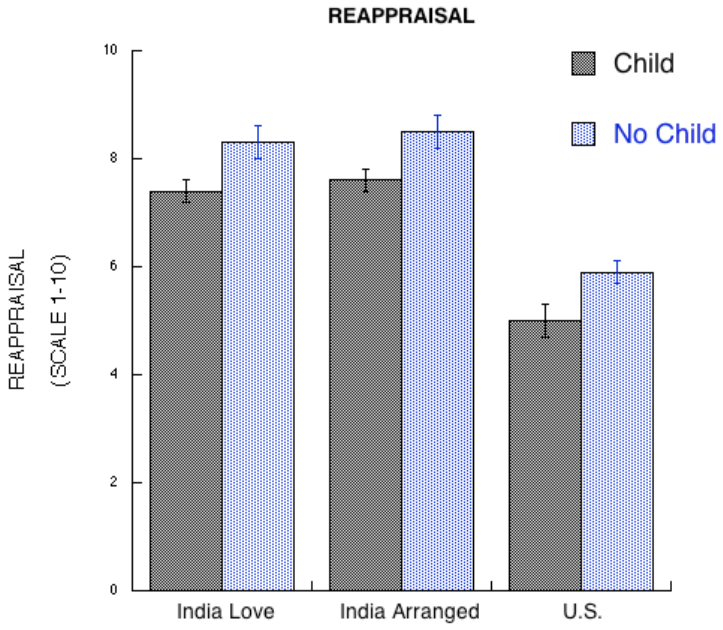


Figure 5. Suppression

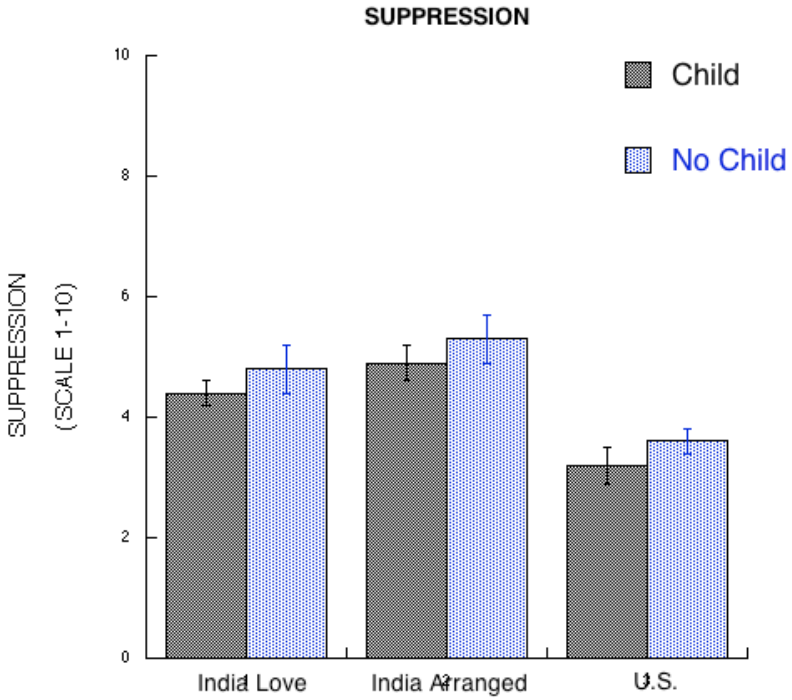


Figure 6. Avoidance