

ABSTRACT

DISSANAYAKE, MALATHIE PRIYANGIKA. Cross-Cultural Investigation of Emotion Differentiation and Relationship Quality. (Under the direction of Dr. Amy Halberstadt and Dr. James Kalat.)

This study examined the role of emotion differentiation in predicting relationship quality of individuals living in different cultural settings. There were five specific aims: 1) to replicate and expand upon previous findings identifying a link between emotion differentiation and relationship quality in adults using multiple methods, 2) to examine how the link between emotion differentiation and relationship quality might vary across three cultures and in terms of individualism and collectivism, 3) to explore whether beliefs about emotions act as a mediator or moderator of the link between emotion differentiation and relationship quality, 4) to examine the link between relationship quality and life satisfaction in adults and how it might vary across three cultures, and 5) to examine age-related trends in affect, emotion differentiation, and interpersonal relationships across cultures. The sample consisted of 607 participants: 308 Sri Lankans, 103 Indians, and 196 Americans. Seven measures-- emotion differentiation, emotion categorization, positive and negative affect, beliefs about emotions, interpersonal relationship quality, positive relations with others, and satisfaction with life-- were used to examine emotional differentiation, relationship quality, value of emotion, and life satisfaction. Findings suggested that self-reports of emotion differentiation significantly predicted relationship quality, and this relationship varied across cultures. The belief that positive emotions are valuable mediated the link between emotion differentiation and relationship quality and the belief that emotions are a part of life

moderated that relationship. Relationship quality significantly predicted life satisfaction.

In addition to identifying specific relationships between these emotion-related and interpersonal relationship variables, this study points to an important consideration regarding culture. Specifically, individualism versus collectivism may not always be a useful organizing structure for understanding cultural differences in emotion. That is, cultures known to be collectivist may vary substantially in both their mean level differences of emotion-related and interpersonal relationship variables, and the relationships between these variables. Thus, examining the values and beliefs unique to each culture may provide a better understanding of the nature of cultures and the emotion-related behavior of individuals.

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Cross-Cultural Investigation of Emotion Differentiation and Relationship Quality

by
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A dissertation submitted to the Graduate Faculty of
North Carolina State University
in partial fulfillment of the
requirements for the Degree of
Doctor of Philosophy

Developmental Psychology

Raleigh, North Carolina

2010

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DEDICATION

I would like to dedicate my dissertation to the memory of my aunt, Mrs. Wimala Athukorala, who supported me in my every endeavor admiring my accomplishments with utmost love.

BIOGRAPHY

Malathie Priyangika Dissanayake was born in Sri Lanka. She graduated from University of Peradeniya in Sri Lanka in 1999 with a Bachelors of Arts degree, second class upper division, in Psychology. She earned a Masters Degree in General Psychology from West Chester University of Pennsylvania in 2006. She has pursued a career in academics as a lecturer in Psychology.

ACKNOWLEDGMENTS

First, I would like to express my gratitude to the Department of Psychology at North Carolina State University for offering me the opportunity to pursue my PhD in Developmental Psychology. I would also like to express my sincere gratitude to Dr. Amy Halberstadt and Dr. James Kalat for their wonderful guidance not only for the process of dissertation completion, but throughout my graduate career at North Carolina State University. My sincere appreciation is extended to Dr. Donald Mershon and Dr. Vasuda Gupta for their support to accomplish my goal. I thank the members of my dissertation committee, Dr. Lynne Baker-Ward and Dr. Shevaun Neupert for their candid feedback regarding my research and Dr. Robin Dodsworth for her willingness to be the graduate school representative in the committee. My graduate career would not have been successful and fulfilling without the help and support of Dr. Tom Hess, Dr. Jason Allaire, Dr. Ann Schulte, Dr. Daniel Gruhn, and other professors at the Department of Psychology at North Carolina State University.

This research would not have been possible without the individuals who helped me to recruit participants and to collect data for the study. I extend my most sincere thanks to Prof. H.H.D.N.P. Opatha at University of Sri Jayewardenepura in Sri Lanka and Mr. Shanmukh Kamble at Karnatak University in India for their support in my research. I would like to thank my fellow graduate students, Rebecca Stelter, Ashley Craig, Paul Dennis, Fantasy Lozada, and Kevin Leary and undergraduate students in FABB Lab for their support in my

dissertation completion. I thank the staff at the Department of Psychology for their assistance throughout my graduate career. I respect my parents and relatives whole-heartedly for their encouragement and appreciation to continue my studies in the United States.

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Cross-Cultural Investigation of Emotion Differentiation and Relationship Quality

Emotional Experience

The word ‘emotion’ comes from a Latin word ‘emovere’ which means to excite, to agitate, or to stir up (Pettijohn, 1991). According to most psychologists, the emotional reaction to a stimulus includes physiological (or bodily) arousal, subjective feeling, a cognitive component (thinking), and behavior. One’s emotional experience is a reaction of the whole organism (Pettijohn, 1991). In this sense, we speak of emotions as “embodied.” Different theoretical perspectives have focused on different aspects of emotion. Whereas some researchers focus on somatic, cognitive, and neurobiological components of emotion, others have examined the behavioral expression of emotion. They have examined both verbal and nonverbal emotion expression and universal and culturally-specific patterns of emotion expression (e.g., Ekman et al., 1987). Recent research has focused on individuals’ feelings in everyday life (Kang & Shaver, 2004).

When describing emotional experience, Frijda (1986) focused on two important questions. The first relates to the nature of emotional experience in general. Frijda tried to clarify what differentiates emotional experience from other forms of experience as well as what allows individuals to recognize their experiences as emotional. The second question focuses on what differentiates the experience of one emotion from another and allows individuals to characterize their experience as anger, sadness, happiness etc. Several theoretical perspectives (e.g., central theory, peripheral theory, and cognitive theories) have attempted to answer these questions. For example, according to central theory, emotional

experience can be described as a different kind of understanding or knowledge (Frijda, 1986). Hence, a variety of emotions that individuals experience provide various kinds of knowledge and understanding. The subjective emotional feeling needs to be a direct result of related brain processes (Frijda, 1986).

Emotional Complexity

According to Kang and Shaver (2004), emotional complexity is a construct with two aspects: individuals' ability to have a wide range of emotional experiences (range of emotions) and individuals' propensity to differentiate subtle distinctions among similar emotions (emotion differentiation). Lindquist and Barrett (2008) have stated that emotional complexity is a heterogeneous concept consisting of three aspects. The first aspect is precision in individuals' self-reports of emotional experiences. The second aspect is clear propositional knowledge about emotions in various social situations. The third component addresses individuals' self-characterizations of their level of complexity. This is similar to the concept of emotion differentiation as described by Kang and Shaver (2004). The current study focuses on this one aspect of emotion complexity, emotion differentiation, that is agreed upon by both theories.

Two methods can be used to define the nature of emotions when describing emotion complexity (Lindquist & Barrett 2008). One is a natural-kinds perspective, which views some emotions (e.g., happiness, sadness, anger, fear, disgust) as biologically given categories. According to this method, emotional complexity occurs when more than one emotion track fires at a given time. However, individuals vary in how well they can put their

experiences into words. In this view, individuals gain knowledge about complexity in emotional experience when they learn to relate their emotions to specific environmental situations. Individuals' self-characterizations of emotional complexity stem from individual differences in the ability to describe their emotion-related experiences as complex.

The second method is based on the psychological constructionist approach. According to this perspective, complexity is inherent to neurobiological and psychological systems that create emotional experience. In addition, this view holds that a distinct emotional event appears in consciousness when a fundamental "core affective state" is automatically characterized as having emotional meaning. A core affect can be described as a psychologically primitive state with valence as well as arousal. The conditions that individuals describe as anger, happiness, sadness, fear etc. are outcomes of categorizing core affect by using the conceptual scheme of emotions (Lindquist & Barrett, 2008).

Lindquist and Barrett (2008) have examined emotional complexity in self-reports of behavior and in people's propositional theoretical knowledge of emotion. In these two areas, emotional complexity has been examined using performance measures-- obtaining information about emotional complexity from patterns of individuals' responses or their ability to act in emotionally complex ways. Self-characterization is another way of conceptualizing emotional complexity (Lindquist & Barrett, 2008). In self-characterization, individuals are instructed to rate their own level of emotional complexity.

Individuals vary in the level of their emotional complexity (Ong & Bergeman, 2004). Lindquist and Barrett (2008) expect a relationship between greater conceptual complexity

and individuals' self-characterization of emotional experiences. The reason is, when individuals are instructed to complete self-characterization scales of emotional complexity, in general, they are asked to rate frequency, intensity, or differentiation among discrete emotions that they experience. In order to complete these tasks, individuals are required to remember their emotional experiences, and summarize and differentiate them. Individuals differ in these abilities. For example, older adults tend to exhibit more differentiation of both their positive and negative emotional experiences than young adults (Ready, Robinson, & Weinberger, 2006).

Measures of Emotional Complexity

Several scales assess individuals' beliefs about their emotional complexity. Some scales instruct individuals to state how attentive they are to their own emotional states (e.g., the Mood Awareness Scale, Swinkels & Giuliano, 1995). Some scales aim to examine the degree to which individuals deal with affective states, how they can distinguish between emotional states, and whether they can repair those affective states (e.g., the Trait Meta-Mood Scale, Mayer & Stevens, 1994). Lindquist and Feldman Barrett (2008) prefer the Range and Differentiation of Emotional Experience Scale (Kang & Shaver, 2004). This scale examines the degree to which individuals believe that they experience a wide range of emotions and they can note subtle differences of emotional states.

All of the aforementioned questionnaires rely on self-report. Other methods (e.g., daily diaries) are time and labor intensive, and financially costly. There may be other ways to examine individuals' emotional complexity, for example, asking individuals to organize

emotion terms into groups as a means of assessing the complexity of their organizational structures. Two studies by Kang and Shaver (2004) examined individual differences in emotional complexity. The first study aimed to develop the Range and Differentiation of Emotional Experience Scale (RDEES) to examine individuals' emotional complexity, and the second study examined its construct validity.

In this study, the researchers used peer ratings, daily mood reports, and sorting emotion cards (Shaver, Schwartz, Kirson, & O'Connor, 1987) to establish validity. In the sorting emotion cards technique, the researchers asked participants to sort 135 emotion words based on their similarities. As the researchers predicted, people who were high on the Emotion Differentiation Scale made more emotion categories, indicating recognition of subtle differences. The Emotion Differentiation Subscale correlated significantly with the number of emotion categories ($r = .33$). It suggests that the tendency to differentiate emotional experiences is important to create different emotion categories based on their fine distinctions.

In the present study, I developed a technique to assess emotion differentiation. I included the Emotion Categorization Task to examine individuals' ability to understand subtle distinctions in emotions. The Emotion Categorization Task includes three short descriptions that are used to assess emotion differentiation, specifically, how individuals organize emotion terms within the social context (Dissanayake & Halberstadt, 2008). I posited that giving emotion words within the context would be more meaningful to individuals and would be more related to real social situations that they encounter in their

daily life rather than categorizing emotion words from a list of words. These three descriptions were created similar to how Sommers (1981) created three descriptions of social situations to assess range of emotions. In the task created for this study, participants were instructed to read three descriptions and categorize 37 emotion words into different categories based on their similarities. These emotion words were selected from the 135 emotion word list created by Shaver and colleagues (1987) including only those were listed under the categories of love, joy, fear, anger, sadness, and surprise in Shaver et al. (1987). The number of categories that individuals create using the 37 emotion terms comprises their score for this task.

Emotion Differentiation and Interpersonal Relationships

Emotion differentiation can be described as individuals' propensity to detect subtle differences of emotional states. The tendency to differentiate emotional experiences may help individuals adapt to their interpersonal situations more appropriately (Kang & Shaver, 2004). Several studies have focused on emotion differentiation and its relationship with other variables such as relationship quality and life satisfaction. A study by Kang and colleagues (2003) examined psychological processes such as emotions and relationships that may predict individuals' feelings about their lives. This study was conducted with four cultural groups in three nations: European Americans (University of California, Davis), Asian Americans (University of California, Davis), Koreans (Seoul National University and Joong-Moon Medical School in Korea), and Chinese (Sun Yet-Sen University). The role of emotion relevant variables (emotion expression and emotion differentiation) varied in different

cultural groups in relation to their relationship quality. Emotion differentiation was seen as more important by Asians (Koreans and Chinese) than emotion expression to maintain good interpersonal relationships. Emotional expression was more important than emotion differentiation for interpersonal relationships in European Americans.

The current study examines the relationship between emotion differentiation and relationship quality using different methods (see Figure 1). Kang and colleagues (2003) measured only the individuals' belief that they are able to differentiate emotions (Emotion Differentiation Scale). Although they did find the predicted relationship, this may be due to shared method variance due to the use of two questionnaires. To try to assess emotion differentiation more conservatively, I added a measure in which participants actually did differentiate emotion categories. In Kang et al. (2003), interpersonal relations were considered in only a general way. To obtain a greater specificity about the quality of relationships with others, I included the Positive Relations With Others Scale (one of the Ryff's (1989) Well-being Scales) to measure individuals' positive relations with others in addition to the Relationship Quality Scale.

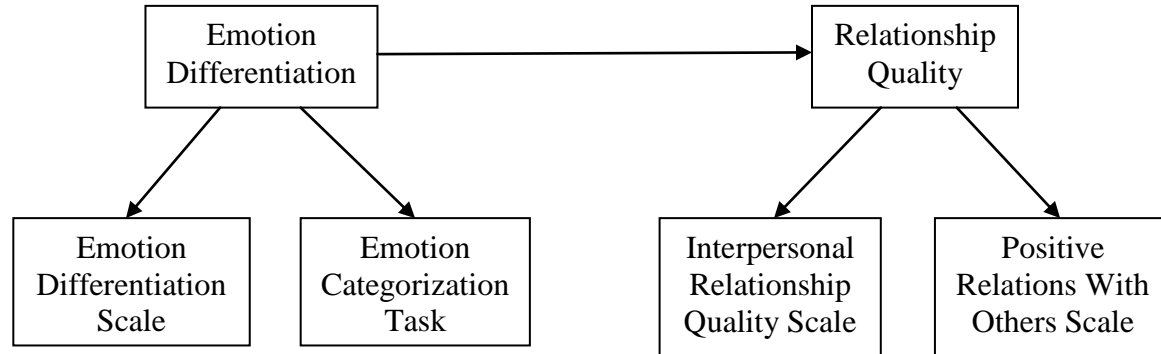


Figure 1: Hypothetical model for the relationship between emotion differentiation and relationship quality.

Culture and Values

Culture can be described as a multi-faceted construct that shapes many aspects of one's life (Bond & Tedeschi, 2001). Culture provides a structure that guides individuals to organize and coordinate their behavior within their social context. Furthermore, the social structure creates social order that helps them manage the complexity of social life. In this process, culture provides meanings and information systems that guide individuals to fulfill their needs, achieve their goals, enhance their well-being, and lead a meaningful life. Cultural meanings and information systems are transmitted across generations and in many ways. One way is to create cultural values that explain individuals' behavior patterns within a given cultural milieu. These cultural values then serve as guidelines that define individuals' behavior within their socio-cultural settings (Matsumoto et al., 2008).

Cultural values help define what is good and desirable in a given culture (Schwartz, 2004). They shape individuals' belief systems, goals, and behavior patterns (Wong, Bond, &

Mosquera, 2008). Values related to interpersonal relationships provide rules or guidelines for relationship styles. Values related to emotions provide rules or guidelines for emotion expression, particularly in social relations (Matsumoto et al., 2008). Cultural values guide people to coordinate their behavior in different social events as members of their culture as well as members of different social groups.

Cultural Values and Interpersonal Relationships

Cultures can be identified as individualistic and collectivist based on different value systems (Hofstede, 1980; Markus & Kitayama, 1991). Differences in cultural values can be described in terms of four dimensions: self, relationships, goals, and determinants of behavior (Triandis, 1995). For example, individualistic cultures place a greater emphasis on the independent self (Markus & Kitayama, 1991). They encourage their members to perceive themselves as separate entities, to become unique, and to express themselves. People are encouraged to identify their inner selves and achieve personal goals (Matsumoto & Juang, 2004). Individualistic cultures highlight the importance of internal attributes such as motives, abilities, personality traits and individuals' personal goals. Furthermore, these cultures promote rationality and interpersonal exchange (Kim, Triandis, Kagiscibasi, Choi, & Yoon, 1994). In terms of determinants of behavior, individualistic cultures place a greater emphasis on attitudes and emotions (Suh, Diener, Oishi, & Triandis, 1998).

Collectivist cultures, on the other hand, highlight the interdependent self. Individuals place a greater emphasis on the connectedness with other members linked to them and therefore, more importance is given to individuals' social groups. The major goal in these

cultures is to protect the relationships with other important persons in their lives (Markus & Kitayama, 1991). Hence, individuals are encouraged to establish and maintain connectedness with others. These cultural influences encourage people to have closer relationships with family members, relatives, and friends and to fulfill their obligations and responsibilities for them (Matsumoto & Juang, 2004). Also, collectivist cultures emphasize ingroup goals rather than personal goals (as cited in Matsumoto et al., 2008). When considering the determinants of behavior, collectivist cultures give more importance to norms (Suh et al., 1998).

Cultural Values and Emotions

Cultural values provide rules or guidelines for norms related to emotion regulation, emotion expression, and social relations (Matsumoto et al., 2008). Three major cultural dimensions are significantly associated with emotions: uncertainty avoidance, long- versus-short-term orientation, and affective autonomy. According to Hofstede (1980), uncertainty avoidance is the degree to which individuals feel that they are threatened by unfamiliar or ambiguous situations. They form beliefs, rituals, or institutions to avoid or prevent those situations. Hofstede stated that cultures high on uncertainty avoidance seem to experience high levels of anxiety. Therefore, they tend to develop more rules or institutions to manage those situations. Next, long- versus- short-term orientation is the degree to which cultures encourage individuals to delay their satisfaction of emotional, social, or material needs (Hofstede, 2001). Cultures high on this value focus on long-term views toward relationships. Individuals in these cultures tend to regulate emotional responses that help protect and maintain good relationships in future. Affective autonomy can be described as the degree to

which cultures highlight the importance of achieving individuals' positive experiences such as pleasure and excitement independently (Schwartz, 2004).

Cultures form rules or guidelines related to emotions to maintain social structure and social order. Cultures that highlight values such as individualism and affective autonomy may emphasize less emotion suppression and more reappraisal as they promote emotional expression (Matsumoto et al., 2008). Cultures that highlight embeddedness emphasize more emotional suppression since they encourage their members to maintain relationship harmony and cohesion (Matsumoto et al., 2008). Additionally, cultures that highlight values such as uncertainty avoidance and long-versus short-term orientation may also emphasize more emotion suppression and less reappraisal since they consider emotions as dangerous and potentially harmful to individuals' long term social relations (Matsumoto et al., 2008). A study by Matsumoto et al. (2008) on culture and emotion regulation has provided evidence for the above assumptions. Values such as embeddedness and egalitarianism were highly associated with cultural norms related to emotion suppression. This may suggest that emotional suppression may allow individuals in those cultures to respond to other members appropriately in their social context.

Cultural Differences, Values of Emotions, and Interpersonal Relationships

Beliefs, customs, individuals' perceptions and expectations about themselves, and their feelings and emotions in a given culture may impact their emotion expression (Wong et al., 2008). Culturally defined patterns of action and interaction may influence individuals' emotional experiences (Kitayama, Markus, & Kurokawa, 2000). Hence, differences in

emotional experiences may reflect differences in cultural values (Triandis, 1995) as well as differences in perceiving the self (Markus & Kitayama, 1991; Mesquita, 2001). A recent study by Nezlek and colleagues (2008) with individuals in United Kingdom (an individualistic culture) and Greece (a collectivist culture) provides evidence for cultural differences in emotional experiences in social interactions. This study aimed to understand the link between individuals' self-construal and emotions in their social interactions across cultures. Self-construal is the set of feelings, thoughts, actions that links one's self to other people (interdependence) and distinguishes one's self as different from other (independence) (Singelis & Sharkey, 1995). The researchers examined people's self-construal using the Self-Contrual Scale, and participants rated their emotional experiences using 10 emotion words (e.g., enthusiastic, relaxed, attentive, distressed, sad, angry etc).

When individuals' self-construals correspond with their cultural values and expectations (e.g. individuals who rate themselves high in independent self-explanation in an individualistic cultural setting), their well-being appears to be greater than that of people whose self-construals do not correspond with their cultures (e.g., individuals who are high on independent self-construal in collectivist cultural settings) (Nezlek et al., 2008). That is, in UK participants, a positive relationship was observed between independent self-construal scores and how happy, enthusiastic, and active people were in their social interactions. A negative relationship was observed between independent self-construal and these three affects-- happy, enthusiastic, and active-- in Greek participants. These findings support previous research demonstrating that individuals tend to be happier when their individual-

level values are closer to their cultural values than those who exhibit disparity between their individual-level values and cultural values (e.g., Sagiv & Schwartz, 2000).

In collectivist cultures, emotions are assumed to reflect the self in relation to other members or the world (Mesquita, 2001). In these cultures, emotions are expected to reflect people's relationships with others. In contrast, individualistic cultures expect individuals to highlight the subjective self in emotional expressions. In collectivist cultures, emotions seem to have an objective reality to their members. In this study, individuals in the collectivist cultures stated that another individual in a similar situation would experience this situation in a way similar to their own experience (Mesquita, 2001). In contrast, members in individualistic cultural context distinguish between subjectivity and objectivity. Their emotions emphasize the difference between individuals and others. Mesquita's study highlights three important findings with regards to emotional experience in collectivist cultures: (1) emotions are the basis of assessing social worth, (2) emotions reflect objective reality rather than individuals' inner self, and (3) emotions reflect the connection between self and others rather than limiting them to subjective self.

With regard to the expressiveness of emotions, individuals in more collectivist cultures may inhibit emotional expressions in order to maintain harmony within their group or society (as cited in Kang et al., 2003). For example, individuals in Asian cultures may suppress their emotions when they think that their emotional expression may damage the interpersonal relationship and may hurt the other person's feeling (Wierzbicka, 1994). Hence, emotion suppression may be an effort to maintain their social relationships further. In more

individualistic cultures, people are socialized to express their emotions to others directly (Markus & Kitayama, 1991) and emotion suppression appears when individuals tend to protect their selves (Wierzbicka, 1994).

Individuals in different cultural settings exhibit different patterns in relation to emotional experiences and interpersonal relationships. Many researchers have focused on cultural differences in relation to emotions and interpersonal relationships; however, there may be similarities in different cultures that may have not been observed yet. Also, there may be differences among various collectivist cultures. The current study aims to examine both similarities and differences in emotional experiences and social relationships of individuals living in two cultural settings-- American culture (more individualistic) and Sri Lankan and Indian cultures (more collectivist). The current study also examines how culture moderates the relationship between emotion differentiation and relationship quality (see Figure 2).

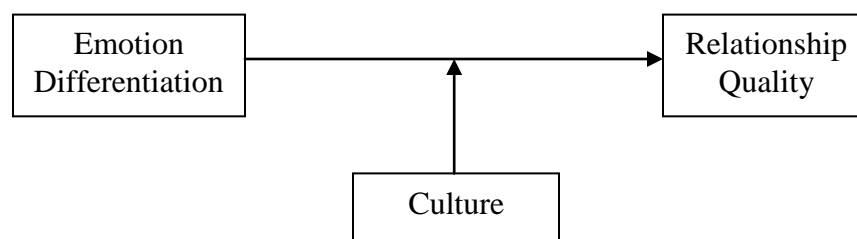


Figure 2: Hypothetical model for the moderating effect of culture on the relationship between emotion differentiation and relationship quality.

Gender Differences and Interpersonal Relationships

Interpersonal relationships are a significant component of psychological well-being. Several studies have found that women report more positive relations with others than men

do (Ryff, 1995) and at various points throughout the life span (Ryff, 1989; Ryff, 1991; Ryff & Keyes, 1995). This is also supported in a national sample that included European American and African American adults (Ryff, Keyes, & Hughes, 2004). In the national sample, men rated higher on self-acceptance and environmental mastery (two dimensions of psychological well-being) than women; with respect to positive relations with others, however, women rated higher than men. The gender difference for positive relations with others was especially large for the European American subsample (Ryff, Keyes, & Hughes, 2004). These gender differences hold across individuals in the United States (individualistic culture) and South Korea (collectivist culture) suggesting cross cultural similarity in gender differences (Keyes & Ryff, 1999). In addition, both groups reported more personal growth than men in their respective cultures (Keyes & Ryff, 1999). It seems that women tend to indicate similar outcomes in relation to certain dimensions of psychological well-being regardless of cultural differences.

Beliefs About Emotions

Emotions are one of the major forces that organize individuals' behavior (Magai & McFadden, 1996). Emotions shape individuals' mental schemas relating to their emotional experiences and expression (Dunsmore & Halberstadt, 1997). Individuals develop these schemas about emotional experiences when interacting with others in their social environment. For example, family environment would be an influential social setting for children to learn how to express and experience emotions. Likewise, the environment in which individuals live (e.g., family environment and culture) may be a powerful arena to

learn about emotional experiences.

Beliefs about emotions can be influential factors for individuals' behavior related to emotional experiences. These belief systems may influence people, particularly when exchanging their feelings during social interactions. Beliefs and values may also affect the way individuals perceive others' emotions and the way they react to others' emotional states. Individuals' tendency to detect subtle differences in emotions may lead them to value certain emotions that help maintain their social relationships. By differentiating and understanding emotions, individuals may avoid certain emotions (e.g., anger, irritability, annoyance, and hate) that damage their interpersonal relationships. In this way, emotion differentiation may lead individuals to value emotions that are appropriate or more important to social situations. The present study aimed to explore whether individuals' beliefs about emotions, particularly valuing positive emotions, would act as a possible mediator in the relationship between individuals' emotional experiences and their social relations (see Figure 3).

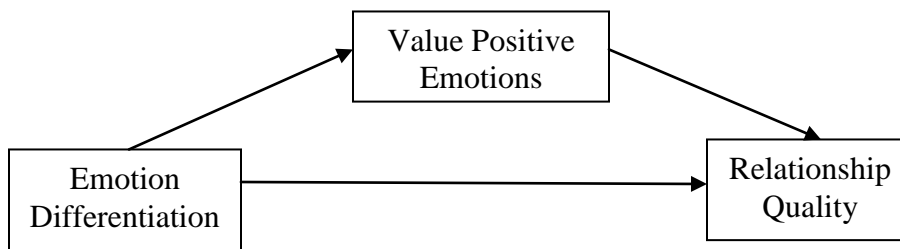


Figure 3: Hypothetical model for mediation (positive emotions are valuable as a mediator).

In addition, individuals who think emotions are a part of their lives may be open to having more emotional experiences and thereby having an opportunity to notice subtle differences in emotions. These abilities may help individuals to choose appropriate reactions

during their interpersonal relationships. Here, value of emotions may act as a moderator to the relationship between emotion differentiation and relationship quality (see Figure 4). For example, the link between emotion differentiation and relationship quality would be higher for those who rate higher on emotions just are scale than those who rate lower on that scale.

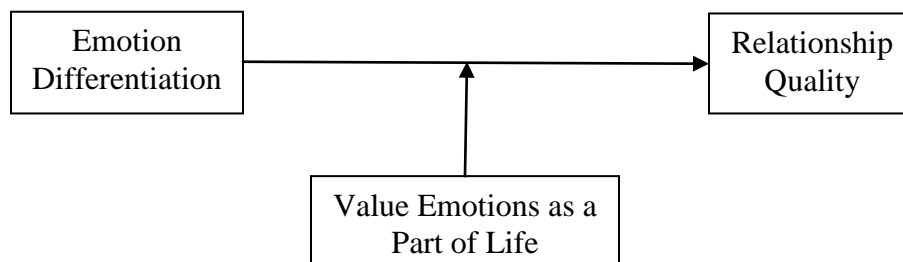


Figure 4: Hypothetical model for moderating effect of valuing emotions as a part of life on the relationship between emotion differentiation and relationship quality.

Cultural Differences, Interpersonal Relationships, and Life Satisfaction

Life satisfaction can be defined as one's overall appraisal of different aspects of life domains such as self-esteem, career, interpersonal relationships and health (Suh, Diener, & Oishi, 1998). Individuals in different cultural settings may place a greater emphasis on different aspects of life domains when defining their life satisfaction. Studies suggest that individuals in collectivist societies report lower level of life satisfaction than the members in individualistic societies (Kang et al., 2003). Factors such as lack of resources, cultural differences in evaluating individuals' satisfaction, and upward and downward comparison are possible reasons for the lower level of life satisfaction in collectivist cultures (e.g., Diener & Lucas, 2000; Diener & Suh, 1999). However, cross-cultural psychologists emphasize two important factors that may contribute to individuals' life satisfaction in individualistic and

collectivist cultures (e.g., Markus & Kitayama, 1991; Triandis, 1989). In individualistic cultures, it is assumed that self-esteem is related to individuals' life satisfaction, whereas good interpersonal relationships may contribute to the life satisfaction of individuals in collectivist cultures.

Studies have revealed mixed results in terms of interpersonal relationships and life satisfaction, particularly within collectivist cultures. Establishing and maintaining good interpersonal relationships with others is a major focus in these cultures (Markus & Kitayama, 1991). However, some researchers state that there is no difference in the relationship between life and family satisfaction between individualistic and collectivist cultures (Diener & Diener, 1995). Another study found little evidence for the importance of interpersonal relationships in collectivist cultures (Kwan, Bond, & Singelis, 1997). In this study, participants from United States and Hong Kong were asked to report the importance of self-esteem and interpersonal relationship in life satisfaction. Participants from the United States rated the importance of self-esteem for their life satisfaction higher than relationship harmony. In contrast, participants from Hong Kong stated the equal importance of both relationship harmony and self-esteem for their life satisfaction. There may be factors (e.g., cultural-specific values and beliefs) that mediate the link between interpersonal relationship and life satisfaction even within collectivist cultures. Hence, the importance of interpersonal relations may vary depending on cultural values and practices.

There may be cohort differences due to the changes in socio-cultural structure in both individualistic and collectivist cultures. For example, a study in China and the United States

revealed significant cohort differences in terms of values such as openness to change, conservation, self-enhancement, and self-transcendence (Egri & Ralston, 2004). Generations who lived in communist China tended to be more open to change and self-enhancement than those who lived in the Republican Era generation, who experienced extreme poverty, natural disaster, war, and political instability. US generations (e.g., Silent Generation, Baby Boomers, and Generation X) have shown significant cohort differences for openness to change, self-enhancement, and conservation (Egri & Ralston, 2004). The current study tries to understand differences and similarities in different age-groups to some degree, even within cultures in relation to their social relations and satisfaction.

Affect, Emotions, Interpersonal Relationships, and Life Satisfaction

Emotions and affect are different in some ways. Emotions can be conceptualized as multicomponent reaction tendencies that occur over relatively short period of time (Fredrickson, 2001). Usually, an emotion arises with one's appraisal of an antecedent event that gives a personal meaning to the person. This assessment can be either conscious or unconscious. It produces reaction tendencies such as subjective experience, physiological changes, cognitive processing and facial expression. Finally, emotions are often classified into distinct categories of emotions such as happiness, sadness, fear, anger, and interest.

Affect can be described as more consciously accessible feelings (Fredrickson, 2001). Those feelings are present within emotions that are identified as subjective experience (one component of emotions). They can also be present within various other affective experiences such as moods, attitudes, physical sensations, and even affective traits. Affect can often be

identified as free-floating or objectless (Oatley & Jenkins, 1996; Russell & Barrett, 1999).

Affect is frequently more long-lasting. It can be relevant only at the level of subjective experience (Ekman, 1994; Rosenberg, 1998; Russell & Barrett, 1999). Additionally, affect is described as a state that varies along two aspects, either pleasantness and activation (Russell & Barrett, 1999) or positive and negative affective activation (Tellegen, Walson, & Clark, 1999).

Individuals' affect influences how they perceive themselves as well as how they feel about their lives. Findings of Kang's (2003) study suggest that positive perceptions influence individuals to feel good about their lives. It further suggests that having good interpersonal relations with others helps individuals in collectivist cultures (Korean and Chinese) feel good about their lives. There may be differences in the relationships among these variables even within collectivist cultures. For example, in Kang's study, the link between relationship quality and life satisfaction is higher in Koreans than Chinese. In contrast, the relationship between positive affect and relationship quality is higher in Chinese than Koreans. This difference may be due to the expectations, values and beliefs that are unique to a cultural milieu. Accordingly, research on the relationships among those variables in other collectivist cultures may provide a better understanding about culturally unique patterns of behavior in relation to emotional experiences and interpersonal relationships.

Studies have suggested cultural differences in individuals' experience in positive and negative emotions (Kitayama et al., 2000; Diener & Diener, 1995). A study in Japan and the United States revealed significant findings in relation to individuals' positive emotions and

their social engagement/disengagement (Kitayama et al., 2000). In this study, Japanese reported that positive emotions are associated with their interdependence and interpersonal engagement, whereas Americans reported that their positive emotions are associated with independence and interpersonal disengagement. This suggests that individuals' positive emotional states serve differently in their social engagements based on cultural values.

A recent study explored the link between pleasant and unpleasant affect in different cultural groups (Scollon, Diener, Oishi, & Biswas-Diener, 2005). It included five cultural groups: European Americans, Asian Americans, Japanese, Indian, and Hispanic participants. With regards to between-person differences, pleasant and unpleasant emotions were positively correlated among Asian Americans, Japanese, and Indian groups but not in other groups. According to the researchers, divergent goal structure or the conflicting goal structure in their cultures may be a reason for this cultural variation. They suggest that individuals who tend to accomplish multiple important goals experience both positive and negative emotions.

According to Pomerantz and colleagues (2000), well-being of Asians seems to be associated with achieving interdependent goals (e.g., to make one's parents happy and to make one's relatives happy) compared to European Americans. This may create goal conflicts and it may result in experiencing both positive and negative emotions at the same time. This may be another reason for the link between positive and negative emotions among Asian groups compared to European Americans. In the within-person level, at a given time, pleasant and unpleasant emotions were negatively correlated in all cultures (Pomerantz,

Saxon, & Oishi, 2000). This suggests that individuals seldom experience pleasant and unpleasant emotions simultaneously. In this study, the researchers found that individuals tended to experience positive emotions together (e.g., happiness and joy, affection and pride) and negative emotions together.

When considering the above findings, it seems that positive and negative affect and emotions influence individuals' social engagement and life satisfaction. There may be cultural differences in terms of the relationship between individuals' emotional states and their social relationships and life satisfaction. Even though Kang et al. (2003) found that cultural specific processes predict individuals' life satisfaction, the researchers were concerned about the generalizability of the findings, since they studied only two East Asian cultures. A few other studies examined similar factors within East Asian cultures such as Japan, the Philippines, and Hong Kong (e.g., Kwan, Bond, & Singelis, 1997). Therefore, it is important to investigate the relationships among affect, interpersonal relationships, and individuals' feelings about their lives in different cultural settings.

Cultural Differences, Psychological Well-being, and Interpersonal Relationships

Individuals' life satisfaction is one aspect of their subjective well-being. According to Ryff (1995), psychological well-being consists of six dimensions: self-acceptance, positive relationships with others, autonomy, environmental mastery, purpose in life, and personal growth. Individuals in different cultures value different dimensions of psychological well-being (Ryff, 1995). Findings of a cross-cultural study with midlife adults in the U.S. and South Korea provide evidence for cultural differences in psychological well-being (Ryff,

1995). Americans attributed positive characteristics to themselves when defining psychological well-being. Koreans rated positive relations with others more highly than Americans did, suggesting their collectivist cultural influences in defining psychological wellness. Particularly, Korean adults think about their well-being, personal satisfaction, and maturity by engaging their families. For example, the success of their children greatly influences the perception of well-being in middle-aged Koreans. Moreover, their definition of a mature person includes interdependent characteristics such as modesty, respectfulness, honesty, faithfulness, and responsibility. Accordingly, having positive relations with others, especially with individuals in close relationships may contribute to their satisfaction.

In collectivist cultures, individuals are expected to help others in their social groups. They are socialized to be empathetic, to understand other members, to complete their duties and responsibilities, and to engage in behaviors that benefit their social groups (Matsumoto & Juang, 2004). The goal is to promote the connectedness within their social groups. This may be one of the main reasons for their tendency to place a greater emphasis on others when defining their psychological well-being. In Japan, individuals' psychological well-being is associated with maintaining and managing sympathy (Kitayama & Markus, 2000). All these findings suggest that there are cultural differences in relation to the way individuals perceive their life satisfaction. Thus, the present study aims to examine the relationship between relationship quality and life satisfaction, and how it varies across cultures. I predict that the link between relationship quality and life satisfaction will be stronger in collectivist cultures than individualistic cultures (see Figure 5).

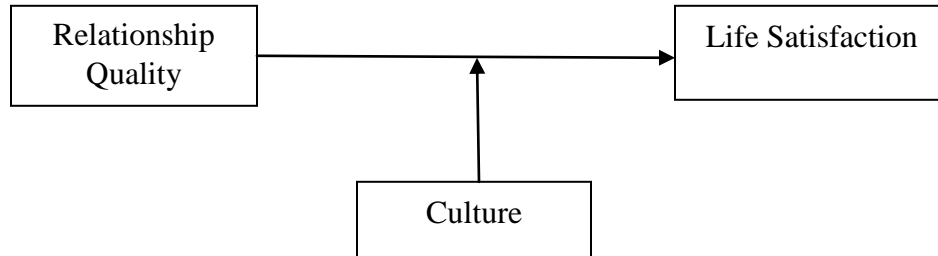


Figure 5: Hypothetical model for the moderating effect of culture on the link between relationship quality and life satisfaction.

Socioemotional Selectivity Theory

Certain domains of emotional experiences remain stable throughout the life span or increase with age (e.g., Carstensen, Pasupathi, & Mayr, 2000; Carstensen & Turk-Charles, 1994, 1998; Levine & Bluck, 1997). Socioemotional selectivity theory provides an explanation of how people in different age groups perceive their lives and how their understanding affects their life goals and emotional states (Carstensen, Fung, & Charles, 2003; Fung, Carstensen, & Lutz, 1999; Carstensen, Isaacowitz, & Charles, 1999; Charles & Carstensen, 1999).

According to socioemotional selectivity theory, individuals attempt to achieve different goals in different stages in the process of development based on the way they perceive the time left in their lives. Two types of psychological goals- knowledge-based goals and emotion-related goals- have been identified in relation to individuals' motivations (Carstensen et al., 2003). Knowledge-based goals include gaining knowledge about self and the world, gaining new skills and knowledge that help their future accomplishments,

engaging in social comparisons and identity strivings (Fung et al., 1999). Individuals who try to achieve these goals tend to make new social contacts as those new social partners provide new information to help them accomplish their goals. The major focus of individuals who try to accomplish emotional-relevant goals is to gain emotional satisfaction and emotional meaning of life. They also seek to spend time with emotionally close social partners and to deepen their relationships with them.

Perception of time left in life is a crucial factor when selecting among conflicting goals. When individuals perceive time as open-ended they tend to focus on achieving knowledge-based goals whereas when time is perceived as limited, their focus is directed toward emotion-related goals (Carstensen et al., 2003; Fung et al, 1999). Socioemotional selectivity theory explains the developmental trajectories for both knowledge-related and emotion-related goals. Young adults tend to perceive time as open-ended and they focus toward an unknown future. Hence, they try to gain knowledge and skills, particularly as knowledge is more important through adolescence to middle adulthood for their accomplishments. Individuals' emotional needs are vital throughout the life span but become more important as people age. When individuals realize that time is limited, their focus shifts toward the present rather than their future. Consequently, they seek more emotionally meaningful goals (e.g., deepening their social relations) and try to gain emotional satisfaction in their lives (Carstensen et al., 2003).

Age-Related Differences and Emotional Experiences

Individuals gain experiences as they age. Consequently, they exhibit more elaborated

emotional experiences (Magai, Consedine, Krivoshekova, Kudadjie-Gyamfi, & McPherson, 2006). Life span development theories of emotion stress that emotions become more differentiated, more complex, and heterogeneous, particularly in middle adulthood through old age (Carstensen et al., 2000; Charles, 2005; Labouvie-Vief, 2003). Having more differentiated and more complex emotional experiences may help individuals in middle and old age to differentiate others' emotional experiences and thereby understand others' emotion expressions or experiences. This may help them respond to others' emotional states appropriately and maintain their relationships with others.

Research found significant age-related differences in describing emotional experiences. A study by Labouvie-Vief, DeVoe, and Bulka (1989) revealed that individuals' descriptions of emotions vary from preadolescence to late adulthood. Older adults and more mature individuals tend to adjust their emotions more flexibly than younger and less mature individuals. Moreover, they can identify and differentiate their states from others' states and understand emotional experiences as a bidirectional process. That is, as a consequence of life experiences, individuals may be better able to identify and differentiate emotions.

A recent study by Magai and colleagues (2006) suggested age-related differences in emotional experiences and expressions over the life course. In this study, individuals from young adulthood to old age were examined in terms of their experience and expression of affect and the ability to regulate emotions. Compared with young and middle-aged adults, older adults reported a greater intensity of interest in emotions such as joy, surprise, anger, sadness, etc. In this study, individuals were asked to relive and describe experiences that

made them very sad and very angry. According to the researchers, those instructions may have provoked them to relive experiences related to their interpersonal relationships. The interpersonal relationships become more salient for individuals as they age (Carstensen, 1995).

Research also provided evidence for emotional experience and expressions in older adults. A study by Phillips and colleagues (2006) aimed to understand the impact of adults' aging on emotion expression, emotion regulation, and rumination about emotion-relevant events. Compared with young adults, older adults tend not to express negative emotions (e.g., anger) to the outside world and tend to have inner control of anger. Furthermore, they indicated significantly higher positive affect and lower negative affect than young adults. They also reported higher level of life satisfaction and self-esteem. These findings further reveal that individuals experience less negative affect and more positive affect with age. More inner control and less expressiveness of negative affect may be a goal of older adults to maintain their close relationships that give them a greater emotional satisfaction.

Age-Related Differences in Emotion-relevant Information and Emotion Regulation

There are numerous age-related differences in emotion relevant information and emotion regulation. Older adults mention fewer negative emotional experiences than young adults (Carstensen et al., 2000; Gross et al., 1997). Older adults tend to have more interest in emotionally relevant information than neutral information (e.g., Fung et al., 1999; Carstensen & Fredrickson, 1998; Fredrickson & Carstensen, 1990). Moreover, older adults remember positive emotional information better than neutral information (Carstensen & Turk-Charles,

1994; Denburg, Buchanan, Tranel, & Adolphs, 2003; Fung & Carstensen, 2003). They emphasize emotional relevant materials and remember emotional details rather than neutral details compared to young adults (May, Rahhal, Berry, & Leighton, 2005).

When considering emotion regulation, the dynamic-integration model proposed by Labouvie-Vief and colleagues (Labouvie-Vief, 2003; Labouvie-Vief & Diehl, 2000) suggests that age differences in emotion-regulatory strategies appear as a consequence of a decrease in cognitive resources. Labouvie-Vief (2003) proposed that decline of cognitive resources in older adults may cause less capability of emotional differentiation and less tolerance of negative affect. Older adults tend to separate positive and negative affect by optimizing their positive affect (Chow, Hamagami, & Nesselroade, 2007). When regulating emotions, older adults tend to choose secondary processes such as reevaluating a negative incident in a positive manner rather than adopting primary processes such as changing the external environment (Blanchard-Fields, Stein, & Watson, 2004; Heckhausen & Schulz, 1995).

With regard to emotion regulation, some studies found that older adults exhibit greater emotion regulation than young adults. Hence, they may experience less negative affect (Gross et al., 1997) and more positive affect (Mroczek & Kolarz, 1998). For example, older adults tend to report experiencing lower level of anger in daily functioning than young adults (Schieman, 1999; McConatha, Leone, & Armstrong, 1997; Gross et al., 1997; Lawton, Klenban, & Dean, 1993). More specifically, older adults are less likely to express negative emotions (e.g., anger) when they experience interpersonal tensions, as they think that negative emotions such as anger may damage their social relationships (Birditt & Fingerman,

2003).

Older adults tend to deepen their existing social relations (Carstensen et al., 2003). In this process, positive affect and emotions may be more salient for them not only to maintain their social relationships but also to gain emotional satisfaction. An important point is to examine whether these westernized theoretical perspectives can be applied to other socio-cultural settings. All of the aforementioned findings suggest age-related differences in affect and emotional experiences. Thus, I predict that positive affect will be positively related with age and negative affect will negatively be related with age even in collectivist cultures. I also predict that emotion differentiation will be positively related with age as a result of having more life experiences and more elaborated emotional experiences.



Figure 6: Hypothetical model for age-related trends in emotion differentiation and relationship quality.

In summary, the current study aims to examine individuals' emotion differentiation, interpersonal relationships, beliefs about emotions, and life satisfaction across an individualistic culture and two collectivist cultures. Moreover, I intend to examine the age-related trends/differences in aforementioned factors across cultures. I list my hypotheses with

five aims below.

Aim 1: To replicate and expand upon previous findings identifying a relationship between emotion differentiation and relationship quality in adults using multiple methods.

(1a) Prediction: Different methods of testing emotion differentiation relate to each other positively but not perfectly.

(1b) Prediction: Emotion differentiation will be positively related with relationship quality.

Aim 2: To examine how the relationship between emotion differentiation and relationship quality may vary across three countries and between genders.

(2a) Prediction: The relationship between emotion differentiation and relationship quality will be stronger in collectivist cultures than in an individualistic culture.

(2b) Prediction: Women will report more positive relations with others than men.

Aim 3: To explore if individuals' beliefs about emotions act as a possible mediator or moderator to the relationship between emotion differentiation and relationship quality.

(3a) Prediction: The relationship between emotion differentiation and relationship quality will be mediated by valuing positive emotions.

(3b) Prediction: The relationship between emotion differentiation and relationship quality will be moderated by the belief that emotions just are.

Aim 4: To examine the link between relationship quality and life satisfaction in adults and how it varies across three cultures.

(4a) Prediction: Relationship quality will be positively related with life satisfaction.

(4b) Prediction: The relationship between relationship quality and life satisfaction will be stronger in collectivist cultures than in an individualist culture.

Aim 5: To examine the age-related trends/differences in affect, emotion differentiation, and interpersonal relationships across cultures.

(5a) Prediction: Positive affect will be positively related with age.

(5b) Prediction: Negative affect will be negatively related with age.

(5c) Prediction: Emotion differentiation will be positively related with age.

(5d) Prediction: Relationship quality will be positively related with age.

Method

Participants

The sample consisted of 607 participants: 308 Sri Lankans, 196 Americans, and 103 Indians. Below I describe each sample and the general population from which they are derived.

The Sri Lankan sample included 160 females and 148 males. Their ages ranged from 18 to 80 ($M_{\text{age}} = 30.34$ years, $SD = 12.46$). In this group, 3% had postgraduate education, 10% completed college education, 48% were pursuing college education, and 39% had either high school level or less than high school level education. In this sample, 64% were Buddhists, 9% were Hindus, 12% were Muslims, and 15% were Christians. Regarding the geographical location, 48.0% lived in suburban areas, 26.8% lived in urban areas, and 25.2% lived in rural areas.

Sri Lanka and India are located in South Asia. Sri Lanka is an island, that covers a

land area of 65,610 square kilometers at the southern tip of the Indian subcontinent (Department of Census and Statistics-Sri Lanka, 2009). It is officially called the “Democratic Socialist Republic of Sri Lanka.” The population is 20,217,000 (2008 est.), of which 69.30% are Buddhists, 15.48% are Hindus, 7.56% are Muslims, and 7.61% are Catholics and other Christians (Department of Census and Statistics-Sri Lanka, 2009). Regarding geographical location, 16.3% live in urban areas and 83.7% live in rural areas (2001 est.) (Department of Census and Statistics-Sri Lanka, 2009). The average household size is 4.1 and the literacy rate is 91.1% (2001 est.) (Department of Census and Statistics-Sri Lanka, 2009).

The participants of the Sri Lankan group in this study were recruited in offices, educational institutes, and public places in the Western province in Sri Lanka. Western province includes the Colombo, Kaluthara, and Gampaha Districts. The literacy rate of persons in Colombo district is 94.7% with 95.3% of males and 94.0% of females being literate. In Gampaha district, the literacy rate is 95.4% with 95.7% of males and 95.1% of females being literate. In Kaluthara district, the literacy rate is 93.2% with 93.7% of males and 92.6% of females (2001 est.) (Department of Census and Statistics-Sri Lanka, 2009).

The Indian sample included 41 males and 60 females (two participants did not report their gender). Their ages ranged from 17 to 69 ($M_{\text{age}} = 22.06$ years, $SD = 5.35$). In this group, 64% had postgraduate education, 3% completed college education, 30% were pursuing college education, and 3% had either high school level or less than high school level education. In this sample, 81% were Hindus, 8% were Christians, 8% were Muslims, 2%

were Buddhists, and 2% belong to other religions. Regarding geographical location, 63.7% lived in urban areas, 18.7% lived in rural areas, and 17.6% lived in suburban areas.

India is a South Asian nation which covers a land area of 3,287,240 square kilometers. The population is 1,028,737,436 (2001 est.) (Census of India, 2007). Of the entire population, 27.8% live in rural areas and 72.2% live urban areas (Census of India, 2007). The average household size is 5.3 (Census of India, 2007). The literacy rate 64.8% (2001 est.) (Census of India, 2007).

The participants in the Indian group in this study were adults recruited at Karnataka University in India. Karnataka State is one of the major states in South India. The population of Karnataka State is 52,850,562 (2001 est.). Of the population, 50.89% are males and 49.11% are females. Also, 33.98% of the population in Karnataka State live in urban areas. The literacy rate of people in Karnataka State is 66.6% with 76% of males and 57% of females being literate. In this state, 83.9% are Hindu, 12.2% are Muslim, and 1.9% are Christian. The remaining belongs to other religions such as Jainism and Buddhism (“Demographics of Karnataka,” 2010).

Both the Sri Lankan and the Indian groups in this study possess the major characteristics of their own populations. For example, both groups consisted of individuals from major religious groups in each country. The literacy rate of the region in which participants were recruited is similar to the literacy rate of the entire population in each country. Most participants in the Sri Lankan and the Indian samples were highly educated. Most of the Indian sample had postgraduate qualification.

The American sample included 100 females and 94 males (two participants did not report their gender). Their ages ranged from 17 to 80 ($M_{\text{age}} = 27.14$ years, $SD = 16.46$). In this group, 12% had postgraduate education, 10% completed college education, 76% were pursuing college education, and 2% had either high school or less than high school level education. In the American group, 82% were Christians, 6% were Buddhists, 1% was Islamic, and 10% belong to other religions. In this group, 73% were Whites, 10% were African Americans, and 3% were Hispanics. Ten percent of the participants belong to other ethnic groups. Regarding geographical location, 51.1% lived in urban areas, 39.5% lived in suburban areas, and 9.5% lived in rural areas.

The United States is a large North American nation, with a population of approximately 308,957,624 people (U.S. Census Bureau, 2010). Regarding geographical location, 81% live in cities and suburbs (2005, est.) (“Demographics of the United States,” 2010). Of the entire population, 76.0% are Christians. The literacy rate is 99.0% (2009 est.). The average household size is 2.61 (U.S. Census Bureau, 2010). The American group in this study was recruited at North Carolina State University and public places such as temples and churches. The population of North Carolina is 9,380,884 (2009 est.) (“North Carolina,” 2010). Of the population in North Carolina state, 70% are White Americans, 25.3% are African-Americans, 1.2% are American Indians, and 6.5% are Hispanics or Latinos (2007 est.) (“North Carolina,” 2010). The majority of the American sample was highly educated and also consisted of individuals from major ethnic and religious groups of the entire population.

Materials

Emotion differentiation. The Emotion Differentiation Scale (EDS) (Kang & Shaver, 2004) was used to measure individuals' belief about their ability to differentiate emotions. See Appendix A. The scale contains seven items and was rated using a 7-point scale (1 = *does not describe me at all* and 7 = *describes me extremely well*). Examples of items are: "I tend to draw fine distinctions between similar feelings", "I am aware that each emotion has a completely different meaning", "I am aware of the subtleties between feelings I have." Internal consistency of EDS was .83 (Kang & Shaver, 2004). The test-retest reliability was .71 over the period of a six week interval ($N = 93$). The Emotion Differentiation Scale demonstrated good construct validity (Kang & Shaver, 2004). Reliability in the current study was $\alpha = .86$ (see Table 1).

Emotion categorization task. A test including three short descriptions was also used to assess emotion differentiation, specifically, how individuals organize emotion terms (Dissanayake & Halberstadt, 2008). See Appendix B. We created three descriptions of social situations that included 37 different emotion words. These descriptions were similar to Sommers' (1981) descriptions of social situations used to assess a range of emotions. In Sommers' study, participants were asked to elaborate those social situations into stories. In this study, participants were instructed to read three descriptions and categorize 37 emotion words into different categories based on how similar or different they are from each other. These 37 emotion words were selected from the 135 emotion word list created by Shaver, Schwartz, Kirson, and O'Connor (1987). The 37 emotion words were selected from the six

major clusters of emotions: love, joy, anger, fear, sadness, and surprise that were generated from the 135 emotion words by Shaver and colleagues (1987). The familiarity and the availability of these emotions words, particularly in other languages (e.g., in Sinhala) was considered when selecting 37 emotion words. The number of categories that individuals create using the 37 emotion terms comprised their score for this task.

Positive and negative affect. Individuals' positive and negative affect was assessed with the Positive Affect and Negative Affect Schedule (PANAS; Watson et al., 1988). See Appendix C. The scale consists of 10 positive (e.g., interested) and 10 negative (e.g., upset) adjectives rated on a 5-point scale (1 = *very slightly or not at all* and 5 = *extremely*). Internal consistency for positive and negative affect was .85 and .90. Test-retest reliability for positive and negative affect scales was .79 and .93 ($N = 31$) respectively (Ostir, Smith, Smith, & Ottenbacher, 2005). A confirmatory factor analysis with a non-clinical sample in UK ($N = 1,003$) supported the construct validity of the PANAS scales (Crawford & Henry, 2004). Reliability in the current study for the Positive Affect Scale was $\alpha = .83$ and for the Negative Affect Scale was $\alpha = .81$ (see Table 1).

Beliefs about emotions. Individuals' value of emotion was measured with the Beliefs About Emotion Scale (BAE) (Dennis & Halberstadt, 2008). See Appendix D. This scale consists of 45 items about individuals' beliefs about emotions that were rated using a 6-point scale (1 = *strongly disagree* and 6 = *strongly agree*). The Beliefs About Emotion Scale consists of four subscales: Positive Emotions are Valuable Scale (10 items), Negative Emotions are Valuable Scale (12 items), All Emotions are Dangerous Scale (13 items), and

Emotions Just are Scale (10 items). Internal consistency for these scales with college students in the southeastern United States was acceptable: Positive Emotions are Valuable Scale ($\alpha = .64$), Negative Emotions are Valuable Scale ($\alpha = .56$), All Emotions are Dangerous Scale ($\alpha = .69$), and Emotions Just are Scale ($\alpha = .53$). Although this is a new measure and currently lacks evidence for validity, the measure it is derived from (the Parents' Beliefs About Children's Emotions Scale) (Halberstadt, Dunsmore, Thompson, Beale, Parker, and Bryant, 2009) has shown good construct validity with adults (e.g. Stelter & Halberstadt, in press). Reliability in the current study for Positive Emotions are Valuable Scale was $\alpha = .78$, Negative Emotions are Valuable Scale was $\alpha = .76$, All Emotions are Dangerous Scale was $\alpha = .82$, and Emotions Just are Scale was $\alpha = .79$ (see Table 1).

Relationship quality. The quality of interpersonal relationships was measured by using the Interpersonal Relationship Quality Scale (IRQ; Kang & Shaver, 2004). See Appendix E. The six items were rated using a 7-point scale (1 = *not at all* and 7 = *extremely well*). Examples of items are: "I enjoy visiting old friends and neighbors in my hometown", "I am highly receptive to the needs of those around me", "I feel that my relationships with others are friendly and comforting." Internal consistency for this scale was .80 ($N = 100$) and test-retest reliability for the period of six week interval was .78 ($N = 93$). Reliability in the current study was $\alpha = .83$ (see Table 1).

The Positive Relations With Others Scale of Ryff's psychological well-being inventory (1989) was also used to assess individuals' interpersonal relationship quality. See Appendix F. This scale contains 14 items and were rated using a 6-point scale (1 = *strongly*

disagree and 6 = *strongly agree*). Examples of items are: “I enjoy personal and mutual conversations with family members or friends”, “I feel like I get a lot out of my friendships”, “My friends and I sympathize with each other's problems.” Internal consistency for 14 items scale ranged from .82 to .90. The test-retest reliability for longer scales over a six week period ranged from .81 to .88 (Ryff, Lee, Essex, & Schmutte, 1994). Reliability in the current study was $\alpha = .80$ (see Table 1).

Life satisfaction. Individuals’ life satisfaction was measured with the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). See Appendix G. The scale consists of five items about overall life satisfaction of an individual and were rated using a 7-point scale (1 = *strongly disagree* and 7 = *strongly agree*). Examples of items are: “In most ways my life is close to my ideal”, “I am satisfied with my life.” Internal consistency for this scale ranged from .85 to .92 (Kang et al. 2003). Test-retest reliability for two months period was .87 (Diener, et al., 1985). A study that examined the psychometric properties of the Satisfaction With Life scale with non-clinical sample in a different cultural context (e.g., The Netherlands) found good convergent and construct validity (Arrindell, Meeuwesen, & Huyse, 1991). Reliability in the current study was $\alpha = .78$ (see Table 1).

Demographic information. Individuals also provided the following demographic information in a separate questionnaire: gender, age, marital status, religion, ethnicity, area of living, level of education, and occupation. See Appendix H.

Table 1

Internal Reliability for Each Scale Within and Across Cultural Groups

Scales	Number of items	Reliability	Reliability	Reliability	Reliability
		Sri Lankans (<i>n</i> =308)	Indians (<i>n</i> =103)	Americans (<i>n</i> =196)	Entire sample (<i>n</i> =607)
Emotion Differentiation	7	.81	.83	.89	.86
Inter. Relationship Quality	6	.78	.80	.89	.83
Positive Relations with others	14	.79	.63	.87	.80
BAE – Positive emotions are good	10	.73	.75	.85	.78
BAE – Negative emotions are good	12	.70	.70	.82	.76
BAE – Emotions are dangerous	13	.75	.58	.78	.82
BAE – Emotions just are	10	.71	.76	.85	.79
PANAS – Positive affect	10	.81	.78	.84	.83
PANAS – Negative affect	10	.82	.76	.84	.81
Satisfaction with life	5	.74	.69	.84	.78

Translations

For the Sri Lankan sample, all questionnaires were translated into Sinhala language by a native speaker fluent in both English and Sinhala, and into Tamil by a Tamil native speaker fluent in both English and Tamil. Both Sinhala and Tamil questionnaires were back-translated by bilingual speakers into English to ensure comparability and to check any discrepancies.

Procedure

Recruitment. The participants in the Sri Lankan sample were Sri Lankan adults who were recruited in offices, institutes, and public places such as churches in the Western province in Sri Lanka by the researcher (M.P.D). The participants in the Indian sample were Indian adults who were recruited at Karnataka University in India by a researcher (S.V.K). The American sample included individuals who lived in North Carolina in the US. They were recruited at North Carolina State University and public places such as temples and churches by undergraduate researchers. Researchers explained the purpose of this study and in general, how it contributes to the field of psychology before the questionnaires were administered. In most cases, researchers were present when participants completed the questionnaires. In some cases, participants took the questionnaires and the researchers collected them later. All individuals participated in the study voluntarily.

Questionnaire completion. After explaining the purpose of the study and the data collection process to the participants individually and in small groups and obtaining informed consent, researchers gave participants the seven questionnaires counterbalanced within each

sample. Sinhalese in the Sri Lankan group were administered the Sinhala or the English version of the questionnaire packet depending on their preference. Tamils in the Sri Lankan group were also administered either the Tamil or the English version of the questionnaire packet based on their preference. Participants in the Indian and American samples completed the English version of the questionnaire packet.

Results

The current study represents an examination of five aims in relation to emotion differentiation and relationship quality across three cultures: Sri Lanka, India, and the US. This section includes the results that relate to each aim. First, I present the analyses and the results for Aim 1, examining the link between emotion differentiation and relationship quality. Second, I report the findings related to the Aim 2 regarding the moderating effect of culture on the link between emotion differentiation and relationship quality. Third, I present the findings for Aim 3, examining whether beliefs about emotions mediate or moderate the relationship between emotion differentiation and relationship quality. Fourth, I present the results for Aim 4, exploring the link between relationship quality and life satisfaction. The moderating effect of culture on the link between relationship quality and life satisfaction will also be presented with Aim 4. Finally, I report the findings of Aim 5, assessing age-related trends in affect, emotion differentiation, and relationship quality across cultures.

Preliminary Analyses

Table 2 presents means, standard deviations, ranges, skew and standard error of skewness for all scales examined in this study.

Table 2

Means, Standard Deviations, Range, and Skew for All Measures (n=607)

Measures	Possible Range	M	SD	Range	Skew	SE
Emotion Categorization Task	1-37	12.81	5.10	2-31	.37	.10
Emotion Differentiation	1-7	4.56	1.21	1.00-7.00	-.26	.10
Inter. Relationship Quality	1-7	5.39	1.08	1.67-7.00	-.85	.10
Positive Relations With Others	1-6	4.58	0.76	2.21-6.00	-.32	.10
Satisfaction With Life	1-7	5.01	1.14	1.00-7.00	-.78	.10
Positive Emotions Are Valuable	1-6	5.03	0.68	2.40-6.00	-1.03	.10
Negative Emotions Are Valuable	1-6	4.06	0.82	1.42-6.00	-.20	.10
Emotions Are Dangerous	1-6	4.23	0.88	1.38-6.00	-.34	.10
Emotions Just Are	1-6	4.59	0.84	1.80-6.00	-.39	.10
Positive Affect	1-5	3.51	0.70	1.10-5.00	-.24	.10
Negative Affect	1-5	2.23	0.72	1.00-4.80	.65	.10

Table 3 presents the means and standard deviations for all scales for the three groups separately. Indians provided higher ratings than Sri Lankans or Americans for the following scales: emotion differentiation, interpersonal relationship quality, satisfaction with life, positive affect, and negative affect. Sri Lankans created more emotion categories on the

Emotion Categorization Task and provided higher ratings for the Emotions are Dangerous Scale than Indians and Americans. Americans provided higher ratings than Sri Lankans and Indians for the following scales: positive relations with others, positive emotions are valuable, negative emotions are valuable, and emotions just are.

Table 3

Means and Standard Deviations for All Measures in Each Cultural Group

Measures	<u>Sri Lankans</u>		<u>Indians</u>		<u>Americans</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Emotion Categorization	14.12	5.45	10.60	3.84	12.07	4.59
Emotion Differentiation	4.44	1.09	5.45	1.14	4.29	1.20
Interpersonal Relationship Quality	5.35	1.02	5.81	1.06	5.24	1.13
Positive Relations With Others	4.55	0.76	4.39	0.68	4.73	0.77
Satisfaction With Life	4.85	1.11	5.48	1.05	5.00	1.17
Positive Emotions Are Valuable	4.84	0.69	5.17	0.69	5.25	0.59
Negative Emotions Are Valuable	3.79	0.78	4.25	0.86	4.37	0.71
Emotions Are Dangerous	4.64	0.74	4.37	0.75	3.53	0.71
Emotions Just Are	4.26	0.79	4.80	0.77	4.98	0.73
Positive Affect	3.49	0.66	3.95	0.69	3.30	0.68
Negative Affect	2.22	0.70	2.38	0.78	2.17	0.71

Emotion Differentiation

Emotion differentiation, the tendency to notice subtle difference in emotions, was examined by using two measures: an Emotion Categorization Task and the Emotion Differentiation Scale. The Emotion Categorization Task was used to examine how individuals organize emotion terms based on how similar or different they are from each other. The number of categories that individuals create using the 37 emotion terms comprises their score for this task.

Multivariate analysis of variance (MANOVA) was conducted to determine whether there were significant group and gender differences for the either of the two measures of emotion differentiation. The result of Box's M test was significant, showing violation of the homogeneity of variance-covariance. Therefore, the result of Pillai's Trace was considered for the analysis. The result of Pillai's Trace was significant ($p < .001$). Results of MANOVA revealed a significant multivariate main effect for group, Pillai's Trace = .190, $F(4, 1138.000) = 29.82$, $p < .001$, $\eta^2 = .10$. The multivariate main effects for gender and interaction between group and gender were not significant. Table 4 presents the significant group differences in the Emotion Categorization Task and the Emotion Differentiation Scale.

Emotion Categorization Task

Given the significance of the effect for group, the univariate main effects were examined. Results revealed a significant main effect for emotion categorization $F(2, 569) = 22.09$, $p < .001$, $\eta^2 = .07$. Results indicated significant group differences in emotion categorization. The results of the Games-Howell *post-hoc* tests revealed that the Sri Lankan

group differed significantly from the Indian and American groups (see Table 4). Sri Lankans created the most emotion categories and Indians created the fewest. There was also a significant difference in emotion categorization between Americans and Indians. Even though Sri Lankan and Indian cultures are known as collectivist cultures, results indicate a significant difference in emotion categorization between these two collectivist cultures.

Emotion Differentiation Scale

Results of univariate tests revealed a significant main effect for emotion differentiation $F(2, 569) = 39.48, p < .001, \eta^2 = .12$. Results of the Bonferroni *post-hoc* tests revealed that the Indian group differed significantly from the Sri Lankan and American groups (see Table 4). Indians rated higher on emotion differentiation than Sri Lankans and Americans. Sri Lankans rated higher on the emotion differentiation than Americans but the difference was not significant. Even though Indian and Sri Lankan cultures are identified as collectivist cultures, these results indicated a significant difference in emotion differentiation between these two cultures. This may suggest differences even within collectivist cultures in relation to different aspects of emotion-related behaviors.

Relationship Quality

Relationship quality was examined by using two measures: the Interpersonal Relationship Quality Scale and the Positive Relations With Others Scale. Multivariate analysis of variance (MANOVA) was conducted to determine whether there were significant group and gender differences for either of the two measures of relationship quality. Results of MANOVA revealed significant multivariate main effects for group, Wilks' $\lambda = .885$,

$F(4,1180.000) = 18.63, p < .001, \eta^2 = .06$ and for gender, Wilks' $\lambda = .972, F(2,590.000) = 8.48, p < .001, \eta^2 = .03$. Table 4 presents the significant group differences in the Interpersonal Relationship Quality Scale and the Positive Relations With Others Scale.

Interpersonal Relationship Quality Scale

Given the significance of the effect for group, the univariate main effects were examined. Results of univariate tests revealed a significant univariate main effect for interpersonal relationship quality $F(2, 591) = 10.60, p < .001, \eta^2 = .04$. Bonferroni *post-hoc* tests revealed that the Indian group differed significantly from Sri Lankan and American groups (see Table 4). Indians rated higher on interpersonal relationship quality than Sri Lankans and Americans. There was a significant difference between Indians and Sri Lankans. Indians and Americans also differed significantly in reports of interpersonal relationship quality. These results further suggest a significant difference in perceived relationship quality between two collectivist cultures-- Indians and Sri Lankans.

Positive Relations With Others Scale

Results of univariate tests revealed a significant univariate main effect for positive relations with others $F(2, 591) = 7.02, p < .01, \eta^2 = .02$. The results of the Bonferroni *post-hoc* tests indicated that the American group differed significantly from other two groups, Sri Lankans and Indians (see Table 4). Americans rated higher on positive relations with others than Sri Lankans and Indians. There was a significant difference between Americans and Sri Lankans as well as between Americans and Indians. When comparing two collectivist cultures, Sri Lankans rated higher on positive relations with others than Indians but the

difference was not significant.

Table 4

Post-Hoc Test for Groups

Measures	Group with Higher Score	Group with Lower Score	Mean Difference
Emotion Categorization Task	Sri Lankans	Americans	2.08*
	Sri Lankans	Indians	3.55*
	Americans	Indians	1.48*
Emotion Differentiation Scale	Indians	Sri Lankans	1.04*
	Indians	Americans	1.18*
Interpersonal Relationship Quality Scale	Indians	Sri Lankans	0.47*
	Indians	Americans	0.58*
Positive Relations With Others Scale	Americans	Sri Lankans	0.17*
	Americans	Indians	0.33*

* $p < .05$

Gender Differences in Positive Relations With Others

Results of MANOVA revealed significant multivariate main effects for gender.

Therefore, the univariate main effects were examined. Results revealed a significant main effect for positive relations with others $F(1, 591) = 13.17, p < .001, \eta^2 = .02$. There was a significant mean difference between women ($M = 4.69, SD = .76$) and men ($M = 4.47, SD = .74$) such that women reported more positive relations with others than men.

Aim 1: Explore the Link between Emotion Differentiation and Relationship Quality in Adults

Correlational analyses were used to examine the relationships among four variables—the Emotion Categorization Task, the Emotion Differentiation Scale, the Interpersonal Relationship Quality Scale, and the Positive Relations With Others Scale. As shown in Table 5, for the entire sample, the Emotion Categorization Task was not significantly correlated with the other scales. Emotion differentiation was significantly correlated with interpersonal relationship quality. Emotion differentiation was also significantly correlated with positive relations with others.

Table 5

Correlations of Emotion Differentiation and Relationship Quality (n=607)

Measures	Emotion Categorization Task	Emotion Differentiation Scale	Interpersonal Relationship Quality Scale
Emotion Differentiation Scale	-.04		
Interpersonal Relationship Quality Scale	-.03	.43**	
Positive Relations With Others Scale	-.01	.17**	.52**

**
 $p < .01$

Table 6 shows the same correlational analyses within cultural groups. In two of the cultures, the emotion categorization task was unrelated to the other measures; in the Indian

group, however, it was actually negatively related to the two relationship quality scales. The significant relationships between emotion differentiation and the two relationship quality scales held in all three groups (see Table 6 for complete matrix).

Table 6

Correlations among Variables in Each Group

Measures	Emotion Categorization Task	Emotion Differentiation Scale	Interpersonal Relationship Quality Scale
Sri Lankan group (n=308)			
Emotion Differentiation	.04		
Interpersonal Relationship Quality	.04	.33**	
Positive Relations With Others	.02	.18**	.50**
Indian group (n=103)			
Emotion Differentiation	-.18		
Interpersonal Relationship Quality	-.26**	.66**	
Positive Relations With Others	-.26**	.51**	.58**
US group (n=196)			
Emotion Differentiation	.09		
Interpersonal Relationship Quality	.04	.36**	
Positive Relations With Others	.03	.17*	.64**

* p<0.05, ** p<0.01

Aim 2: The Moderating Effect of Culture on the Link between Emotion Differentiation and Relationship Quality

The second major objective of this study was to examine whether culture moderates the relationship between emotion differentiation and relationship quality. This study included three groups that were identified based on the concepts of individualism and collectivism. That is, the Sri Lankan and Indian groups were identified as more collectivist cultures and the American group was identified as a more individualistic culture. The current study aimed to test the hypothesis that the link between emotion differentiation and relationship quality is stronger in collectivist cultures than in the individualistic culture. Analyses were conducted with the Emotion Categorization Task, the Emotion Differentiation Scale, the Interpersonal Relationship Quality Scale, and the Positive Relations With Others Scale in order to test the hypothesis.

The Link between Emotion Categorization and Interpersonal Relationship Quality, and the Moderating Effect of Country

A hierarchical regression was conducted to determine the effect of emotion categorization on interpersonal relationship quality in each country (Sri Lanka, India, and the US). Regression analyses were not conducted based on culture (individualistic, collectivist) owing to the reason that the relationships between the Emotion Categorization Task and the two relationship quality scales were different for Sri Lankans and Indians. To reduce multicollinearity, the independent variables were centered. Country (categorical variable) was dummy coded. In previous work, emotion differentiation was a significant predictor of

relationship quality in individuals in collectivist cultures (e.g., Chinese and Koreans) (Kang et al., 2003). Also, the Sri Lankan group represents the majority of people in this study. Therefore, the Sri Lankan group was the baseline or comparison group. Emotion categorization was entered into the first step. The US and India (dummy variables) were entered into the second step. The interaction term was created with emotion categorization and the US as well as emotion categorization and India. The interactions between emotion categorization and the US and India were entered into the third step in the hierarchical regression model. The dependent variable was interpersonal relationship quality.

The main effect for emotion categorization was not significant. Also, the main effect for US (the US vs. Sri Lanka) was not significant. The main effect for India (India vs. Sri Lanka) was significant indicating that Indians rated higher on interpersonal relationship quality than Sri Lankans (see Table 7). The interaction between emotion categorization and US (the US vs. Sri Lanka) was not significant. However, the interaction between emotion categorization and India (India vs. Sri Lanka) was significant indicating that Indians who made more emotion categories rated lower on interpersonal relationship quality than Sri Lankans who made more emotion categories (see Figure 7). Emotion categorization alone accounted for .1% of the variance in interpersonal relationship quality. Emotion categorization, the US, and India accounted for 3% of the variance. The interaction between emotion categorization, the US, and India accounted for 5% of the variance in interpersonal relationship quality.

Table 7

Hierarchical Regression Models with Emotion Categorization Predicting Interpersonal Relationship Quality and the Moderating Effect of Country (n=607)

Predictors	Interpersonal Relationship Quality		
	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Categorization	-.01	.01	-.03
Step 2			
Emotion Categorization	.00	.01	-.00
US	-.12	.10	-.05
India	.45	.13	.16***
Step 3			
Emotion Categorization	.01	.01	.04
US	-.10	.10	-.05
India	.31	.14	.11*
Emotion Categorization*US	.00	.02	.00
Emotion Categorization*India	-.08	.03	-.13*
$R^2 = .00$ for step 1; $\Delta R^2 = .03$ for step 2; $\Delta R^2 = .01$ for step 3			

* $p < .05$, *** $p < .001$

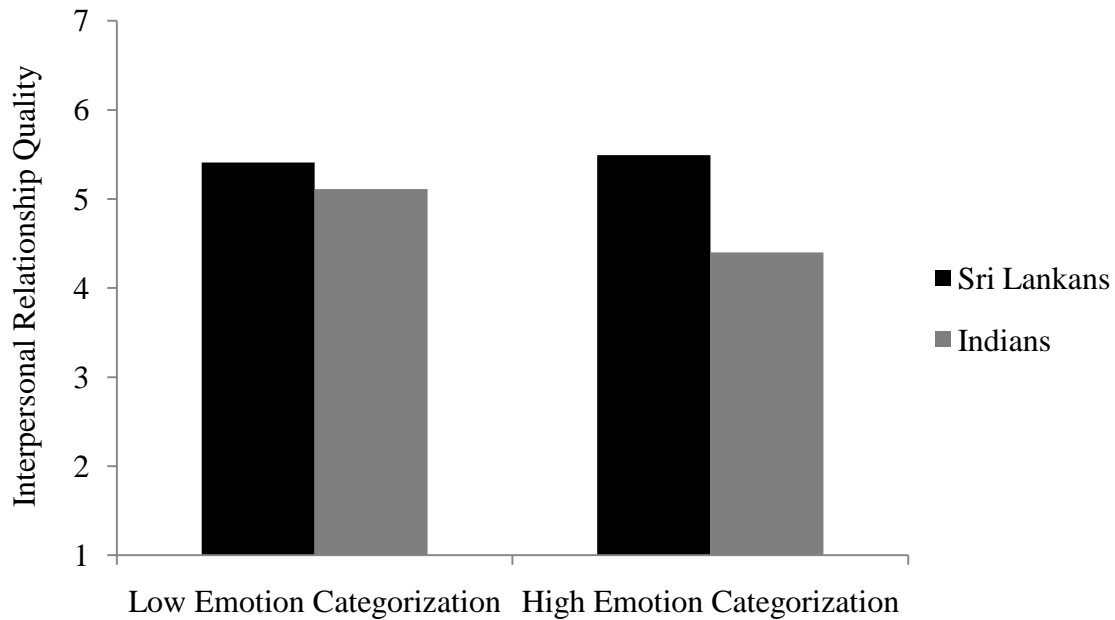


Figure 7. The relationship of high and low emotion categorization with interpersonal relationship quality in Sri Lankans and Indians.

The Link between Emotion Categorization and Positive Relations With Others, and the Moderating Effect of Country

A hierarchical regression was conducted to determine the effect of emotion categorization on positive relations with others in each country (Sri Lanka, India, and the US). Emotion categorization was entered into the first step and the US and India (dummy variables) were entered into the second step. The interaction term was created with emotion categorization and the US as well as emotion categorization and India. The interactions between emotion categorization and the US and India were entered into the third step in the hierarchical regression model. The dependent variable was positive relations with others.

The main effect for emotion categorization was not significant. The main effect for US (the US vs. Sri Lanka) was significant indicating that Americans rated higher on positive relations with others than Sri Lankans (see Table 8). The interaction between emotion categorization and US (the US vs. Sri Lanka) was not significant. However, the interaction between emotion categorization and India (India vs. Sri Lanka) was significant indicating that Indians who made more emotion categories rated lower on positive relations with others than Sri Lankans who made more emotion categories (see Figure 8). Emotion categorization, the US and India accounted for 3% of the variance in positive relations with others. The interaction between emotion categorization and the US and India accounted for 3% of the variance in positive relations with others.

Table 8

Hierarchical Regression Models with Emotion Categorization Predicting Positive Relations With Others and the Moderating Effect of Country (n=607)

Predictors	Positive Relations With Others		
	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Categorization	-.00	.01	-.01
Step 2			
Emotion Categorization	-.00	.01	-.01
US	.17	.07	.10*
India	-.18	.09	-.09
Step 3			
Emotion Categorization	.00	.01	.02
US	.18	.07	.11*
India	-.27	.10	-.14*
Emotion Categorization*US	.00	.01	.01
Emotion Categorization*India	-.05	.02	-.11*
$R^2 = .00$ for step 1; $\Delta R^2 = .03$ for step 2; $\Delta R^2 = .01$ for step 3			

* $p < .05$

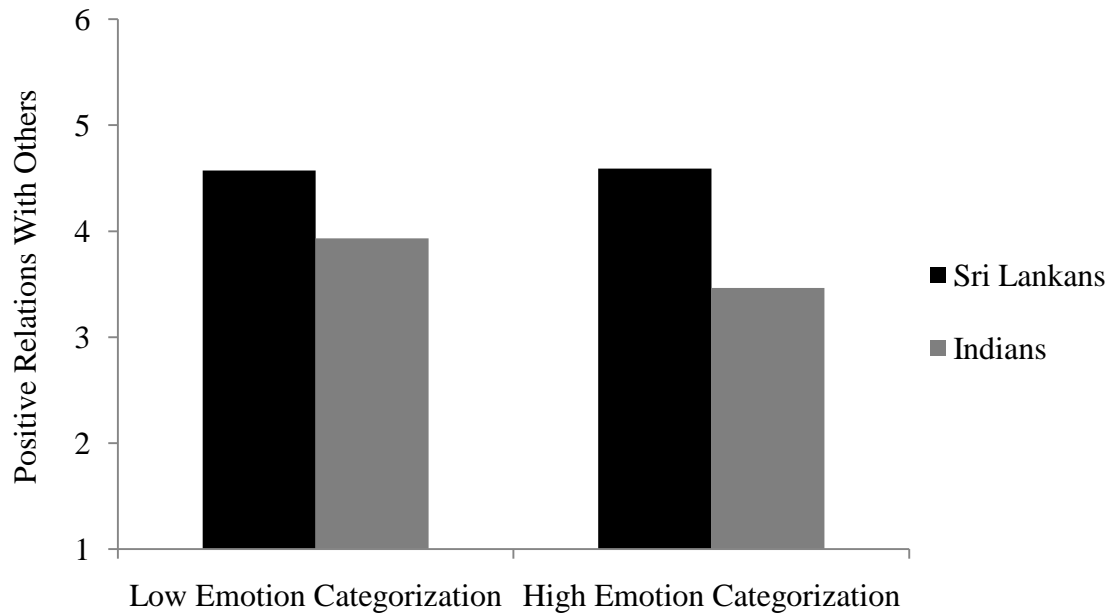


Figure 8. The relationship of high and low emotion categorization with positive relations with others in Sri Lankans and Indians.

The Link between Emotion Differentiation and Interpersonal Relationship Quality, and the Moderating Effect of Culture (Individualism and Collectivism Framework)

Regression analyses were conducted to examine whether culture (individualistic, collectivist) moderates the effect of emotion differentiation on relationship quality. A hierarchical regression was conducted to determine the effect of emotion differentiation on interpersonal relationship quality and how culture moderates this relationship. Emotion differentiation was entered into the first step and culture was entered into the second step. The interaction term was created with emotion differentiation and culture. The interaction between emotion differentiation and culture was entered into the third step in the hierarchical regression model. The dependent variable was interpersonal relationship quality.

The main effect for emotion differentiation was significant, indicating that emotion differentiation significantly predicted interpersonal relationship quality (see Table 9). The main effect for culture was not significant. The interaction between emotion differentiation and culture was not significant indicating that culture does not moderate the relationship between emotion differentiation and interpersonal relationship quality. Emotion differentiation alone accounted for 18% of the variance in interpersonal relationship quality.

Table 9

Hierarchical Regression Models with Emotion Differentiation Predicting Interpersonal Relationship Quality and the Moderating Effect of Culture (n=607)

Predictors	Interpersonal Relationship Quality		
	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.39	.03	.43***
Step 2			
Emotion Differentiation	.38	.03	.42***
Culture	-.08	.09	-.03
Step 3			
Emotion Differentiation	.40	.04	.45***
Culture	-.09	.09	-.04
Emotion Differentiation*Culture	-.07	.07	-.04
$R^2 = .18$ for step 1; $\Delta R^2 = .00$ for step 2; $\Delta R^2 = .00$ for step 3			

*** $p < .001$

The Link between Emotion Differentiation and Interpersonal Relationship Quality, and the Moderating Effect of Country

The prediction that culture moderates the link between emotion differentiation and interpersonal relationship quality was not supported by the results. A hierarchical regression

was conducted to determine the effect of emotion differentiation on interpersonal relationship quality in each country (Sri Lanka, India, and the US). Emotion differentiation was entered into the first step and the US and India (dummy variables) were entered into the second step. The interaction term was created with emotion differentiation and the US as well as emotion differentiation and India. The interactions between emotion differentiation and the US as well as India were entered into the third step in the hierarchical regression model. The dependent variable was interpersonal relationship quality.

The main effect for emotion differentiation was significant, indicating that emotion differentiation significantly predicted interpersonal relationship quality. The main effects for country (the US vs. Sri Lanka and India vs. Sri Lanka) were not significant. The interaction between emotion differentiation and US (the US vs. Sri Lanka) was not significant (see Table 10). However, the interaction between emotion differentiation and India (India vs. Sri Lanka) was significant, indicating that Indians who rated high on emotion differentiation rated higher on interpersonal relationship quality than Sri Lankans who rated high on emotion differentiation (see Figure 9). Emotion differentiation alone accounted for 18% of the variance in interpersonal relationship quality. The interactions between emotion differentiation and the US and India accounted for 20% of the variance in interpersonal relationship quality.

Table 10

Hierarchical Regression Models with Emotion Differentiation Predicting Interpersonal Relationship Quality and the Moderating Effect of Country (n=607)

Predictors	Interpersonal Relationship Quality		
	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.39	.03	.43***
Step 2			
Emotion Differentiation	.37	.04	.42***
US	-.06	.09	-.03
India	.08	.12	.03
Step 3			
Emotion Differentiation	.31	.05	.35***
US	-.06	.09	-.03
India	-.14	.13	-.05
Emotion Differentiation*US	.02	.08	.01
Emotion Differentiation*India	.30	.10	.16**
$R^2 = .18$ for step 1; $\Delta R^2 = .00$ for step 2; $\Delta R^2 = .01$ for step 3			

** $p < .01$, *** $p < .001$

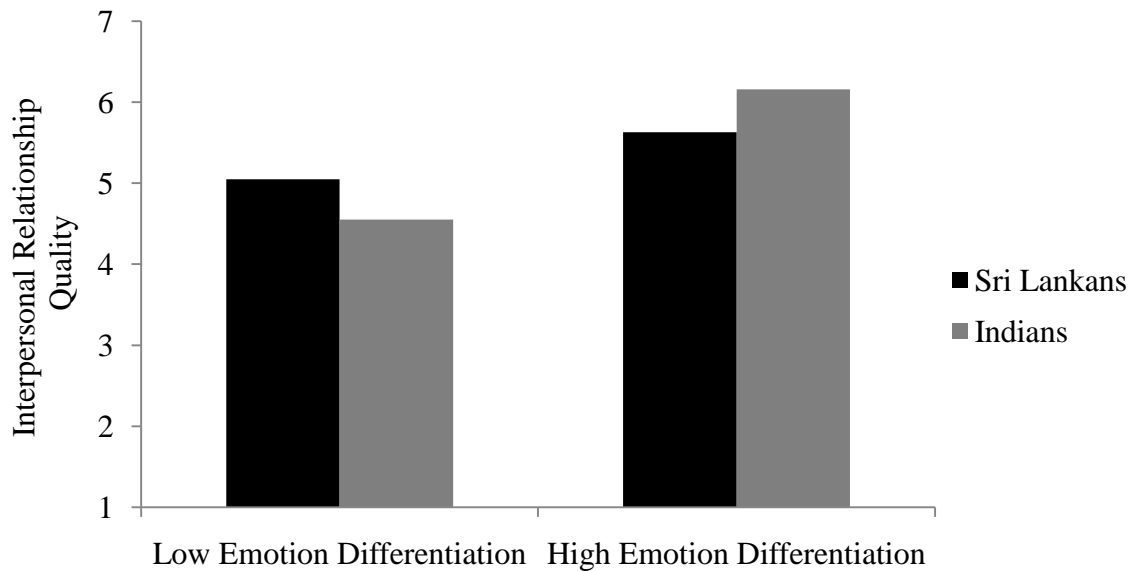


Figure 9. The relationship of high and low emotion differentiation with interpersonal relationship quality in Sri Lankans and Indians.

The Link between Emotion Differentiation and Positive Relations With Others, and the Moderating Effect of Culture (Individualism and Collectivism Framework)

Regression analyses were conducted to examine whether culture moderates the effect of emotion differentiation on positive relations with others. A hierarchical regression was conducted to examine the effect of emotion differentiation on positive relations with others and how culture moderates this relationship. Emotion differentiation was entered into the first step and culture was entered into the second step. The interaction between emotion differentiation and culture was entered into the third step in the hierarchical regression model. The dependent variable was positive relations with others.

The main effect for emotion differentiation was significant, indicating that emotion

differentiation significantly predicted positive relations with others. The main effect for culture was also significant indicating that people in the individualistic culture had more positive relations with others than individuals in collectivist cultures (see Table 11).

However, the interaction between emotion differentiation and culture was not significant.

Emotion differentiation alone accounted for 3% of the variance. Emotion differentiation and culture accounted for 5% of the variance in positive relations with others.

Table 11

Hierarchical Regression Models with Emotion Differentiation Predicting Positive Relations With Others and the Moderating Effect of Culture (n=607)

Predictors	Positive Relations With Others		
	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.10	.03	.17***
Step 2			
Emotion Differentiation	.12	.03	.19***
Culture	.26	.07	.16***
Step 3			
Emotion Differentiation	.12	.03	.20***
Culture	.26	.07	.16***
Emotion Differentiation*Culture	-.02	.05	-.01
$R^2 = .03$ for step 1; $\Delta R^2 = .03$ for step 2; $\Delta R^2 = .00$ for step 3			

*** $p < .001$

The Link between Emotion Differentiation and Positive Relations With Others, and the Moderating Effect of Country

The link between emotion differentiation and positive relations with others was not moderated by culture. A hierarchical regression was conducted to determine the effect of

emotion differentiation on positive relations with others in each country (Sri Lanka, India, and the US). Emotion differentiation was entered into the first step and the US and India (dummy variables) were entered into the second step. The interaction term was created with emotion differentiation and the US as well as emotion differentiation and India. The interactions between emotion differentiation and the US and India were entered into the third step in the hierarchical regression model. The dependent variable was positive relations with others.

The main effect for emotion differentiation was significant, indicating that emotion differentiation significantly predicted positive relations with others. The main effect for US (the US vs. Sri Lanka) was significant, indicating that Americans had more positive relations with others than Sri Lankans. The main effect for India (India vs. Sri Lanka) indicated that Indians had less positive relations with others than Sri Lankans (see Table 12). The interaction between emotion differentiation and US (the US vs. Sri Lanka) was not significant. The interaction between emotion differentiation and India (India vs. Sri Lanka) was significant, indicating that Indians who rated high on emotion differentiation had more positive relations with others than Sri Lankans who rated high on emotion differentiation (see Figure 10). Emotion differentiation alone accounted for 3% of the variance in positive relations with others. Emotion differentiation and country (US and India) accounted for 7% of variance. The interactions between emotion differentiation and the US and India accounted for 8% of the variance in positive relations with others.

Table 12

Hierarchical Regression Models with Emotion Differentiation Predicting Positive Relations With Others and the Moderating Effect of Country (n=607)

Predictors	Positive Relations With Others		
	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.10	.03	.17***
Step 2			
Emotion Differentiation	.15	.03	.24***
US	.19	.07	.12*
India	-.32	.09	-.16***
Step 3			
Emotion Differentiation	.12	.04	.19**
US	.18	.07	.11*
India	-.46	.10	-.23***
Emotion Differentiation*US	-.01	.06	-.01
Emotion Differentiation*India	.19	.07	.14*

$R^2 = .03$ for step 1; $\Delta R^2 = .05$ for step 2; $\Delta R^2 = .01$ for step 3

* $p < .05$, ** $p < .01$, *** $p < .001$

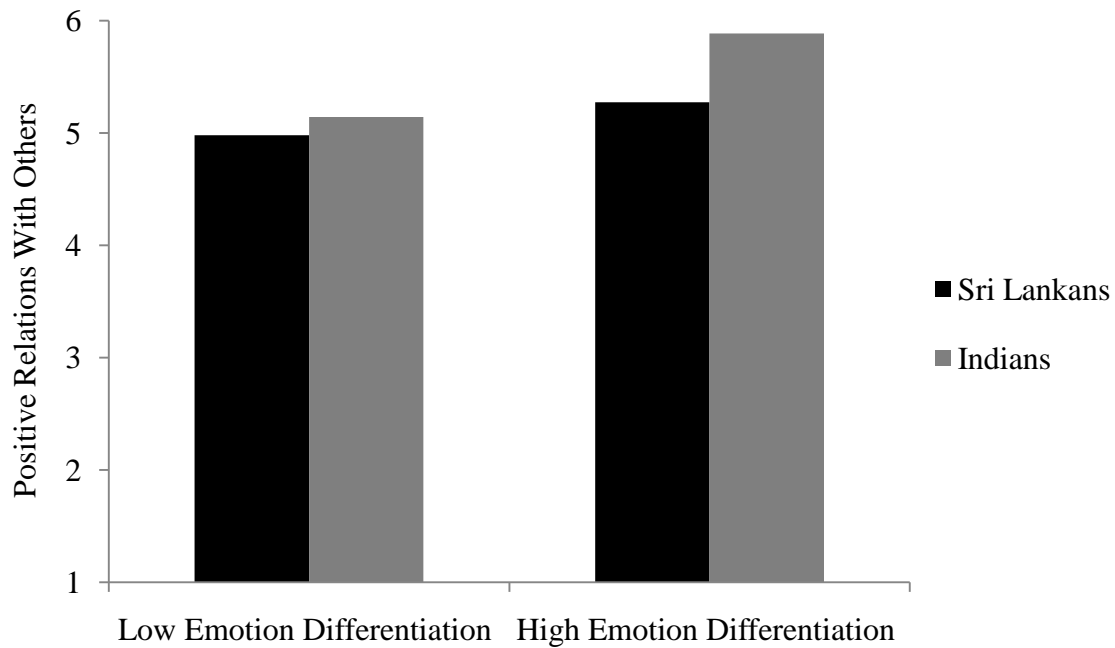


Figure 10. The relationship of high and low emotion differentiation with positive relations with others in Sri Lankans and Indians.

Aim 3 (a): Explore the Mediating Effect of the Belief that Positive Emotions Are Valuable on the Link between Emotion Differentiation and Relationship Quality

Another objective of this study was to examine whether individuals' beliefs about emotions mediate the relationship between emotion differentiation and relationship quality. Of particular interest was the belief that positive emotions are valuable. Individuals' tendency to detect subtle differences in emotions may lead them to value certain emotions that help maintain their social relationships. Therefore, analyses were conducted to determine whether the belief that positive emotions are valuable mediates the relationship between emotion differentiation and relationship quality. In this study, emotion differentiation was

measured using the Emotion Categorization Task and the Emotion Differentiation Scale.

These two measures were used as independent variables in the mediational analyses.

Relationship quality was measured using the Interpersonal Relationship Quality Scale and the Positive Relations With Others Scale. These measures were used as dependent variables.

The Positive Emotions Are Valuable Scale was the mediating variable.

Mediational analyses were conducted using the steps introduced by Baron and Kenny (1986). First, analyses were conducted to determine whether the relationship between emotion categorization and interpersonal relationship quality was mediated by positive emotions are valuable in the entire sample. In the first step, correlational analyses were conducted among emotion categorization (IV), interpersonal relationship quality (DV), and positive emotions are valuable (mediating variable). Interpersonal relationship quality was correlated with positive emotions are valuable ($r(599) = .22, p < .01$). However, emotion categorization was not related with interpersonal relationship quality ($r(579) = -.03, p = .50$) and positive emotions are valuable scales ($r(579) = -.06, p = .14$). Therefore, the analysis was not conducted to examine the mediation. Next, correlational analyses were conducted to examine whether emotion categorization correlates with positive relations with others (another dependent variable) and positive emotions are valuable (mediating variable) for the entire sample. Positive relations with others was correlated with positive emotions are valuable ($r(601) = .24, p < .01$). Emotion categorization was not correlated with positive relations with others ($r(581) = -.01, p = .87$) and positive emotions are valuable ($r(579) = -.06, p = .14$). Therefore, mediational analyses were not conducted.

Table 13 provides a summary of mediational analyses. It is important to note that mediational analyses were not conducted with emotion categorization (IV) as this variable did not correlate with dependent variables and the mediating variable. Also, mediational analyses were not conducted for Sri Lankans because the mediating variable (positive emotions are valuable) did not correlate with interpersonal relationship quality (DV) and positive relations with others (DV).

Table 13

Summary of Mediation Analyses

The Relationship	Mediator	Group	Mediation	Table #
Emotion Differentiation and Interpersonal Relationship Quality	Positive Emotions Are Valuable	Entire sample	Significant	14
Emotion Differentiation and Positive Relations With Others	Positive Emotions Are Valuable	Entire sample	Significant	15
Emotion Differentiation and Interpersonal Relationship Quality	Positive Emotions Are Valuable	Indians	Not significant	16
Emotion Differentiation and Interpersonal Relationship Quality	Positive Emotions Are Valuable	Americans	Significant	17
Emotion Differentiation and Positive Relations With Others	Positive Emotions Are Valuable	Indians	Significant	18
Emotion Differentiation and Positive Relations With Others	Positive Emotions Are Valuable	Americans	Significant	19

The Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Interpersonal Relationship Quality (entire sample)

Analyses were conducted to determine whether the effect of emotion differentiation on interpersonal relationship quality is mediated by the belief that positive emotions are valuable in the entire sample, using the steps introduced by Baron and Kenny (1986). Analyses were conducted separately for the two measures of relationship quality (DV): the Interpersonal Relationship Quality Scale and the Positive Relations With Others Scale. First, a correlational analysis was conducted to examine the relationship among emotion differentiation (IV), interpersonal relationship quality (DV), and positive emotions are valuable (mediating variable) for the entire sample. All three variables were significantly correlated with each other. Emotion differentiation was significantly correlated with interpersonal relationship quality ($r(603) = .43, p < .01$) and positive emotions are valuable ($r(599) = .25, p < .01$). Interpersonal relationship quality was significantly correlated with positive emotions are valuable ($r(599) = .23, p < .01$).

Next, a hierarchical regression was conducted with emotion differentiation (IV) entered into the first step predicting interpersonal relationship quality (DV). Emotion differentiation was a significant predictor of interpersonal relationship quality indicating that individuals who rated high on emotion differentiation had higher interpersonal relationship quality. Second, emotion differentiation was entered into the regression equation predicting positive emotions are valuable (mediating variable). Results indicated that emotion differentiation was significantly related to positive emotions are valuable (see Table 14).

Third, both emotion differentiation (IV) and positive emotions are valuable (mediating variable) were entered into the equation predicting interpersonal relationship quality. When adding the positive emotions are valuable variable (mediating variable) in the third step, the relationship between emotion differentiation and interpersonal relationship quality was reduced ($r = .36$). Thus, the effect of emotion differentiation on interpersonal relationship quality was partially mediated by the belief that positive emotions are valuable (see Table 14). Sobel test (1982) was conducted to determine whether the reduction of the effect of emotion differentiation on interpersonal relationship quality was significant. Results indicated that the belief that positive emotions are valuable significantly ($t = 3.01, p = .0026$) mediated the relationship between emotion differentiation and interpersonal relationship quality.

A commonality analysis was conducted to determine the amount of predicted variance that was shared among emotion differentiation (IV) and positive emotions are valuable (mediating variable) and unique to these two variables. Results indicated that the two variables shared 3% of the variance in interpersonal relationship quality. Emotion differentiation uniquely explained 15% of the variance and positive emotions are valuable explained 2% of the variance.

Table 14

Hierarchical Regression Models with Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Interpersonal Relationship Quality (n=607)

Interpersonal Relationship Quality			
Predictors	<i>B</i>	<i>SE</i>	<i>B</i>
Step 1			
Emotion Differentiation	.39	.03	.43***
Positive Emotions Are Valuable			
Step 2			
Emotion Differentiation	.14	.02	.25***
Interpersonal Relationship Quality			
Step 3			
Emotion Differentiation	.36	.03	.40***
Positive Emotions Are Valuable	.20	.06	.12**
$R^2 = .18$ for step 1; $\Delta R^2 = .20$ for step 3			

** $p < .01$, *** $p < .001$

The Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Positive Relations With Others (entire sample)

Analyses were conducted to determine whether the effect of emotion differentiation on positive relations with others (dependent variable) was mediated by the belief that positive

emotions are valuable in the entire sample. First, a correlational analysis was conducted. All three variables were significantly related to one another. Emotion differentiation was significantly correlated with positive relations with others ($r(601) = .17, p < .01$) and positive emotions are valuable ($r(599) = .24, p < .01$). There was a significant correlation between positive relations with others and positive emotions are valuable ($r(601) = .25, p < .01$). These results indicated that a mediational analysis was appropriate to conduct.

A hierarchical regression was conducted with emotion differentiation (IV) entered into the first step predicting positive relations with others (DV). Emotion differentiation was a significant predictor of positive relations with others, indicating that individuals who rated high on emotion differentiation had more positive relations with others. Second, emotion differentiation was entered into the equation predicting positive emotions are valuable (mediating variable). Emotion differentiation was also significantly related to the mediating variable (see Table 15). Third, both emotion differentiation (IV) and positive emotions are valuable were entered into the equation predicting positive relations with others. When adding the positive emotions are valuable variable in the third step, the relationship between emotion differentiation and positive relations with others was reduced ($r = .07$). Sobel test was conducted to determine whether the reduction of the effect of emotion differentiation on positive relations with others was significant. Results indicated that the belief that positive emotions are valuable significantly ($t = 3.84, p = .0001$) mediated the relationship between emotion differentiation and positive relations with others (see Table 15).

A commonality analysis was conducted to determine the amount of predicted

variance that was shared among emotion differentiation and positive emotions are valuable, and unique to these two variables. Results indicated that emotion differentiation and positive emotions are valuable shared 2% of the variance in positive relations with others. Emotion differentiation uniquely explained 1% of the variance and positive emotions are valuable explained 4% of the variance in positive relations with others.

Table 15

Hierarchical Regression Models with Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Positive Relations With Others (n=607)

Positive Relations With Others			
Predictors	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.10	.03	.17***
Positive Emotions Are Valuable			
Step 2			
Emotion Differentiation	.14	.02	.25***
Positive Relations With Others			
Step 3			
Emotion Differentiation	.07	.03	.12*
Positive Emotions Are Valuable	.23	.05	.21***

$R^2 = .03$ for step 1; $\Delta R^2 = .07$ for step 3

* $p < .05$, *** $p < .001$

The Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Interpersonal Relationship Quality (in each group)

Mediation analyses were conducted to examine whether the effect of emotion differentiation on interpersonal relationship quality was mediated by the belief that positive emotions are valuable in each group (Sri Lankans, Indians, and Americans). A correlational analysis was conducted in the Sri Lankan group. Emotion differentiation was significantly correlated with interpersonal relationship quality ($r(305) = .33, p < .01$) and positive emotions are valuable ($r(301) = .16, p < .01$). However, there was no significant correlation between interpersonal relationship quality and positive emotions are valuable ($r(301) = .07, p = .25$). Therefore, analyses were not conducted to test mediation.

In Indians, a correlational analysis revealed that all three variables were significantly correlated with one another. Emotion differentiation was significantly correlated with interpersonal relationship quality ($r(103) = .66, p < .01$) and positive emotions are valuable ($r(103) = .56, p < .01$). There was a significant correlation between interpersonal relationship quality and positive emotions are valuable ($r(103) = .49, p < .01$). Thus, analysis was conducted to determine whether the effect of emotion differentiation on interpersonal relationship quality was mediated by the belief that positive emotions are valuable.

A hierarchical regression was conducted with emotion differentiation entered into the first step predicting interpersonal relationship quality. Emotion differentiation was a significant predictor of interpersonal relationship quality indicating that individuals who rated high on emotion differentiation had higher interpersonal relationship quality. Second,

emotion differentiation was entered into the equation predicting positive emotions are valuable. Emotion differentiation was also significantly related to positive emotions are valuable variable (see Table 16). Third, both emotion differentiation and positive emotions are valuable were entered into the equation predicting interpersonal relationship quality. Adding positive emotions are valuable variable in the third step did not significantly change the relationship between emotion differentiation and interpersonal relationship quality.

Table 16

Hierarchical Regression Models with Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Interpersonal Relationship Quality (Indians)

Interpersonal Relationship Quality			
Predictors	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.62	.07	.66***
Positive Emotions Are Valuable			
Step 2			
Emotion Differentiation	.34	.05	.56***
Interpersonal Relationship Quality			
Step 3			
Emotion Differentiation	.53	.08	.57***
Positive Emotions Are Valuable	.26	.14	.17
$R^2 = .44$ for step 1; $\Delta R^2 = .46$ for step 3			

*** $p < .001$

With regards to Americans, there were significant correlations among three variables: emotion differentiation, interpersonal relationship quality, and positive emotions are valuable. Emotion differentiation was significantly correlated with interpersonal relationship quality ($r(195) = .36, p < .01$) and positive emotions are valuable ($r(195) = .26, p < .01$).

There was a significant correlation between interpersonal relationship quality and positive emotions are valuable ($r(195) = .36, p < .01$).

Next, a hierarchical regression was conducted with emotion differentiation entered into the first step predicting interpersonal relationship quality and positive emotions are valuable in the second step. Emotion differentiation was a significant predictor of interpersonal relationship quality. That is, individuals who rated high on emotion differentiation have higher interpersonal relationship quality. Emotion differentiation was also significantly related to positive emotions are valuable variable (see Table 17). Third, both emotion differentiation and positive emotions are valuable were entered into the equation predicting interpersonal relationship quality. Results from the Sobel test indicated that the belief that positive emotions are valuable partially ($t = 2.99, p = .0027$) mediated the relationship between emotion differentiation and interpersonal relationship quality.

A commonality analysis was conducted to determine the amount of predicted variance that was shared among and unique to emotion differentiation and positive emotions are valuable variables. Results indicated that the two variables, emotions differentiation and positive emotions are valuable, shared 6% of the variance in interpersonal relationship quality. Emotion differentiation uniquely explained 7% of the variance and positive emotions are valuable explained 7% of the variance in interpersonal relationship quality.

Table 17

Hierarchical Regression Models with Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Interpersonal Relationship Quality (Americans)

Interpersonal Relationship Quality			
Predictors	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.34	.06	.36***
Positive Emotions Are Valuable			
Step 2			
Emotion Differentiation	.13	.03	.26***
Interpersonal Relationship Quality			
Step 3			
Emotion Differentiation	.26	.06	.28***
Positive Emotions Are Valuable	.54	.13	.29***
$R^2 = .13$ for step 1; $\Delta R^2 = .20$ for step 3			

*** $p < .001$

The Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Positive Relations With Others (in each group)

Next, mediation analyses were conducted to examine whether the effect of emotion differentiation on positive relations with others was mediated by the belief that positive emotions are valuable in each group (Sri Lankans, Indians, and Americans). A correlational analysis was conducted to examine the relationship among emotion differentiation, positive relations with others, and positive emotions are valuable in Sri Lankans. Emotion differentiation was significantly correlated with positive relations with others ($r(303) = .18$, $p < .01$) and positive emotions are valuable ($r(301) = .16$, $p < .01$). However, there was no significant correlation between positive relations with others and positive emotions are valuable ($r(302) = .06$, $p = .30$). Therefore, analyses were not conducted to test mediation.

In Indians, a correlational analysis revealed that all three variables were significantly correlated with each other. Emotion differentiation was significantly correlated with positive relations with others ($r(103) = .51$, $p < .01$) and positive emotions are valuable ($r(103) = .56$, $p < .01$). There was a significant correlation between positive emotions are valuable and positive relations with others variables ($r(103) = .55$, $p < .01$).

Next, a hierarchical regression was conducted with emotion differentiation entered into the equation in the first step and the positive emotions are valuable in the second step. Emotion differentiation was a significant predictor of positive relations with others (see Table 18). In the third step, both emotion differentiation and positive emotions are valuable were entered into the equation predicting positive relations with others. With the addition of

mediating variable in the third step, the relationship between emotion differentiation and positive relations with others was reduced ($r = .18$). Results from a Sobel test indicated that the belief that positive emotions are valuable significantly ($t = 3.32, p = .0009$) mediated the relationship between emotion differentiation and positive relations with others.

Table 18

Hierarchical Regression Models with Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Positive Relations With Others (Indians)

Positive Relations With Others			
Predictors	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.31	.05	.51***
Positive Emotions Are Valuable			
Step 2			
Emotion Differentiation	.34	.05	.56***
Positive Relations With Others			
Step 3			
Emotion Differentiation	.18	.06	.30**
Positive Emotions Are Valuable	.38	.10	.38***
$R^2 = .26$ for step 1; $\Delta R^2 = .36$ for step 3			

** $p < .01$, *** $p < .001$

A commonality analysis was conducted to determine the amount of predicted variance that was shared among and unique to emotion differentiation and positive emotions are valuable variables. Results indicated that the two variables shared 20% of the variance in positive relations with others. Emotion differentiation uniquely explained 6% of the variance and positive emotions are valuable explained 10% of the variance in positive relations with others.

Next, a correlational analysis was conducted among emotion differentiation, positive relations with others, and positive emotions are valuable in Americans. Emotion differentiation was significantly correlated with positive relations with others ($r(195) = .17, p < .05$) and positive emotions are valuable ($r(195) = .26, p < .01$). Also, positive relations with others and positive emotions are valuable were significantly correlated with each other ($r(196) = .36, p < .01$).

A hierarchical regression was conducted with emotion differentiation entered into the equation in the first step and the positive emotions are valuable (mediating variable) in the second step. Emotion differentiation was a significant predictor of positive relations with others indicating that individuals who rated high on emotion differentiation had more positive relations with others. In the third step, emotion differentiation and positive emotions are valuable were simultaneously entered into the equation predicting positive relations with others. After the addition of positive emotions are valuable in the third step, emotion differentiation was no longer a significant predictor of positive relations with others (see Table 19). This suggests that positive emotions are valuable mediated the effect of emotion

differentiation on positive relations with others. Results from the Sobel test indicated that the belief that positive emotions are valuable significantly ($t = 3.24, p = .0012$) mediated the relationship between emotion differentiation and positive relations with others.

Table 19

Hierarchical Regression Models with Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Positive Relations With Others (Americans)

Positive Relations With Others			
Predictors	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.11	.05	.17*
Positive Emotions Are Valuable			
Step 2			
Emotion Differentiation	.13	.03	.26***
Positive Relations With Others			
Step 3			
Emotion Differentiation	.05	.05	.08
Positive Emotions Are Valuable	.44	.09	.34***
$R^2 = .03$ for step 1; $\Delta R^2 = .14$ for step 3			

* $p < .05$, *** $p < .001$

A commonality analysis was conducted to determine the amount of predicted variance that was shared among and unique to emotion differentiation and positive emotions are valuable variables. Results indicated that emotion differentiation and positive emotions are valuable shared 2% of the variance in positive relations with others. Emotion differentiation explained 1% of the variance and positive emotions are valuable explained 11% of the variance.

Aim 3 (b): Explore the Moderating Effect of the Belief that Emotions Are a Part of Life on the Link between Emotion Differentiation on Relationship Quality

Individuals' beliefs about emotions may influence their emotional experiences and interpersonal relationships. Individuals who believe that emotions are a part of their lives may be open to having more emotional experiences and thereby having the opportunity to detect subtle distinctions in emotions. This may help them to react appropriately during their social interactions. Therefore, this study examined the moderating effect of the belief that emotions are a part of life (emotions just are) on the link between emotion differentiation and relationship quality. Regression analyses were conducted to test the hypothesis that the link between emotion differentiation and relationship quality will be higher for those who rate high on emotions just are scale than those who rate low on that scale. To reduce multicollinearity, the independent variables were centered. Table 20 provides a summary of moderation analyses.

Table 20

Summary of Moderation Analyses

The Relationship	Moderator	Group	Moderation	Table #
Emotion Categorization and Interpersonal Relationship Quality	Emotions Just Are	Entire sample	Not significant	21
Emotion Categorization and Positive Relations With Others	Emotions Just Are	Entire sample	Not significant	22
Emotion Differentiation and Interpersonal Relationship Quality	Emotions Just Are	Entire sample	Significant	23
Emotion Differentiation and Positive Relations With Others	Emotions Just Are	Entire sample	Not significant	24

The Link between Emotion Categorization and Interpersonal Relationship Quality and the Moderating Effect of the Belief that Emotions Just Are

A hierarchical regression was conducted to examine the relationship between emotion categorization and interpersonal relationship quality and the moderating effect of the belief that emotions just are on this relationship. Emotion categorization was entered into the first step and the emotion just are variable was entered into the second step. The interaction term was created with emotion categorization and emotions just are. The interaction between emotion categorization and emotions just are was entered into the third step in the

hierarchical regression model. The dependent variable was interpersonal relationship quality.

The main effect for emotion categorization was not significant. The main effect for the emotion just are variable was significant indicating that people who rated high on emotions just are scored higher on interpersonal relationship quality than individuals who rated low on emotions just are variable (see Table 21). The relationship between emotion categorization and interpersonal relationship quality was not moderated by the belief that emotions are a part of life (emotions just are). Emotion categorization alone accounted for .1% of the variance in interpersonal relationship quality. Emotion categorization and emotions just are accounted for 1% of the variance in interpersonal relationship quality.

Table 21

Hierarchical Regression Models with Emotion Categorization Predicting Interpersonal Relationship Quality and the Moderating Effect of Emotions Just Are (n=607)

Predictors	Interpersonal Relationship Quality		
	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Categorization	-.01	.01	-.03
Step 2			
Emotion Categorization	-.00	.01	-.02
Emotions Just Are	.12	.05	.09*
Step 3			
Emotion Categorization	-.00	.01	-.02
Emotions Just Are	.12	.05	.10*
Emotion Categorization*Emotions Just Are	-.01	.01	-.04
$R^2 = .00$ for step 1; $\Delta R^2 = .01$ for step 2; $\Delta R^2 = .00$ for step 3			

* $p < .05$

The Link between Emotion Categorization and Positive Relations With Others and the Moderating Effect of the Belief that Emotions Just Are

Next, a hierarchical regression was conducted to examine the relationship between emotion categorization and positive relations with others and the moderating effect of the belief that emotions just are on this relationship. Emotion categorization was entered into the first step and the emotion just are variable was entered into the second step. The interaction between emotion categorization and emotions just are was entered into the third step in the hierarchical regression model. The dependent variable was positive relations with others.

The main effect for emotion categorization was not significant. The main effect for the emotion just are variable was significant, indicating that people who rated high on emotions just are scored higher on positive relations with others than individuals who rated low on emotions just are variable (see Table 22). The link between emotion categorization and positive relations with others was not moderated by the belief that emotions are a part of life (emotions just are). Emotion categorization and emotions just are accounted for 1% of the variance in positive relations with others.

Table 22

Hierarchical Regression Models with Emotion Categorization Predicting Positive Relations With Others and the Moderating Effect of Emotions Just Are (n=607)

Predictors	Positive Relations With Others		
	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Categorization	.00	.01	-.01
Step 2			
Emotion Categorization	.00	.01	.01
Emotions Just Are	.10	.04	.11*
Step 3			
Emotion Categorization	.00	.01	.00
Emotions Just Are	.10	.04	.11*
Emotion Categorization *Emotions Just Are	-.01	.01	-.04
$R^2 = .00$ for step 1; $\Delta R^2 = .01$ for step 2; $\Delta R^2 = .00$ for step 3			

* $p < .05$

The Link between Emotion Differentiation and Interpersonal Relationship Quality and the Moderating Effect of the Belief that Emotions Just Are

A hierarchical regression was conducted to examine the effect of emotion differentiation on interpersonal relationship quality and the moderating effect of the belief that emotions just are on this relationship. Emotion differentiation was entered into the first step and the emotions just are variable was entered into the second step. The interaction term was created with emotion differentiation and emotions just are. The interaction between emotion differentiation and emotions just are was entered into the third step in the hierarchical regression model. The dependent variable was interpersonal relationship quality.

The main effect for emotion differentiation was significant, indicating that emotion differentiation significantly predicted interpersonal relationship quality (see Table 23). The main effect for the belief that emotions just are was not significant. However, the interaction between emotion differentiation and emotions just are was significant, indicating that the effect of emotion differentiation on interpersonal relationship quality was moderated by the belief that emotions are a part of life (emotions just are). That is, the link between emotion differentiation and interpersonal relationship quality was higher for individuals who rated high on emotions just are than those who rated low on emotions just are (see Figure 11). Emotion differentiation alone accounted for 18% of the variance in interpersonal relationship quality. The interaction between emotion differentiation and emotions just are accounted for 19% of the variance in interpersonal relationship quality.

Table 23

Hierarchical Regression Models with Emotion Differentiation Predicting Interpersonal Relationship Quality and the Moderating Effect of Emotions Just Are (n=607)

Predictors	Interpersonal Relationship Quality		
	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.39	.03	.43***
Step 2			
Emotion Differentiation	.38	.03	.43***
Emotions Just Are	.03	.05	.02
Step 3			
Emotion Differentiation	.38	.03	.42***
Emotions Just Are	.02	.05	.02
Emotion Differentiation *Emotions Just Are	.09	.04	.09*
$R^2 = .18$ for step 1; $\Delta R^2 = .00$ for step 2; $\Delta R^2 = .01$ for step 3			

* $p < .05$, *** $p < .001$

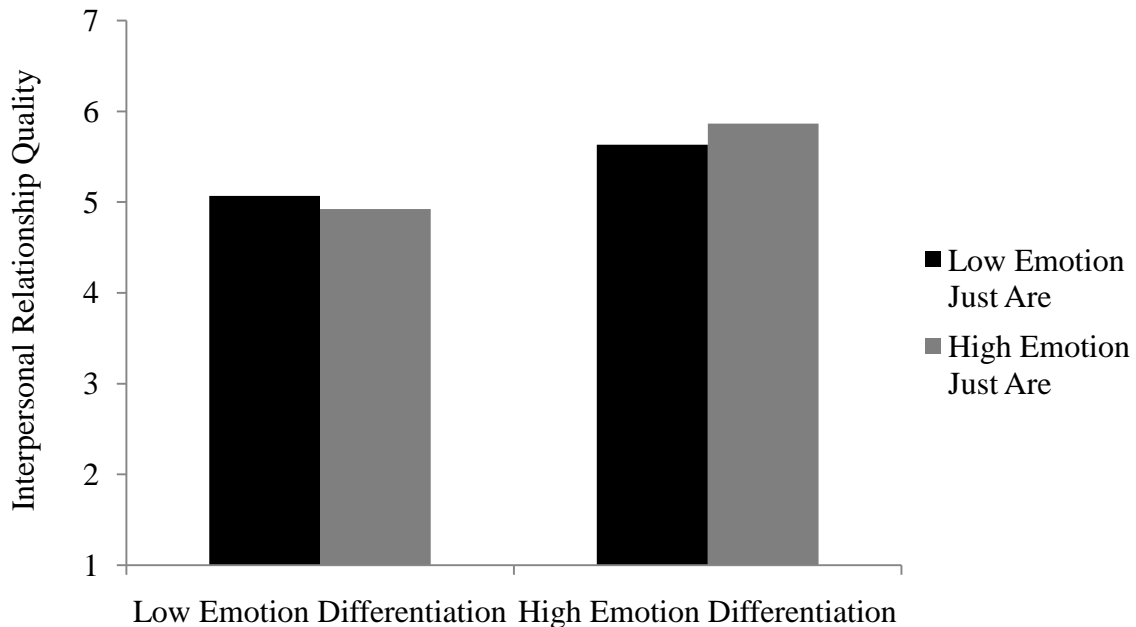


Figure 11. The relationship of high and low emotion differentiation with interpersonal relationship quality at low and high levels of emotions just are.

The Link between Emotion Differentiation and Positive Relations With Others and the Moderating Effect of the Belief that Emotions Just Are

Next, a hierarchical regression was conducted to examine the link between emotion differentiation and positive relations with others and the moderating effect of the belief that emotions just are on this relationship. Emotion differentiation was entered into the first step and the emotion just are variable was entered into the second step. The interaction between emotion differentiation and emotions just are was entered into the third step in the hierarchical regression model. The dependent variable was positive relations with others.

The main effect for emotion differentiation was significant (see Table 24). The main

effect for the emotion just are variable was not significant. Also, the interaction between emotion differentiation and emotions just are was not significant. Emotion differentiation alone accounted for 3% of the variance in positive relations with others.

Table 24

Hierarchical Regression Models with Emotion Differentiation Predicting Positive Relations With Others and the Moderating Effect of Emotions Just Are (n=607)

Predictors	Positive Relations With Others		
	<i>B</i>	<i>SE</i>	β
Step 1			
Emotion Differentiation	.11	.03	.17***
Step 2			
Emotion Differentiation	.10	.03	.15***
Emotions Just Are	.07	.04	.08
Step 3			
Emotion Differentiation	.10	.03	.15***
Emotions Just Are	.07	.04	.08
Emotion Differentiation *Emotions Just Are	-.03	.03	-.04
$R^2 = .03$ for step 1; $\Delta R^2 = .01$ for step 2; $\Delta R^2 = .00$ for step 3			

*** $p < .001$

Aim 4: The Link between Relationship Quality and Life Satisfaction

The current study also focused on the link between relationship quality and life satisfaction and whether the effect of relationship quality on life satisfaction was moderated by culture. Individuals' relationship quality was examined using two measures- the Interpersonal Relationship Quality Scale and the Positive Relations With Others Scale. Life satisfaction was measured using the Satisfaction With Life Scale. Regression analyses were conducted using both the Interpersonal Relationship Quality and the Positive Relations With Others Scales.

The Link between Interpersonal Relationship Quality and Satisfaction With Life, and the Moderating Effect of Culture (Individualism and Collectivism Framework)

First, regression analyses were conducted to examine the link between interpersonal relationship quality and satisfaction with life. To reduce multicollinearity, the independent variables were centered. A hierarchical regression was conducted to examine the effect of interpersonal relationship quality on satisfaction with life and how culture (individualistic, collectivist) moderates this relationship. Interpersonal relationship quality was entered into the first step and culture was entered into the second step in the hierarchical regression model. The interaction term was created with interpersonal relationship quality and culture. The interaction between interpersonal relationship quality and culture was entered into the third step. The dependent variable was satisfaction with life.

Interpersonal relationship quality significantly predicted satisfaction with life. Individuals who had higher interpersonal relationship quality were more satisfied with their

lives. The main effect for culture was not significant. Also, the interaction between interpersonal relationship quality and culture was not significant, indicating that culture did not moderate the effect of interpersonal relationship quality on satisfaction with life (see Table 25). That is, the results show no significant difference between individualistic and collectivist cultures in regard to the link between interpersonal relationship quality and satisfaction with life. Interpersonal relationship quality alone accounted for 13% of the variance in satisfaction with life scores.

Table 25

Hierarchical Regression Models with Interpersonal Relationship Quality Predicting Satisfaction With Life and the Moderating Effect of Culture (n=607)

Predictors	Satisfaction With Life		
	<i>B</i>	<i>SE</i>	β
Step 1			
Interpersonal Relationship Quality	.38	.04	.36***
Step 2			
Interpersonal Relationship Quality	.38	.04	.36***
Culture	.07	.09	.03
Step 3			
Interpersonal Relationship Quality	.37	.05	.35***
Culture	.07	.09	.03
Inter. Relationship Quality*Culture	.02	.09	.01
$R^2 = .13$ for step 1; $\Delta R^2 = .00$ for step 2; $\Delta R^2 = .00$ for step 3			

*** $p < .001$

The Link between Interpersonal Relationship Quality and Satisfaction With Life, and the Moderating Effect of Country

The prediction that culture moderates the link between interpersonal relationship quality and satisfaction with life was not supported by the results. Even though there was no

significant interaction when analyzing the link between interpersonal relationship quality and satisfaction with life based on the individualism and collectivism, each country may have differences in the link between interpersonal relationship quality and satisfaction with life. Therefore, a hierarchical regression was conducted to examine the link between interpersonal relationship quality and satisfaction with life in each country. Country (categorical variable) was dummy coded. Interpersonal relationship quality was entered into the first step and country (dummy variables for the US and India) was entered into the second step. The interaction term was created with interpersonal relationship quality and the US as well as interpersonal relationship quality and India. The interactions between interpersonal relationship quality and the US as well as India were entered into the third step in the hierarchical regression model. The dependent variable was satisfaction with life.

The main effect for interpersonal relationship quality was significant, indicating that interpersonal relationship quality significantly predicted satisfaction with life. The main effect for US (the US vs. Sri Lanka) was not significant. However, the main effect for India (India vs. Sri Lanka) was significant, indicating that Indians were more satisfied with life than Sri Lankans. The interactions between interpersonal relationship quality and the US or India were not significant (see Table 26). This suggests that there is no significant difference among three groups in regard to the link between interpersonal relationship quality and satisfaction with life. Interpersonal relationship quality alone accounted for 13% of the variance in satisfaction with life. Interpersonal relationship quality, US, and India accounted for 15% of the variance in satisfaction with life.

Table 26

Hierarchical Regression Models with Interpersonal Relationship Quality Predicting Satisfaction With Life and the Moderating Effect of Country (n=607)

Predictors	Satisfaction With Life		
	<i>B</i>	<i>SE</i>	β
Step 1			
Interpersonal Relationship Quality	.38	.04	.36***
Step 2			
Interpersonal Relationship Quality	.36	.04	.34***
US	.18	.10	.07
India	.46	.12	.15***
Step 3			
Interpersonal Relationship Quality	.32	.06	.30***
US	.19	.10	.08
India	.45	.13	.15**
Inter. Relationship Quality*US	.08	.09	.04
Inter. Relationship Quality*India	.08	.12	.03
$R^2 = .13$ for step 1; $\Delta R^2 = .02$ for step 2; $\Delta R^2 = .00$ for step 3			

** $p < .01$, *** $p < .001$

The Link between Positive Relations With Others and Satisfaction With Life, and the Moderating Effect of Culture (Individualism and Collectivism Framework)

The positive relations with others scale was another measure of relationship quality. A hierarchical regression was conducted to examine the effect of positive relations with others on satisfaction with life and how culture moderates the link between positive relations with others and satisfaction with life. Positive relations with others was entered into the first step and culture was entered into the second step. The interaction term was created with positive relations with others and culture. The interaction between positive relations with others and culture was entered into the third step in the hierarchical regression model.

Positive relations with others significantly predicted satisfaction with life. Individuals who have had more positive relations with others were more satisfied with their lives. The main effect for culture was not significant. However, the interaction between positive relations with others and culture was significant, indicating that the relationship between positive relations with others and satisfaction with life was higher in the individualistic culture than in the collectivist cultures (see Table 27). This suggests that the effect of positive relations with others on satisfaction with life is more pronounced in the individualistic culture than the collectivist culture (see Figure 12). Positive relations with others alone accounted for 7% of the variance in satisfaction with life. Interaction between positive relations with others and culture accounted for 10% of the variance in satisfaction with life.

Table 27

Hierarchical Regression Models with Positive Relations With Others Predicting Satisfaction With Life and the Moderating Effect of Culture (n=607)

Predictors	Satisfaction With Life		
	<i>B</i>	<i>SE</i>	β
Step 1			
Positive Relations With Others	.41	.06	.27***
Step 2			
Positive Relations With Others	.42	.06	.28***
Culture	-.09	.10	-.04
Step 3			
Positive Relations With Others	.24	.07	.16**
Culture	-.13	.10	-.05
Positive Rel. With Others*Culture	.51	.13	.20***
$R^2 = .07$ for step 1; $\Delta R^2 = .00$ for step 2; $\Delta R^2 = .03$ for step 3			

** $p < .01$, *** $p < .001$

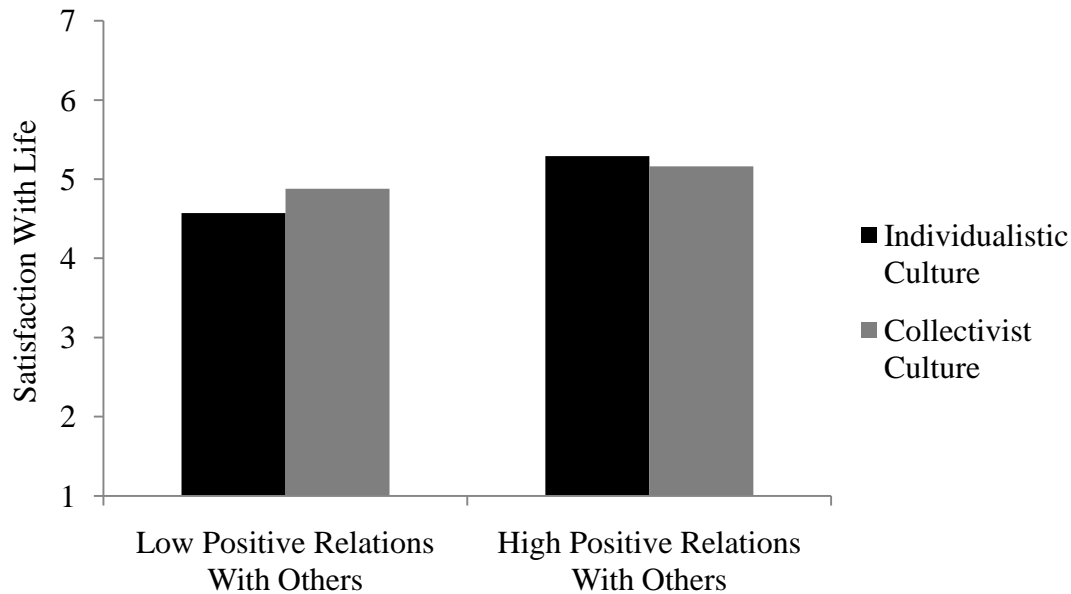


Figure 12. The relationship of high and low positive relations with others with life satisfaction in individualistic and collectivist cultures.

The Link between Positive Relations With Others and Satisfaction With Life, and the Moderating Effect of Country

A hierarchical regression was conducted to determine the relationship between positive relations with others and satisfaction with life in each country (Sri Lanka, India, and the US). Positive relations with others was entered into the first step and country (dummy variable for the US and India) was entered into the second step. The interaction term was created with positive relations with others and the US as well as positive relations with others and India. The interactions between positive relations with others and the US as well as India were entered into the third step in the hierarchical regression model.

The main effect for positive relations with others was significant, indicating that

positive relations with others significantly predicted satisfaction with life. The main effect for US (the US vs. Sri Lanka) was not significant. However, the main effect for India (India vs. Sri Lanka) was significant, indicating that Indians are more satisfied with life than Sri Lankans (see Table 28).

With regard to the interaction, the link between positive relations with others and satisfaction with life was significantly higher in Americans than Sri Lankans (see Figure 13). Also, the link between positive relations with others and satisfaction with life was significantly higher in Indians than Sri Lankans (see Figure 14). This suggests a significant difference among three groups (Sri Lankans, Indians, and Americans) in regard to the link between positive relations with others and satisfaction with life. Positive relations with others alone accounted for 7% of the variance in satisfaction with life. Both positive relations with others and India accounted for 12% of the variance in satisfaction with life. The interactions between positive relations with others and the US as well as India accounted for 16% of the variance in satisfaction with life.

Table 28

Hierarchical Regression Models with Positive Relations With Others Predicting Satisfaction With Life and the Moderating Effect of Country (n=607)

Predictors	Satisfaction With Life		
	<i>B</i>	<i>SE</i>	β
Step 1			
Positive Relations With Others	.41	.06	.27***
Step 2			
Positive Relations With Others	.44	.06	.29***
US	.08	.10	.03
India	.71	.12	.23***
Step 3			
Positive Relations With Others	.17	.08	.11*
US	.04	.10	.02
India	.76	.12	.25***
Positive Relations With Others*US	.58	.13	.23***
Positive Relations With Others*India	.51	.17	.13**
$R^2 = .07$ for step 1; $\Delta R^2 = .05$ for step 2; $\Delta R^2 = .03$ for step 3			

* $p < .05$, ** $p < .01$, *** $p < .001$

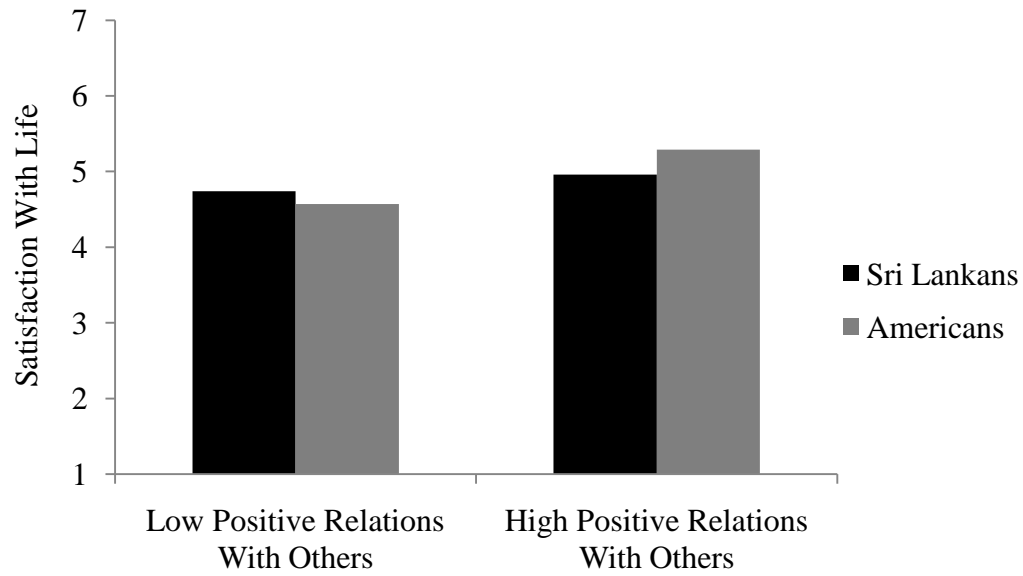


Figure 13. The relationship of high and low positive relations with others with life satisfaction in Sri Lankans and Americans.

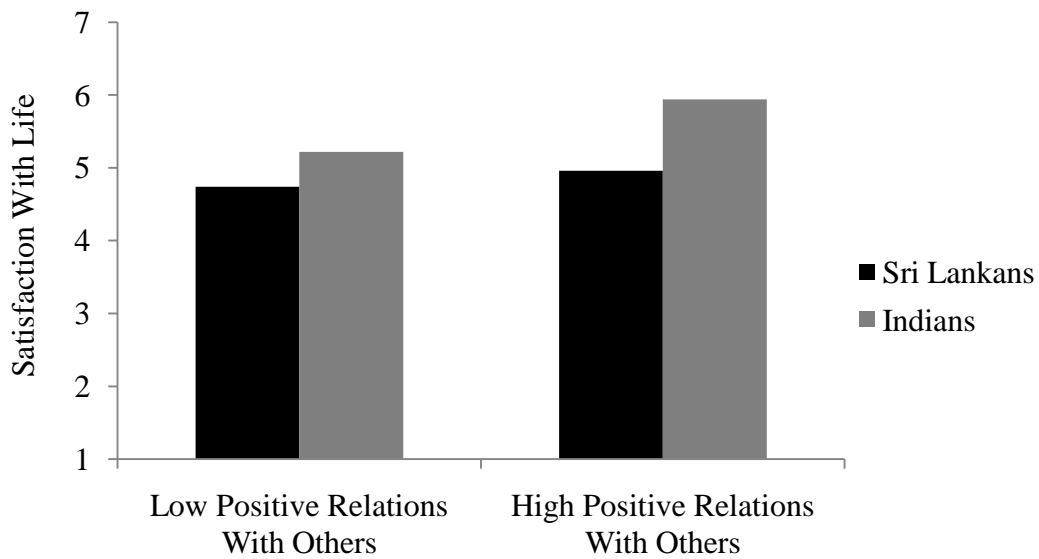


Figure 14. The relationship of high and low positive relations with others with life satisfaction in Sri Lankans and Indians.

Aim 5: Age-Related Trends in Affect, Emotion Differentiation, and Relationship**Quality across Countries**

The current study explored age-related trends in affect, emotion differentiation, and relationship quality. Analyses were conducted to test the hypotheses that positive affect is positively related with age and negative affect is negatively related with age. As a consequence of life experiences, individuals may increasingly identify and differentiate emotional experiences. In this study, emotion differentiation was measured using the Emotion Categorization Task and the Emotion Differentiation Scale. Analyses were conducted to examine whether emotion categorization and emotion differentiation are positively related with age. Relationship quality was also measured using the Interpersonal Relationship Quality Scale and the Positive Relations With Others Scale. Analyses were conducted to examine whether interpersonal relationship quality and positive relations with others are positively related with age.

Correlational analyses were conducted to examine the relationship between age and other variables. Age was positively correlated with positive affect and negatively correlated with negative affect. There was a positive correlation between age and emotion categorization (see Table 29). Correlational analyses were conducted between age and other variables in each group. There was a significant correlation between age and emotion differentiation in Sri Lankans. There was a positive correlation between age and emotion categorization in each group but it was not significant. The correlation between age and interpersonal relationship quality was positive in Sri Lankans and in Indians but it was not

significant. The correlation between age and interpersonal relationship quality was negative and significant in Americans. Positive relations with others did not significantly correlate with age in any group (see Table 29).

Age and positive affect were significantly correlated in Sri Lankans and in Americans. Age and negative affect were significantly correlated in Americans. There was a negative correlation between age and negative affect in Sri Lankans and in Indians but it was not significant. Particularly, there was similar trend in relation to the link between age and affect in Sri Lankans and Americans.

Table 29

Correlations among Variables

Variables	Age			
	Entire Sample (<i>n</i> =607)	Sri Lankans (<i>n</i> =308)	Indians (<i>n</i> =103)	Americans (<i>n</i> =196)
Positive Affect	.09 [*]	.18 ^{**}	-.13	.18 [*]
Negative Affect	-.14 ^{**}	-.10	-.02	-.22 ^{**}
Emotion Differentiation	-.05	.13 [*]	-.03	-.13
Emotion Categorization	.15 ^{**}	.09	.15	.12
Inter. Relationship Quality	-.05	.08	.04	-.14 [*]
Positive Relations With Others	.05	.03	-.08	.07

^{*} $p < .05$, ^{**} $p < .01$

The Relationship between Age and Positive Affect, and the Moderating Effect of Country

Regression analyses were conducted to determine the relationship between age and other variables-- affect, emotion differentiation, and relationship quality in Sri Lankans and Americans. Indians were not included in these analyses since the Indian group had little variation in age. To reduce multicollinearity, the independent variables were centered. A hierarchical regression was conducted to determine the effect of age on positive affect in Sri Lankans and Americans. Age was entered into the first step and country (the US vs. Sri Lanka) was entered into the second step. The interaction term was created with age and country (the US vs. Sri Lanka). The interaction between age and country was entered into the third step in the hierarchical regression model. The dependent variable was positive affect.

The main effect for age was significant, with age positively associated with positive affect. The main effect for country (the US vs. Sri Lanka) was significant, indicating that Americans reported less positive affect than Sri Lankans (see Table 30). There was no significant interaction between age and country (the US vs. Sri Lanka). This suggests that the effect of age on positive affect is not different between Americans and Sri Lankans. Age alone accounted for 1% of the variance in positive affect. Age and country (the US vs. Sri Lanka) accounted for 5% of the variance in positive affect.

Table 30

Hierarchical Regression Models with Age Predicting Positive Affect and the Moderating Effect of Country (n=504)

Predictors	Positive Affect		
	<i>B</i>	<i>SE</i>	β
Step 1			
Age	.01	.00	.09*
Step 2			
Age	.01	.00	.09*
Country	-.31	.06	-.21***
Step 3			
Age	.00	.00	.03
Country	-.31	.06	-.21***
Age* Country	.01	.00	.08

* $p < .05$, *** $p < .001$

The Relationship between Age and Negative Affect, and the Moderating Effect of Country

Next, a hierarchical regression was conducted to determine the effect of age on negative affect in Sri Lankans and Americans. Age was entered into the first step and country (the US vs. Sri Lanka) was entered into the second step in the hierarchical regression model.

The interaction between age and country (the US vs. Sri Lanka) was entered into the third step. The dependent variable was negative affect.

The main effect for age was significant, with age negatively associated with negative affect (see Table 31). The main effect for country (the US vs. Sri Lanka) was not significant. There was no significant interaction. This suggests that the effect of age on negative affect is not different between Americans and Sri Lankans. Age and the US accounted for 1% of variance in interpersonal relationship quality.

Table 31

Hierarchical Regression Models with Age Predicting Negative Affect and the Moderating Effect of Country (n=504)

	Negative Affect		
	<i>B</i>	<i>SE</i>	β
Predictors			
Step 1			
Age	-.01	.00	-.14***
Step 2			
Age	-.01	.00	-.15***
Country	-.08	.06	-.05
Step 3			
Age	-.01	.00	-.12*
Country	-.08	.06	-.05
Age* Country	-.00	.00	-.04

* $p < .05$, *** $p < .001$

The Relationship between Age and Emotion Categorization, and the Moderating Effect of Country

A hierarchical regression was conducted to examine the relationship between age and emotion categorization in Sri Lankans and Americans. Age was entered into the first step and country (the US vs. Sri Lanka) was entered into the second step. The interaction between age

and country (the US vs. Sri Lanka) was entered into the third step in the hierarchical regression model. The dependent variable was emotion categorization.

The main effect for age was significant, with age positively associated with emotion categorization. The main effect for country (the US vs. Sri Lanka) was significant, indicating that Americans made less emotion categories than Sri Lankans (see Table 32). Results indicated that the effect of age on emotion categorization was not different between Americans and Sri Lankans. Age alone accounted for 2% of the variance in emotion categorization. Age and country accounted for 3% of the variance in emotion categorization.

Table 32

Hierarchical Regression Models with Age Predicting Emotion Categorization and the Moderating Effect of Country (n=504)

Predictors	Emotion Categorization		
	<i>B</i>	<i>SE</i>	β
Step 1			
Age	.06	.02	.15***
Step 2			
Age	.06	.02	.15***
Country	-1.13	.44	-.11*
Step 3			
Age	.08	.02	.21***
Country	-1.14	.44	-.11*
Age* Country	-.05	.03	-.08

* $p < .05$, *** $p < .001$

The Relationship between Age and Emotion Differentiation, and the Moderating Effect of Country

A hierarchical regression was also conducted to determine the effect of age on emotion differentiation in Sri Lankans and Americans. Age was entered into the first step and country (the US vs. Sri Lanka) was entered into the second step in the hierarchical regression

model. The interaction between age and country (the US vs. Sri Lanka) was entered into the third step. The dependent variable was emotion differentiation.

The main effect for age was not significant. The main effect for country (the US vs. Sri Lanka) was significant, indicating that Americans rated lower on emotion differentiation than Sri Lankans (see Table 33). There was no significant interaction between age and country. Age alone accounted for .3% of variance in emotion differentiation. Age and country accounted for 3% of variance in emotion differentiation.

Table 33

Hierarchical Regression Models with Age Predicting Emotion Differentiation and the Moderating Effect of Country (n=504)

Predictors	Emotion Differentiation		
	<i>B</i>	<i>SE</i>	β
Step 1			
Age	-.01	.00	-.05
Step 2			
Age	-.01	.00	-.06
Country	-.39	.11	-.15***
Step 3			
Age	-.00	.01	-.02
Country	-.39	.11	-.15***
Age* Country	-.01	.01	-.06

* $p < .05$, *** $p < .001$

The Relationship between Age and Interpersonal Relationship Quality, and the Moderating Effect of Country

A hierarchical regression was also conducted to determine the effect of age on interpersonal relationship quality in Sri Lankans and Americans. Age was entered into the first step and country (the US vs. Sri Lanka) was entered into the second step. The interaction

between age and country (the US vs. Sri Lanka) was entered into the third step in the hierarchical regression model. The dependent variable was interpersonal relationship quality.

The main effect for age was not significant. The main effect for country (the US vs. Sri Lanka) was significant, indicating that Americans scored lower on interpersonal relationship quality than Sri Lankans (see Table 34). The interaction between age and country was not significant. This suggests that the effect of age on interpersonal relationship quality is not different between Americans and Sri Lankans. Age alone accounted for .2% of the variance in interpersonal relationship quality. Age and country accounted for 1% of variance in interpersonal relationship quality.

Table 34

Hierarchical Regression Models with Age Predicting Interpersonal Relationship Quality and the Moderating Effect of Country (n=504)

Predictors	Interpersonal Relationship Quality		
	<i>B</i>	<i>SE</i>	β
Step 1			
Age	-.00	.00	-.05
Step 2			
Age	-.00	.00	-.05
Country	-.22	.10	-.10*
Step 3			
Age	.00	.01	.01
Country	-.23	.10	-.10*
Age* Country	-.01	.01	-.09

* $p < .05$

The Relationship between Age and Positive Relations With Others, and the Moderating Effect of Country

A hierarchical regression was conducted to examine the relationship between age and positive relations with others in Sri Lankans and Americans. Age was entered into the first step and country (the US vs. Sri Lanka) was entered into the second step in the hierarchical

regression model. The interaction between age and country was entered into the third step. The dependent variable was positive relations with others.

The main effect for age was not significant. The main effect for country was significant. That is, Americans had more positive relations with others than Sri Lankans (see Table 35). The effect of age on positive relations with others was not different between Americans and Sri Lankans (no significant interaction). Age alone accounted for .2% of variance. Age and country accounted for 2% of the variance in positive relations with others.

Table 35

Hierarchical Regression Models with Age Predicting Positive Relations With Others and the Moderating Effect of Country (n=504)

Predictors	Positive Relations With Others		
	<i>B</i>	<i>SE</i>	β
Step 1			
Age	.00	.00	.05
Step 2			
Age	.00	.00	.05
Country	.21	.07	.13**
Step 3			
Age	.00	.00	.05
Country	.21	.07	.13**
Age* Country	.00	.01	.01

** $p < .01$

Discussion

Emotion differentiation, the tendency to detect subtle differences in emotional experiences, may be important for social interactions. Specifically, distinguishing various emotional experiences may benefit individuals in developing empathetic understanding toward others and selecting appropriate responses to others' feelings (Kang & Shaver, 2004). In this section, I first summarize the findings for each aim of this study with a review of previous research on relevant themes. Also, I suggest some reasons why certain findings were not significant. Second, I discuss some limitations of the present study. Finally, I highlight strengths of this study with emphasis on future directions.

Aim 1: To Explore the Relationship between Emotion Differentiation and Relationship Quality in Adults Using Multiple Methods

One of the major objectives of this study was to examine the link between emotion differentiation and positive interpersonal relationships of individuals living in three countries: Sri Lanka, India, and the US. Also, the current study focused on different methods that can be utilized in examining the link between emotion differentiation and relationship quality. Specifically, this study introduced a new method, the Emotion Categorization Task, in assessing individuals' tendency to detect subtle distinctions of emotions.

Emotion Differentiation

In this study, emotion differentiation was examined by using two measures: the Emotion Categorization Task and the Emotion Differentiation Scale. Previous studies that examined emotion complexity used questionnaires that mainly rely on self-report (e.g. Kang

et al., 2003). Measures like the Emotion Differentiation Scale primarily focus on individuals' belief that they notice fine distinctions among various emotions. Some researchers have also included a card-sorting task and found that individuals who rated higher on emotion differentiation tend to create more emotion categories (e.g., Kang & Shaver, 2004). However, measures like the card-sorting task do not provide information about how individuals identify and differentiate emotions in a social context. For this reason, the current study included a new measure, the Emotion Categorization Task, which consisted of three social situations with emotion terms.

Findings regarding the first measure of emotion differentiation, the Emotion Categorization Task, revealed a significant group difference. Specifically, Sri Lankans created the most emotion categories whereas Indians created the fewest. Sri Lankan and Indian cultures are identified as collectivist cultures (Markus & Kitayama, 1991; Miller, 1994; Shweder & Bourne, 1984; Freeman, 1998); however, they differed significantly in emotion categorization. Findings regarding the second measure of emotion differentiation, the Emotion Differentiation Scale, also revealed a significant difference. In this case, Indians reported greater emotion differentiation than Sri Lankans and Americans. Again, there was a significant difference between the two collectivist cultures.

Two points are of interest here. First, it is intriguing that two measures of emotion differentiation were not significantly related, although both were thought to measure the same construct. I initially chose to create a measure of emotion differentiation (the Emotion Categorization Task) that required participants to actually engage in differentiation, rather

than just self-report perceptions of their own skills. The outcome of this measure is the number of emotion categories created by participants. Perhaps the content within categories is relevant as well as the overall number of categories. I do not know whether the groupings created by various participants would make sense to others. It should be the case that the categories make sense, and it may be that if I had included only the participants who followed a certain kind of logic to their categories that the task might relate differently to self-perceptions of emotion differentiation or to other variables. It may be important to examine the pattern of categories (e.g. conducting cluster analysis) with the Emotion Categorization Task in order to understand the pattern of word selection. Future research may need to consider the quality of categories as well as quantity of categories created, when relating emotion categorization to other emotion-related behaviors.

Second, emotion differentiation across countries varied in some interesting ways. The two collectivist groups demonstrated different patterns with emotion differentiation, depending on the type of the emotion differentiation measure. Indians are the most educated group among three groups and they scored highest in the Emotion Differentiation Scale, whereas Sri Lankans scored the highest in the Emotion Categorization Task. There may be different factors that influence these two collectivist groups in emotion differentiation. Hence, future research needs to focus on understanding those factors that lead to different outcomes.

Finding significant differences between Indians and Sri Lankans implies variations in certain psychological aspects or behaviors even within cultures that are known as collectivist.

Researchers have identified similar values, norms, and behaviors patterns such as connectedness with others and value of interdependent self, in more collectivist cultures (e.g., Markus & Kitayama, 1991; Shweder & Bourne, 1984; Triandis, 1990). However, findings of this study suggest that valuing certain aspects of human behaviors (e.g., emotion-related behaviors) may vary across collectivist cultures. Some collectivist cultures encourage different patterns of emotion-related behaviors. For example, individuals in South American societies that are known as collectivist cultures tend to be emotionally expressive (Kang et al., 2003). This suggests that each collectivist culture may have unique sociocultural, religious, geographic, and economic characteristics that influence individuals' behavior. As a consequence, there may be differences in certain aspects of human behaviors based on their cultural value systems.

Relationship Quality

Relationship quality was examined by using two measures: the Interpersonal Relationship Quality Scale and the Positive Relations With Others Scale. Findings with the Interpersonal Relationship Quality Scale, revealed that Indians reported significantly greater interpersonal relationship quality than Sri Lankans and Americans. Even though Sri Lankans reported more interpersonal relationship quality than Americans, the difference was not significant. Many theorists highlight the importance of having good interpersonal relationships in collectivist cultural settings (e.g., Markus & Kitayama, 1991; Shweder & Bourne, 1984; Triandis, 1990). A significant difference between Indians and Sri Lankans in interpersonal relationship quality may suggest variations in certain aspects of human

behaviors even within collectivist cultures.

Factors such as specific patterns of family relationships within the family and the influence of specific values and beliefs with regards to interpersonal relationships may lead to these differences among collectivist cultures. Indian culture has been described as a duty-oriented society in which people relate their personal goals to the desires and needs of others, particularly within their family setting (Shweder, Mahapatra, & Miller, 1987; Triandis, 1990). Indians' views reflect that it is pleasurable to relate their personal goals to the needs of social duty (Miller & Bersoff, 1995). Also, traditional Indian families include individuals of three generations who live in the same family setting (Juthani, 2001). Also, joint households and extended families are not seen as barrier to social change (e.g. urbanization) in Indian society. Rather, extended family settings may help urbanization since they can alleviate adjustment to urban settings among the family members (Conklin, 1976). Finding higher interpersonal relationship quality in Indians may be in line with the aforementioned cultural values and family environment.

The salience of traditional identities such as national, religious, and ethnic identities seems to decline among individuals in urban environments in Sri Lanka (Freeman, 1998). As a consequence of economic development, the salience of particular social categories (e.g., social groups and institutions) may change, thereby affecting the subjective interpretation of social identity of individuals (Freeman, 1998). Perhaps a decrease in identification with important social groups in Sri Lankans may be a reason for lower interpersonal relationship quality in Sri Lankans compared to Indians.

A study by Freeman (1997) revealed that allocentrism was decreased in individuals living in affluent social settings in Sri Lanka. According to Freeman, it does not mean that affluence encourages individuals to focus on their own purposes. Instead, affluence may attenuate individuals' desire or the need to do things or engage in activities with other members in their social milieu. Also, urban-industrial development and economic changes in Sri Lankan society may cause individuals to focus more on their individual and immediate family aims than ambitions of extended family and community (Freeman, 1997).

The war-related experiences that were encountered by Sri Lankans, particularly at the time the research being conducted may have impacted them indirectly. Even though the participants in this study lived in Western Province, which was not directly affected by the war, individuals may have been experiencing increased stress due to the conflict in their country, and this stress may have worked indirectly to lower interpersonal relationship quality.

Even though Sri Lankans reported lower interpersonal relationship quality than Indians, they reported higher interpersonal relationship quality than Americans, but the difference was not significant. Sri Lankans may still value interpersonal relationships though there is significant difference between Indians and Sri Lankans. For example, family size is larger in India than Sri Lanka. However, the family size did not influence cultural values such as interdependence and integrity of extended family in Sri Lankan society (Freeman, 1997). Sociological research has suggested that the members in nuclear family settings tend to maintain strong bonds (e.g. emotional, ritual, and financial) with members in extended

families (Conklin, 1976, 1988; Kagitcibasi & Berry, 1989). This suggests that individuals still value the importance of their cultural expectations and make effort to live up to those expectations.

When considering these factors, we need to consider whether it is reasonable to distinguish cultures based on collectivist and individualistic frameworks. Instead, like following the approach of sociocultural theorists (e.g., Rogoff, 1990, 2003) it may be important to recognize the importance of understanding human behavior within the sociocultural context in which individuals' thinking process is embedded. Understanding each culture as a unique sociocultural structure will expand our perspectives regarding certain outcomes related to behavior.

Findings with the Positive Relations With Others Scale, also revealed a significant difference. For this scale, Americans rated significantly higher than Sri Lankans and Indians. Positive relations with others is one aspect of psychological well-being (Ryff, 1995). Ryff found significant cultural differences in various dimensions of psychological well-being including positive relations with others. In one study with midlife adults, Koreans (a collectivist culture) rated higher on positive relations with others than Americans (an individualistic culture), suggesting collectivist cultural influences in defining psychological well-being (Ryff, 1995). However, results of this study contradict previous findings in regard to positive relations with others.

Gender Differences – in Positive Relations With Others

This study replicated previous work indicating that women report more positive relations with others than men; women in young adulthood, midlife, and old age have more positive relations with others than men (Ryff, 1989; Ryff, 1991; Ryff & Keyes, 1995). These gender findings hold across American and Korean cultures (Keyes & Ryff, 1999). There may be various reasons for women to have more positive relations with others than men. Their emotions may be salient in their social relationships. Emotions that enhance interpersonal relationships (e.g., positive emotions or emotions that help socially engaging) are believed to be similar with the traditional view of femininity. Hence, those emotions that develop interpersonal engagement may be promoted or allowed in women (Fischer, Manstead, Evers, Timmers, & Valk, 2004). Researchers considered culture and gender with regard to connectedness and autonomy (e.g., Turiel & Wainryb, 1994). Gender may be a strong factor in collectivist cultures with a firm gender hierarchy. Gilligan (1977, 1982) suggested that females think of connection, care, and their responsibility toward others, whereas males focused on a moral orientation toward qualities such as autonomy, rights and justice.

The Link between Emotion Differentiation and Relationship Quality

There was a significant relationship between emotion differentiation, as measured by the scale, and relationship quality. Correlational analysis revealed a significant relationship between emotion differentiation and interpersonal relationship quality as well as positive relations with others in the entire sample and in all three cultures. Emotions play a significant role in leading and maintaining individuals' interpersonal relationships (Frijida, & Mesquita,

1994; Keltner & Kring, 1998; Shiota, Campos, Keltner, & Hertenstien, 2004). Emotional exchanges among individuals may help maintain and improve positive interpersonal relationships (Fredrickson, 1998; Gottman & Levenson, 1992; Harker & Keltner, 2001; Keltner & Kring, 1998; Levenson & Gottman, 1983; Shiota et al., 2004). The greater capacity for understanding emotions of oneself and others may enhance individuals' flexibility and ability to adapt to their interpersonal relationships (Lane & Schwartz, 1992). Furthermore, greater emotional complexity is also related to the greater adaptability to one's environment (Barrett, Lane, Sechrest, & Schwartz, 2000).

Previous studies revealed that the role of emotion-related variables such as emotion differentiation and emotion expression may vary in different cultural groups, particularly in regard to interpersonal relationships. For example, emotion differentiation was more important for Asians (Koreans and Chinese) than emotion expression to maintain good interpersonal relationships (Kang et al., 2003). In addition, previous research revealed that individuals who reported high scores on the range and differentiation of emotional experience scale were more empathic towards others and could adapt to their interpersonal situations (e.g., Kang & Shaver, 2004). The tendency to differentiate subtle distinctions of emotions seems to be more important than having a range of emotions, specifically for maintaining good interpersonal relationships. Having well-differentiated emotional experience is beneficial for social interactions (Kang & Shaver, 2004). The current study revealed similar outcomes regarding the link between emotion differentiation and interpersonal relationship quality.

Aim 2: The Moderating Effect of Culture on the Link between Emotion Differentiation and Relationship Quality

The second objective of this study was to determine whether culture (individualistic, collectivist) moderates the link between emotion differentiation and relationship quality. With regard to the Emotion Categorization Task, analyses were not conducted based on type of culture (based on individualism and collectivism framework) because the relationships between the Emotion Categorization Task and the two relationship quality scales were different for Sri Lankans and Indians. Results assessing the link between emotion categorization and relationship quality suggested that this relationship varied across three groups. Results revealed that this relationship varied in three groups. That is, emotion categorization was negatively related to interpersonal relationship quality and positive relations with others among Indians compared Sri Lankans and Americans.

Culture (based on individualism and collectivism framework) did not moderate either the link between emotion differentiation and interpersonal relationship quality or the link between emotion differentiation and positive relations with others. Previous research indicated that emotion differentiation was important to individuals in collectivist cultures during their interpersonal relationships (Kang et al., 2003). Findings of this study suggested no significant difference in individualistic and collectivist cultures in regard to the relationship between emotion differentiation and relationship quality. When considering the each group separately, there were significant differences among groups in the link between emotion differentiation and interpersonal relationship quality as well as the relationship

between emotion differentiation and positive relations with others. That is, Indians who rated high on emotion differentiation had higher interpersonal relationship quality and had more positive relations with others than Sri Lankans who rated high on emotion differentiation.

These findings suggest two important points regarding the link between emotion differentiation and relationship quality. First, distinguishing cultures based on individualism and collectivism may not always be reasonable when describing human behavior. The results of this study indicated a difference in two collectivist cultures, Sri Lanka and India, in relation to the link between emotion differentiation and interpersonal relationship quality as well as positive relations with others. Second, the level of valuing emotion-related behaviors and individuals' interpersonal relationships may vary across cultural groups. This may be due to the influence of different cultural values and beliefs in each group. Identifying the distinctiveness of cultural values in each society and understanding individuals' actions and reactions within that particular social context may provide a better understanding of human behavior.

Aim 3 (a): The Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Relationship Quality

The third objective was to examine whether individuals' beliefs about emotions, particularly the belief that positive emotions are valuable mediates the link between emotion differentiation and relationship quality. Differentiation of emotions may help avoid certain emotions that damage individuals' interpersonal relationships. Therefore, the tendency to detect subtle distinctions in emotions may lead individuals to value certain emotions that help

maintain social relations.

Beliefs about emotions scale was a relatively new measure which focuses on four major beliefs of emotions: positive emotions are valuable, negative emotions are valuable, emotions are dangerous, and emotions just are (emotions are a part of life). Few studies have examined effect of beliefs about emotions, particularly parents' beliefs about children's emotions on the relationship between parents and children. For example, research found that when parents feel more stress, parents' belief that positive emotions are valuable was related with greater feeling of security in children during the parent-child interactions (Stelter & Halberstadt, 2010). The current study may be the first to examine how beliefs about emotions relate to emotion-related behavior and interpersonal relationships in adults.

The Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Relationship Quality (for the entire sample)

In order to examine the mediating effect of the belief that positive emotions are valuable on the link between emotion differentiation and relationship quality, mediational analyses were conducted using the steps introduced by Baron and Kenny (1986). First, mediational analyses were conducted for the entire sample and then for the each group: Sri Lankans, Indians, and Americans.

The Emotion Categorization Task did not significantly correlate with interpersonal relationship quality (dependent variable), positive relations with others (dependent variable), and positive emotions are valuable (mediating variable) in the entire sample. Therefore, mediational analyses were not conducted with this task.

Emotion differentiation, on the other hand, was significantly correlated with interpersonal relationship quality, positive relations with others, and positive emotions are valuable. Results revealed that the belief that positive emotions are valuable partially mediated the link between emotion differentiation and interpersonal relationship quality. Also, the belief that positive emotions are valuable mediated the effect of emotion differentiation on positive relations with others in the entire sample.

The Mediating Effect of Positive Emotions Are Valuable on the Link between Emotion Differentiation and Relationship Quality (in each group)

In Sri Lankans, emotion differentiation and positive emotions are valuable (mediating variable) were not related, even though emotion differentiation was significantly correlated with interpersonal relationship quality (dependent variable). Therefore, analyses were not conducted to test mediation. In Indians, the belief that positive emotions are valuable did not significantly change the effect of emotion differentiation on interpersonal relationship quality. In Americans, the belief that positive emotions are valuable partially mediated the link between emotion differentiation and interpersonal relationship quality.

Analyses were conducted to determine whether the belief that positive emotions are valuable mediated the link between emotion differentiation and positive relations with others in each group. Positive emotions are valuable (mediating variable) and positive relations with others (dependent variable) were not related in Sri Lankans. Therefore, analyses were not conducted to test the mediation. In Indians, the belief that positive emotions are valuable partially mediated the effect of emotion differentiation on positive relations with others. In

Americans, the belief that positive emotions are valuable completely mediated the effect of emotion differentiation on positive relations with others.

Western culture may focus on maximizing positive feelings and expressing emotions, whereas Asian culture may encourage self-control in emotions and maintaining a balance between all extreme emotions (Leu, 2005). All positive emotions are discouraged in East Asians. Also, it is believed that positive emotions may bring jealousy from others in society (as cited in Leu, 2005). Maximizing the pleasantness of positive feelings may be important for Americans to develop emotional confidence or emotional optimism (Leu, 2005). A recent study found that positive emotions felt better for Americans than for Chinese (Leu, 2005). This may be a reason for the mediating effect of the belief that positive emotions are valuable in the effect of emotion differentiation and relationship quality in Americans.

Aim 3 (b): The Moderating Effect of Emotions Just Are on the Link between Emotion Differentiation on Relationship Quality

Another interest of the current study was to test whether the belief that emotions are a part of life (emotions just are variable) moderates the effect of emotion differentiation on relationship quality. This study may be the first to examine the role of the belief that emotions are a part of life in the link between emotion differentiation and relationship quality in adults. This study revealed that certain beliefs about emotions (e.g. emotions are part of life) may significantly moderate the effect of emotion differentiation on relationship quality in individuals across cultures.

The belief that emotions are a part of life moderated the effect of emotion

differentiation on interpersonal relationship quality. This supports the prediction that the link between emotion differentiation and relationship quality will be higher for those who rate high on emotions just as a scale than those who rate low on that scale. Individuals who believe that emotions are a part of their lives may be open to having more emotions and having more opportunities to detect subtle distinctions in emotions. Findings may suggest that these abilities may help individuals to select appropriate responses during their interpersonal relationships.

The belief that emotions are a part of life did not significantly impact the relationship between emotion differentiation and positive relations with others. Individuals who believed that emotions are a part of life had higher interpersonal relationship quality and more positive relations with others than those who did not believe emotions just are. However, their beliefs about emotions may not significantly impact the link between emotion differentiation and positive relations with others.

Some studies reveal how parents' belief that emotions are a part of life affects their children's feelings of security. When parents are stressed and they also believe that emotions are a part of life, children seem to have stronger feelings of security during their interactions with parents (Stelter, & Halberstadt, 2010). Perhaps, parents and other adults who are accepting of emotions as a part of life are more calm and accepting of others' emotions. In the context of this calm acceptance, the ability to differentiate emotions more fully helps them in their interpersonal relations. Adults who do not consider emotions to be a part of life may respond to others' emotions differently. For these adults, differentiating emotions in

others may not facilitate their interpersonal relations perhaps because they are judging the emotions of others rather than simply accepting and responding to them. Intriguing trends revealed by this study suggest that more research is needed in order to understand how people from different cultural backgrounds value these beliefs and how it affects their behaviors.

Aim 4: The Link between Relationship Quality and Life Satisfaction

The fourth aim was to explore the link between relationship quality and life satisfaction and how culture (based on individualism and collectivism framework) moderates this relationship. Life satisfaction is identified as one of the major components of subjective well-being (Diener, Suh, Lucas, & Smith, 1999; Myers & Diener, 1995). In this study, individuals' relationship quality was measured using interpersonal relationship quality and positive relations with others scales. Both interpersonal relationship quality and positive relations with others significantly predicted satisfaction with life. That is, individuals who reported higher interpersonal relationship quality and who had more positive relations with others were more satisfied with their lives.

Individuals who are more sociable and make affiliations with others may be more satisfied with their lives than those who are less sociable. Studies indicated that personality traits such as extraversion and neuroticism relate to individuals' life satisfaction either directly or indirectly (Mroczek & Spiro, 2005; Schimmack, Radhakrishnan, Oishi, Dzokoto, & Ahadi, 2002; Headey & Wearing, 1989). For example, extraversion seems to be positively related with life satisfaction (Hills & Argyle, 2001; Pavot, Diener, & Fujita, 1990; Heaven,

1989; Emmons & Diener, 1985). One of three characteristics of extraverts described by Depue and Collins (1999) is affiliation, which includes appreciating and enjoying close interpersonal relationships, and being friendly and affectionate. Individuals who are more sociable tend to enjoy social relations and value situations that give the opportunity to interact with others (Lucas, Diener, Grob, Suh, & Shao, 2000). They gain more pleasure by engaging activities that are pleasant than introverts (Gray, 1991). Establishing, maintaining, and expanding interpersonal relationships may enhance individuals' life satisfaction.

Interpersonal relationships play a significant role in cultures that emphasize the interdependence (Matsumoto & Juang, 2004; Redford, 1999; Markus & Kitayama, 1991). Specifically, cultures that are known as collectivist highlight the importance of establishing and maintaining positive interpersonal relationships (e.g., Markus & Kitayama, 1991; Triandis, 1989). Previous studies indicated that maintaining good interpersonal relationships was important to individuals in collectivist cultures for their life satisfaction (Kang et al., 2003). However, the results of this study indicated that there was no significant difference between individualistic and collectivist cultures in the link between interpersonal relationship quality and satisfaction with life.

Even though there was no significant cultural difference in the link between interpersonal relationship quality and satisfaction with life based on the individualism and collectivism, each society may value various psychological aspects differently. Researchers have also given the importance for understanding human behavior within the social context in which individuals live (e.g., Rogoff, 1990, 2003). Analyses were conducted to examine the

link between interpersonal relationship quality and satisfaction with life in each country. The three groups did not differ significantly in the link between interpersonal relationship quality and satisfaction with life. However, Indians were more satisfied with life than Sri Lankans.

Factors such as religious beliefs and practices, social engagement may influence individuals' life satisfaction. A recent study revealed that individuals who have strong religious beliefs and who engage in religious activities more frequently are more satisfied with their lives than individuals who do not have strong religious faith and devotion (Kim, 2003). With regard to Indians, Hindus, particularly those who live in India seem to practice rituals more than individuals in Western culture (Juthani, 2001). In this study, 81% of Indians were Hindus. Thus, religious background of Indians may be a reason for them to have a greater life satisfaction than the other groups.

There was a significant difference between individualistic and collectivist cultures in the link between positive relations with others (another measure of relationship quality) and satisfaction with life, suggesting that the link between positive relations with others and satisfaction with life was higher in an individualistic culture than in the collectivist cultures. Also, the three countries differed significantly in the link between positive relations with others and satisfaction with life. That is, positive relations with others was associated with life satisfaction to a greater degree for Americans and Indians, compared to Sri Lankans.

Aim 5: Age-Related Trends in Affect, Emotion Differentiation, and Relationship

Quality across Countries

Age and Affect

A final aim of this study was to explore age-related trends in affect, emotion differentiation, and relationship quality across cultures. However, Indians were not included in regression analyses since the Indian group had little variation in age. Affect has been identified as more consciously accessible feelings (Fredrickson, 2001) that varies along two levels, either pleasantness and activation (Russell & Barrett, 1999) or positive and negative affective activation (Tellegen, Watson, & Clark, 1999). This study examined the link between age and positive as well as negative affect. Results support the prediction that positive affect will be positively related with age and negative affect will negatively be related with age. Previous research revealed that individuals experience more positive affect and less negative affect as they age (e.g., Kessler & Staudinger, 2009; Phillips et al., 2006; Carstensen, Fung, & Charles, 2003; Charles, Reynolds, & Gatz, 2001; Mroczek & Kolarz, 1998). Findings support the previous findings in relations to age and affect. Americans reported less positive affect than Sri Lankans. The effect of age on positive and negative affect was not different between Americans and Sri Lankans.

Age and Emotion Differentiation

The current study also explored the relationship between age and emotion differentiation. Individuals exhibit more elaborated emotional experiences as a consequence of their life experiences (Magai et al., 2006). Emotions become more differentiated, more

complex, and heterogeneous, particularly in middle adulthood through old age (Carstensen et al., 2000; Charles, 2005). Age was positively associated with emotion categorization but not with emotion differentiation. According to the dynamic-integration model, decline of cognitive resources in older adults may cause less capability of emotional differentiation (Labouvie-Vief, 2003; Labouvie-Vief & Diehl, 2000). This may be a reason for the aforementioned outcomes in regard to age and emotion differentiation.

Age and Relationship Quality

Another interest was to explore the link between age and relationship quality. Studies provided evidence for age differences in certain aspect of psychological well-being (e.g., Ryff & Keyes, 1995). For example, older adults tended to have more positive relations with others than younger adults and midlife adults (Ryff & Keyes, 1995; Ryff, Keyes, & Hughes, 2004). Individuals tend to deepen their existing social relations as they age (Carstensen et al., 2003). Particularly, older adults focus on gaining emotion satisfaction by deepening their social relationships. Findings of the current study revealed that age did not significantly predict relationship quality. Also, there was no significant difference between Americans and Sri Lankans in regard to the link between age and relationship quality.

Limitations

Several concerns should be taken into consideration when interpreting the current findings. First, because the three cultural groups in the current study were not representative samples, the results may not generalize to the overall population in each culture, although they may reflect relationships among educated adults in these countries.

Second, even though the populations in each culture were well-educated, the level of education varied across countries. In this study, the majority of Sri Lankans and Americans had a college education, whereas the majority of Indians had postgraduate education. Additionally, college education is somewhat common in the United States, but only a small percentage of Sri Lankans have the opportunity to receive college. Thus, the prestige and income associated with college education is quite different across these cultures. This may have influenced the differences in certain outcomes.

Third, age range of the participants in each group also varied. Both the Sri Lankan and the US groups consisted of individuals ranging from young to old age. However, the Indian group consisted of almost entirely of young adults. Therefore, age comparisons related to certain variables such as affect, emotion differentiation, and relationship quality were limited.

Fourth, certain measures used in this study were new. The Emotion Categorization Task was developed for this study to understand how individuals differentiate various emotions in three different social situations. Previous research has utilized methods such as a card-sorting task to examine emotion differentiation. The new measure introduced in this study gives the opportunity to understand others' feeling in real world situations. However, I have no information about its reliability over time or evidence regarding validity. Also, few significant effects emerged with this task.

It is hard to imagine why this task did not correlate with the self-reports of emotion differentiation. It is likely that participants are able to consider a great many more contexts

when considering their answers for the questionnaire, whereas the task only assessed three hypothetical situations. Thus, responses to the scale may be derived from a much broader base of information. On the other hand, the Emotion Categorization Task was a measure that more closely approximates organization of emotion and does not rely on individuals' self-assessments, which can be affected by other variables, such as self-concept or comparisons to others.

Also, the Beliefs About Emotions Scale used in the current study was a relatively new measure. This questionnaire focused on four different aspects of beliefs related to emotions: positive emotions are valuable, negative emotions are valuable, emotions are dangerous, and emotions are a part of life (emotions just are). Although new, there is evidence for reliability and validity of this scale, suggesting that this is a reasonable measure.

Two other limitations relate to the questionnaires in this study. First, all of the questionnaires were developed with English-speaking samples in the United States. With the exception of the Beliefs About Emotions Scale, which was created from questions that emerged from focus groups and factor analyses from three subcultures in the United States, the development of all the other questionnaires was mono-cultural. Second, this was the first study to utilize these measures with Sri Lankan and Indian populations. Thus, it is uncertain whether all cultures understood the items in the same way, or even the process of participating in a study. For example, Sri Lankans and Indians may be more serious in their approach to research because it is less familiar to them, and they may be more respectful of scientists. In contrast, Americans may be more cavalier in their response to filling out

questionnaires, and may rush to complete them quickly. Therefore, more research needs to be conducted regarding the meaning of the research process across all three groups.

Strengths of the Study and Future Directions

It is also important to note the strengths of the current study. First, this is one of the first studies that examined emotion differentiation and relationship quality and other emotion-related aspects such as beliefs about emotions and life satisfaction. Second, this is the first emotion-related study to include participants from not one, but two South Asian countries, and is the first study of its kind in Sri Lanka- a country which is considered collectivist but has more ethnic and religious diversity than other collectivist cultures. Hence, the present study has contributed to the literature addressing aforementioned psychological aspects of individuals in divergent cultural settings with the special focus on South Asian collectivist cultures. It helps expand our understanding about new emotion-related characteristics such as beliefs about emotions that may mediate or moderate the link between emotion differentiation and relationship quality and the role of interpersonal relationships in individuals' life satisfaction.

Third, results further supported the previous research on emotion differentiation and relationship quality (e.g., Kang et al., 2003). Specifically, emotion differentiation significantly predicted relationship quality (both interpersonal relationship quality and positive relations with others) in three different countries. Also, the current study provided further evidence for the role of interpersonal relationships in life satisfaction. More importantly, it suggested that the link between relationship quality and life satisfaction may

vary across countries based on their value systems. In addition, results further supported previous findings on age and affect, that is, the positive relationship between age and positive affect and the negative relationship between age and negative affect.

Fourth, all the measures that were used in this study had acceptable reliability in each group. This study included multiple measures in examining some constructs (e.g., emotion differentiation was examined using both the Emotion Categorization Task and the Emotion Differentiation Scale; relationship quality was examined using the Interpersonal Relationship Quality Scale and the Positive Relations With Others Scale). This helps understanding the unique pattern of reactions in the entire sample and in each group separately.

Next, introducing a new measure, the Emotion Categorization Task, which examines individuals' propensity to detect subtle distinctions of emotions particularly in different social situations, was another contribution of this study. Previous research has used other methods such as a card sorting task to examine the ability to differentiate various emotions. The Emotion Categorization Task was utilized as an attempt to understand how individuals identify and differentiate emotions within a social context. Although this measure did not correlate with the Emotion Differentiation Scale, the outcomes may imply an important aspect of emotion-related behaviors.

Finally, there are two broad conclusions that can be emphasized based on the overall findings of this study. First, although there was variation across cultures, there were no significant differences based on the individualism and collectivism of the cultures in terms of the relationship between emotion differentiation and relationship quality. This may imply

that individuals respond to certain aspects of behavior regardless of the collectivist versus individualistic orientations of their cultural background. Another interpretation is that individuals within a culture vary in their collectivism versus individualism as much as more than one culture differs from another. Findings of this study may suggest that people in individualistic cultures have certain collectivist characteristics. Researchers have applied the term allocentric to explain persons who highlight the importance of collectivist values (as cited in Smith & Bond, 1998). There may be a minority of people in individualistic cultures who endorse such qualities (Smith & Bond, 1998). It seems more likely, however, that the individualistic versus collectivist distinction may suggest more similarity within collectivist cultures than actually exists.

Second, although collectivism versus individualism did not seem to be a useful organizing structure for understanding cultural differences in this study, there were significant differences across the three countries (Sri Lanka, India, and the US) for several constructs. For example, the link between emotion differentiation and relationship quality varies across countries. This may suggest the importance of understanding human behavior within the socio-cultural context in which people live. Some social scientists were not satisfied with the traditional way of differentiating cultures based on individualism and collectivism. They emphasized the importance of examining diversity and heterogeneity within cultures (Ewing, 1990; Mines, 1988; Sinha & Tripathi, 1994; Strauss, 1992). They focused on differences that may exist between cultural values and individuals' beliefs about different facets of cultural traditions (as cited in Neff, 2001; Spiro, 1993). Examining unique

cultural values and beliefs that significantly impact on individuals' behavior, provides a better understanding of the nature of each culture and the behavior of individuals.

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APPENDICES

Appendix A

Emotion Differentiation Scale

Using the 7-point scale provided below, please indicate the extent to which you believe that the statement describes you, placing the appropriate number on the line preceding that item. Please be open and honest in responding.

This statement describes me ...

1.....2.....3.....4.....5.....6.....7
not at all slightly somewhat moderately pretty well very well extremely
well

----- I tend to draw fine distinctions between similar feelings (e.g. depressed and blue, annoyed and irritated).

----- I am aware that each emotion has a completely different meaning.

----- I think that each emotion has a very distinct and unique meaning to me.

----- I am aware of the different nuances or subtleties of a given emotion (e.g. depressed and blue, annoyed and irritated).

----- I am good at distinguishing subtle differences in the meaning of closely related emotion words.

----- If emotions are viewed as colors, I can notice even small variations within one kind of color (emotion).

----- I am aware of the subtleties between feelings I have.

Appendix B

Emotion Categorization Task

We want to find out which emotions people think are similar to each other and which emotions seem different and therefore belong in different categories. Please read the following descriptions and categorize the underlined words representing your best judgments about how they all group together based on how similar or different they are from each other. There is no correct way to categorize them, make as few or as many categories as you wish and put them into as few or as many categories.

On Amal's first day in school, Nayana, (Amal's mother) was glad to see Amal's eagerness and joyousness to go to school. However, when they enter the school, Amal asked Nayana not to leave but to stay with him. Nayana felt sad when the teacher asked her to leave. She looked at Amal. She noticed that Amal was tense and anxious. He did not know other children in his class, and he was grabbing Nayana's hand. Nayana felt apprehensive when she heard her son crying. It hurt her. When the teacher asked her to leave a second time, and this time, in an irritated voice, she got annoyed and left the classroom. When the teacher turned to Amal, she noticed an expression of anger and hatred in his eyes.

Rani went to school to see the results of the college entrance exam. She was optimistic about her results. Her mother was worried about her as she had many hopes. When Rani entered the school she became nervous. She checked the results board. She had received two As and a B for three subjects. She was excited. However, she was surprised and shocked when she found that she did not obtain a high enough score to enter the medical school. She was disappointed and unhappy about it. She checked the results sheet again and realized, however, that she was qualified to enter the dental school. She called her mother. Her mother was delighted and was proud of her daughter. It was a great pleasure for her parents and they could not wait till their loving daughter came home to celebrate the cheerful moment.

Aruna left the office early since it was the birthday of his adorable son, Kasun. Aruna is an affectionate father. He took his son to the zoo since Kasun likes animals. Aruna was working on a project that was due today when he left. Though he asked his friend Raju to complete it Raju did not do it because he was jealous about Aruna. In the evening, Raju informed Aruna that he did not finish the project. Aruna felt guilty since he did not finish it before he left. He was also afraid to see his boss when he could not finish his task on time. Next day, Aruna went to his office early to complete it. He felt uneasy when he saw his boss was coming. Aruna told him that he was still working on the project. The boss said that it was disgusting to see how some people ignore their duty. He blamed Aruna in front of others. Aruna was embarrassed and regretful. He felt miserable the rest of the day.

Category 1	Category 2	Category 3	Category 4	Category 5	Category 6	Category 7
.....
.....
.....
.....
.....
Category 8	Category 9	Category10	Category11	Category12	Category13	Category14
.....
.....
.....
.....
.....
Category15	Category16	Category17	Category18	Category19	Category20	Category21
.....
.....
.....
.....
.....

Appendix C

PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer next to that word. Indicate to what extent you have felt this way during the past week. Use the following scale to record your answers.

1 =Very slightly or not at all 2 =A little 3 =Moderately 4 =Quite a bit 5=Extremely

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
1. Interested	1	2	3	4	5
2. Distressed	1	2	3	4	5
3. Excited	1	2	3	4	5
4. Upset	1	2	3	4	5
5. Strong	1	2	3	4	5
6. Guilty	1	2	3	4	5
7. Scared	1	2	3	4	5
8. Hostile	1	2	3	4	5
9. Enthusiastic	1	2	3	4	5
10. Proud	1	2	3	4	5
11. Irritable	1	2	3	4	5
12. Alert	1	2	3	4	5
13. Ashamed	1	2	3	4	5
14. Inspired	1	2	3	4	5
15. Nervous	1	2	3	4	5
16. Determined	1	2	3	4	5
17. Attentive	1	2	3	4	5
18. Jittery	1	2	3	4	5
19. Active	1	2	3	4	5
20. Afraid	1	2	3	4	5

Appendix D

Beliefs About Emotions Scale

The following statements express some beliefs about emotions. Please read each statement and write in the number that shows how much you agree with the statement by using the 1 – 6 scale below, on the line preceding that item. Please be open and honest in your responding.

1.....	2.....	3.....	4.....	5.....	6.....
strongly	somewhat	slightly	slightly	somewhat	strongly
disagree	disagree	disagree	agree	agree	agree

- Getting mad can help people do things they need to, like sticking with a task that's hard, or standing up for themselves.
- It is okay when people feel angry, and it is okay when they don't.
- Showing emotions isn't a good thing or a bad thing, it's just part of being human.
- It's good when individuals in a group share their positive emotions.
- It is important for people to be able to show when they are happy.
- It is important for people to express their happiness when they feel it.
- Feeling sad sometimes is just a part of life.
- It is good for people to feel sad at times.
- Feeling negative emotions is sort of a dead end street, and people should do whatever they can to avoid going down it.
- Showing anger is not a good idea in general.
- Feeling all emotions is a part of life, like breathing.
- When people get angry they create more problems for themselves.
- It is important for people to develop lots of ways to be happy.
- Feeling angry sometimes is just a part of life.
- Feeling sad is just not good for people.
- It is important for people to show others when they feel upset.
- It is okay when people feel sad, and it is okay when they don't.
- When a person is too loving others take advantage of them.
- People's anger can be a relief to them, like a storm that clears the air.
- It is useful for people to feel angry sometimes.
- Joy is an important emotion to feel.
- Sometimes it is good for a person to sit down and have a good cry.
- When people get angry, it can only lead to problems.
- In general, having lots of joy is very important.
- Showing sadness is neither bad nor good, it is just part of being human.
- When people are too happy, they can get out of control.
- When people show pride in what they have done, it is a good thing.

- It is good for people to let their anger out.
- When a person shows anger, they are letting you know that something is important to them.
- It is important for people to avoid feeling sad whenever possible.
- It is important for people to share their positive emotions with others.
- Being sad isn't "good" or "bad" -- it is just a part of life.
- It is important for people to feel pride in their accomplishments.
- Being angry isn't "good" or "bad" -- it is just a part of life.
- It is important for people to be proud of a job well done.
- Feeling sad helps people to know what is important to them.
- When a person expresses anger, someone else ends up having to deal with the consequences.
- Anger in general can be emotionally dangerous.
- The experience of anger can be a useful motivation for action.
- It is okay when people feel happy, and it is okay when they don't.
- People can think more clearly when emotions don't get in the way.
- People's feelings can get hurt if they love too much.
- Being angry can motivate people to change or fix something in their lives.
- Expressing anger is a good way for people to let their desires and opinions be known.
- When people start to show strong emotions, one never knows where it will end up.

Appendix E

Interpersonal Relationship Quality Scale

Using the 7-point scale provided below, please indicate the extent to which you believe that the statement describes you, placing the appropriate number on the line preceding that item. Please be open and honest in responding.

This statement describes me ...

1.....2.....3.....4.....5.....6.....7
not at all slightly somewhat moderately pretty well very well extremely
well

----- I enjoy visiting old friends and neighbors in my hometown.

----- My friends would describe me as kind and affectionate.

----- Family members often say that I am good-natured and have a heart for helping people.

----- I am highly receptive to the needs of those around me.

----- I feel that my relationships with others are friendly and comforting.

----- I am like a spider web, with connections to many different people.

Appendix F

Positive Relations With Others Scale

Using the 6-point scale provided below, please indicate the extent to which you agree that the statement describes you, placing the appropriate number on the line preceding that item. Please be open and honest in responding.

1.....	2.....	3.....	4.....	5.....	6
strongly	moderately	slightly	slightly	moderately	strongly
disagree	disagree	disagree	agree	agree	agree

- Most people see me as loving and affectionate.
- Maintaining close relationships has been difficult and frustrating for me
- I often feel lonely because I have few close friends with whom to share my concerns.
- I enjoy personal and mutual conversations with family members or friends.
- It is important to me to be a good listener when close friends talk to me about their problems.
- I don't have many people who want to listen when I need to talk.
- I feel like I get a lot out of my friendships.
- It seems to me that most other people have more friends than I do.
- People would describe me as a giving person, willing to share my time with others.
- I have not experienced many warm and trusting relationships with others.
- I often feel like I'm on the outside looking in when it comes to friendships.
- I know that I can trust my friends, and they know they can trust me.
- I find it difficult to really open up when I talk with others.
- My friends and I sympathize with each other's problems.

Appendix G

Satisfaction With Life Scale

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

1.....	2.....	3.....	4.....	5.....	6.....	7.....
strongly	disagree	slightly	neither agree	slightly	agree	strongly
disagree		disagree	nor disagree	agree		agree

----- In most ways my life is close to my ideal.

----- The conditions of my life are excellent.

----- I am satisfied with my life.

----- So far I have gotten the important things I want in life.

----- If I could live my life over, I would change almost nothing.

Appendix H

Demographic Questionnaire

Please complete the following information.

1. Gender (*circle one*): Male Female
2. Age (in years):
3. Marital status (*circle one*): Single Married Divorced Widowed
Other.....
4. Religion (*circle one*): Buddhist Christian Muslim Hindu Judaism
Other.....
5. Ethnicity (*circle one*): Sinhalese Tamil Muslim
White American African American Hispanic Other.....
6. Where do you live now? City State
7. In what type of area, do you live (*circle one*)? rural suburban city
8. Level of education: (Write highest level of education completed)
9. Occupation: