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# Emotion regulation in European American and Hong Kong Chinese middle school children

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EMOTION REGULATION IN EUROPEAN AMERICAN AND HONG KONG  
CHINESE MIDDLE SCHOOL CHILDREN

Kayan Phoebe Wan, M.A.

A dissertation submitted to the Graduate Faculty of  
JAMES MADISON UNIVERSITY

In

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for the degree of

Doctor of Psychology

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## ABSTRACT

This study explored emotion regulation strategies in middle school European American ( $N = 54$ ) and Hong Kong Chinese ( $N = 89$ ) children. Based on Gross's theory (1998), the Survey of Emotion Regulation Strategies was designed to study children's perceived effectiveness of emotion regulation strategies (deep breathing, thinking positively, situation avoidance, talking and suppression) in three fictitious scenarios associated with sadness, anger, and fear. Five mixed ANOVAs were conducted to evaluate the effect of culture, gender and the type of emotion on each emotion regulation strategy. The results demonstrated that American children considered deep breathing more effective in dealing with anger than with sad feelings; whereas Chinese children—in dealing with anger and fear than with sadness. Overall, American children scored higher than Chinese children for thinking positively, talking to someone, and situation avoidance strategies. However, both American and Chinese children preferred situation avoidance in dealing with anger then with fear and sadness and talking to somebody in dealing with anger and sadness than with fear. Children's explanations of why emotion regulation strategies were effective or ineffective were also explored.

## CHAPTER 1. INTRODUCTION

Effective emotion regulation (ER) is both a sign of and an explanation of adaptive psychosocial functioning. The development of ER is associated with many positive outcomes, including cognitive advances (Garber et al., 1991), social competence (Denham et al., 2003), academic achievement (Gumora & Arsenio, 2002; Sanson, Hemphill, & Smart, 2004) and psychological well-being (Gilliom, Shaw, Beck, Schonberg, & Lukon, 2002; Shedler, Mayman, & Manis, 1993). Research indicates that negative emotions may compromise children's ability to learn as they may reduce working memory (Linnenbrink, & Pintrich, 2000) and have a negative impact on reading, math and linguistic abilities (Valiente, Lemery-Chalfant, & Castro, 2007). On the contrary, effective ER is positively related to reading and math performance (Hill & Craft, 2003). Without appropriate support, emotionally reactive children may have difficulties at school (Blair, 2003). Apart from the negative impact on academic achievement, students' poor ER prevents teachers from teaching and might interfere with the development of positive teacher-student relationship. Teachers often report that it is challenging for them to manage emotionally reactive children in their classrooms (Fainsilber & Windecker-Nelson, 2004). All of the above suggest the importance of ER in childhood.

With reference to Thompson and Gross (2007) as well as Eisenberg as well as

Spinrad's definition on ER(2004), ER is defined as the physiological, attentional, cognitive or behavioral processes that individuals use to alter or maintain an emotional experience in order to achieve one's goals and to meet one's cultural demands. The present research is based on Gross's (1998) process-oriented approach to ER which posits five types of ER strategies: situation selection, situation modification, attention deployment, cognitive change and response modulation. This model has been well-supported with empirical research, at least in the adult's population (e.g., Butler, Lee, & Gross, 2007; Gross & John, 2003; John & Gross, 2004; John & Gross, 2007; Schutte, Manes, & Malouff, 2009; Sheppes, Scheibe, Suri, & Gross, 2011; Webb, Miles, & Sheeran, 2012).

Despite significant research attention on ER, the role of culture has not been systematically integrated into the study of ER. For example, out of 157 articles reviewed by Adrian, Zeman, and Veits, (2011), only six articles involved a population other than the U.S. However, as Shweder, Haidt, Horton, and Joseph (2008) stated, the meanings of emotions can only be understood within a cultural context. The cultural model of ER stipulates that different cultures promote or inhibit the prevalence of certain emotions through socialization processes (Matsumoto, 1990; Mesquita & Albert, 2007). Cultural models regulate emotions by maximizing the individuals' opportunities to encounter situations that are consistent with the cultural

model of emotion regulation and minimizing the individuals' opportunities to encounter situations that are inconsistent with the model principles (Mesquita, 2003). With reference to this framework, Western cultures traditionally value open emotion expression, whereas Asian cultures promote emotional restraint (Frijda & Sundararajan, 2007). For example, expressing anger in the Asian cultures is often discouraged as it disrupts group harmony; but it is considered a sign of assertive behavior in the American culture (Zhn-Waxler, Freidman, Cole, Mizuta, & Hiruma, 1996). Cultural differences in ER can be further understood in the cultural model of self (Mesquita, 2003). The construal of self is dependent upon culture and it can determine an individual's emotional, motivational and cognitive experiences (Markus & Kitayama, 1991). The majority of the Western individuals seek to maintain their independence by attending to the self and expressing their unique inner attributes. On the contrary, many non-Western cultures emphasize the fundamental relatedness of individuals to each other. These cultural differences may shape the way people regulate their emotions. For example, in Asian cultures, people may suppress their emotions to maintain group harmony (Bond, 1991); on the other hand, Americans tend to value positive affect to a greater extent than their Asian counterparts (Tsai, Knutson, & Fung, 2006; Tsai, Louie, Chen, & Uchida, 2007).

It is important to note that cultures are not static and modern societies may depart

from their traditional values and attitudes. For example, since 1990, China has been undergoing significant transformation, such as the introduction of market-oriented economy which resulted in a significant shift in the value system (Chen et al., 2005; Guthrie, 1999, 2006). Recent research demonstrated that the stereotype of the Chinese being emotionally less expressive than people in the Western cultures may be inaccurate for contemporary China. For example, Wang and Leichtman (2000) found that six-year-old Chinese children were more emotionally expressive than American children in their narratives; and Wan and Way (2009) demonstrated that Chinese urban adolescents readily expressed emotions in interviews about their friendship experiences. Cultural transformations in the Chinese societies may account for the inconsistent findings in ER in the Chinese population. Therefore, more research is needed to better understand ER in the contemporary Chinese culture.

Emotional expression and emotion coaching in family contribute to the development of social-emotional competence in children as the family environment provides children with the opportunities to regulate themselves (Greenberg, et al., 1999). Emotion-related socialization practices, such as talking about emotions (also known as emotion coaching), helps children to develop the capacity to regulate themselves (Eisenberg, Cumberland, & Spinard, 1998; Halberstadt, 1991). Research demonstrated differences in socialization of ER in the U.S. and China. More

specifically, Chinese mothers tend to focus on socially inappropriate behaviors, and the impact of these behaviors on others, rather than the emotional states associated with these behaviors. In contrast, European American mothers focus more on their children's needs and help children to feel good and maintain their positive self-esteem (Cheah & Rubin, 2004). Socialization of emotion regulation is also shaped by educational environment. For example, there are several school-based intervention and prevention programs in the U.S. which explicitly teach children ER strategies, such as deep breathing and avoiding situations which may provoke aggressive response (Greenberg & Kusche, 1998). However, such programs are not available for children in China.

Besides culture, gender is another variable that may account for the differences in ER. It was found that boys tend to suppress sad feelings while girls tend to suppress anger (Young & Zeman, 2003). These gender differences in ER persist into adulthood and they were found across 37 countries (Fischer, Mosquera, van Viane, & Manstead, 2004). Moreover, these differences in expressing negative emotions occur as early as in the preschool age (Chaplin, Cole, & Zahn-Waxler, 2005). Such differences are possibly due to different gender socialization practices when parents express a greater desire for boys to inhibit sadness and fear, and for girls to inhibit anger (Casey, 1993). Parents also tend to encourage their daughters to express

sadness to a greater degree than their sons (Cassano, Zeman, & Perry-Parrish, 2007; Chaplin, Cole & Zahn-Waxler, 2005).

There is a growing interest in studying ER in childhood (Adrian, Zeman & Veits, 2011). Based on Adrian et al. (2011) review on ER development, the research on children's ER can be summarized into the following domains: (1) typical development of ER in childhood and adolescence (e.g., Blandon, Calkins, Grimm, Keane, & O'Brien, 2010; Bockner, Brophy-Herb, & Banerjee, 2009); (2) atypical development of ER during childhood and adolescence (e.g., Alink, Cicchetti, & Rogosch, 2009); (3) the effect of parents on the development of ER (e.g., Berlin & Cassidy, 2003; Chang, Schwartz, Dodge, & McBride-Chang, 2003; Mirabile, Scaramella, Sohr-Preston, & Robinson, 2009); (4) the effect of culture on the development of ER (e.g., Cole & Tamang, 1998; Garner & Spears, 2000). Regarding ER strategies, research focused on children's emotion display rules (Zeman & Garber, 1996), emotion expression (Cole & Tamang, 1998; Dennis, Cole, Wiggins, Cohen, & Zalewski, 2009), problem-solving (Ayers, Sandler, West, & Roosa, 1996; Zalewski, Lengua, Wilson, Trancik & Bazinet, 2011), aggression (Eisenberg et al., 1993; Fabes et al., 1994), behavioral avoidance (Eisenberg et al., 1993; Fabes et al., 1994; Zalewski, Lengua, Wilson, Trancik, & Bazinet, 2011), cognitive reappraisal (Gullone, Hughes, King, & Tonge, 2010), and suppression (Gullone, Allen, MacDermott, & Hughes, 2009). It



was also demonstrated that the perceived effectiveness of ER strategies might vary depending on the type of emotions (Zeman & Shipman, 1996). For example, in one study, children preferred to express sadness to receive support; but not to show anger due to potential negative consequences (Zeman & Shipman, 1996). European American boys also tend to suppress sadness while girls tend to suppress anger (Young & Zeman, 2003). However, there is a lack of cross-cultural research on how children perceive the effectiveness of ER strategies for different types of emotion as well as how children explain the effectiveness of ER strategies.

### **Purpose of the Present Research**

In response to the above research gaps, the purpose of the present study is to investigate ER strategies in hypothetical emotion-activating situations in European American and Hong Kong Chinese children. The three negative emotions—anger, sadness and fear were chosen for this study because difficulty regulating these emotions put children at risk for developing internalizing and externalizing problems (Eisenberg et al., 2009).

Five ER strategies were studied based on Gross's (1998) classification: response modulation (deep breathing), situation selection (situation avoidance), attention deployment (thinking positively), situation modification (talking to someone) and response modulation (suppression).

## Research Questions

1. Are preferences for ER strategies (deep breathing, thinking positively, situation avoidance, talking to someone and suppression) affected by culture?

It is hypothesized that European American children would consider deep breathing, thinking positively, and talking to someone more effective than Chinese children; but Chinese children would consider situation avoidance and suppression more effective than European American children.

2. Are preferences for ER strategies (deep breathing, thinking positively, situation avoidance, talking to someone and suppression) affected by gender?

It is hypothesized that in both cultures, girls would consider talking to others more effective than boys.

3. Are preferences for emotion regulation strategies affected by the type of negative emotions (sadness, anger and fear)? It is hypothesized that

(a) In both cultures, children would prefer to talk to somebody to a greater degree when dealing with sad feelings than with anger and fear.

(b) In both cultures, boys would have a stronger tendency to suppress sad feelings than girls; on the contrary, girls would have a stronger tendency to suppress anger.

4. Are there cultural differences on how European American and Chinese children

explain the effectiveness/ineffectiveness of each ER strategy?

Since this research question is exploratory in nature, no hypothesis was generated.

## CHAPTER 2. LITERATURE REVIEW

### **Definitions of Emotion Regulation**

There is no single definition of the term “emotion regulation” (ER). For example, Cole, Marin and Dennis (2004) define ER as the process aimed at changing or maintaining an activated emotion. According to Thompson (1994), it is the “extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions; especially their intensive and temporal features, to achieve one’s goals” (p. 27-28). ER may involve various levels, including changes in emotion valence, intensity, or time course; changes within the individual (e.g., reducing distress through self-soothing), as well as between individuals (e.g., a parent calms down a distressed child) (Thompson, 1994). Similar to Thompson’s definition, Cicchetti, Ganiban and Barnett (1991) define ER as “the intra- and extraorganismic factors by which emotional arousal is redirected, controlled, modulated, and modified to enable an individual to function adaptively in emotionally arousing situations (p.15).” It is the individual’s attentional, cognitive or behavioral attempts to manage emotions by either maintaining or changing the intensity and duration of emotions and their external expression. ER also involves the ability to experience genuine emotions and to express them in ways that allow individuals to meet their ER goals as well as other goals, such as safety, maintaining positive social interactions and

perceived competence etc. (Bridges & Grolnick, 1995; Halberstadt et al., 2001).

According to Koole (2009), ER is a deliberate, effortful process that seeks to override a person's spontaneous emotional responses; it is a self-regulatory effort directed to individualistic goals (e.g., to inhibit fear to complete a challenging activity) or social goals (e.g., social harmony).

ER has been extensively studied within the effortful control framework. The term effortful control originates from research on temperament and it is defined as the “ability to inhibit a dominant response to perform a subdominant response (Rothbart & Bates, 1998, p137). Using this framework, Eisenberg and Spinrad (2004) defined “emotion self-regulation” as a multidimensional process that includes the experiences of emotion, related physiological states and the regulation of overt behaviors associated with the activated emotion. It is the “process of initiating, avoiding, inhibiting, maintaining, or modulating the occurrence, form, intensity, or duration of internal feeling states, emotion-related physiological, attentional processes, motivational states, and/or the behavioral concomitants of emotion in the service of accomplishing affect-related biological or social adaptation or achieving individual goals” (p. 338).

Eisenberg and Spinrad (2004) further argue that the emotion regulation process is effortful, which means that cognitions, attention or behaviors involved in ER are

voluntarily executed rather than automatic. Eisenberg, Smith, Sadovsky and Spinrad, (2004) emphasize that “emotion self-regulation” can occur to prevent the occurrence of an emotion or create situations that evoke a different emotional experience. It involves the modulation of emotional reactivity, allowing the expression of socially appropriate emotions and the inhibition of emotions that are inappropriate in social situations (Eisenberg, Fabes, Guthrie, & Reiser, 2000). To summarize the definitions of ER, ER can be conceptualized as the physiological, attentional, cognitive or behavioral processes that people engaged voluntary or automatically to alter or maintain emotional experiences.

Some researchers believe that ER starts simultaneously with the process of emotion generation process (Stansbury & Gunnar, 1994; Campos, Frankel, & Carnras, 2004). For instance, Campos and colleagues (2004) stated,

“Emotion regulation is the modification of any process in the system that generates emotion or its manifestation in behavior. The processes that modify emotions come from the same set of processes as those that are involved in emotion in the first place. Regulation takes place at all levels of the emotion process, at all times the emotion is activated, and is evident even before an emotion is manifested” (p. 377).

For other scholars, emotion generation and ER are quite different processes and the

latter only happens after an emotion is experienced (Coles, Martins, & Dennis, 2004; Gross, 1998; Koole, 2009). In the current study, emotion activation and ER are conceptualized as two distinct processes.

It is important to note that much of the previous research has focused on regulating negative emotions such as sadness, anger and/or fear (e.g., Zeman, Shipman, & Penza-clyve, 2001; Rivers, Brackett, Katulak, & Salovey, 2006). For example, in psychodynamic perspective, regulation of anxiety has received considerable attention (e.g., Cramer, 1996; John & Gross, 2004; Shedler, Mayman, & Manis, 1993). Research originated from the self-regulation tradition looks at how individuals regulate their anger (e.g., Robertson, Daffern, & Bucks, 2011). However, the positive psychology movement puts an emphasis on one's ability to maintain and increase positive emotional experiences (Langston, 1994; Tugade & Fredrickson, 2007).

### **Emotion Regulation Strategies**

Gross (1998) pioneered research on ER strategies and identified five families of ER strategies, including situation selection, situation modification, attentional deployment, cognitive change and response modulation. These strategies are briefly described below.

*Situation selection* involves one engagement in actions that may result in

selecting situations that evoke desirable/undesirable emotions. Eisenberg and Spinrad (2004) used the term “nichepicking” to describe a similar strategy. Situation selection or nichepicking may become problematic, for example, in the case of maladaptive use of avoidance in avoidant personality disorder and phobia (Gross, 1998).

*Situation modification* includes verbal prompts to assist in problem solving or to confirm the legitimacy of an emotion response and involves attempts to change the environment. For instance, when a child is upset, she goes to talk to someone about her distress (Gross, 1998). Situation modification is conceptualized as “problem-focused coping” (Lazarus & Folkman, 1984) or “primary control” (Rothbaum, Weisz, & Snyder, 1982) in the tradition of coping research.

While situation selection and situation modification involve the modification of the environment, *attentional deployment* refers to directing attention within a given situation in order to change one’s emotions (Gross, 1998). Gross (2008) referred this process as efforts to modify one’s “internal environment” and an internal version of situation selection. Distraction and rumination are some common strategies under this category. In fact, attentional deployment is one of the earliest ER processes. During intense emotional exchange, infants move their gaze away from the stressor (Stifter & Moyer, 1991). This strategy is also used by adults in order to cope with



stressful situations (Mather et al., 2004; Mather & Carstensen, 2005; Rothbart & Sheese, 2007; Watson & Sinha, 2008).

With the strategy *cognitive change*, individuals appraise situation to alter its emotional significance either by changing how they think about the situation or how they think about their capacity to manage its demands. Cognitive change involves the modification of the meaning of the situation which results in changes in the individual's emotional response to the situation (Gross, 1998). Reappraisal is one of the examples of cognitive change. Reinterpreting emotional event can be a highly effective form of ER as it leads to a reduction of negative emotion experiences and their behavioral expressions (Dillon & LaBar, 2005; Jackson, Malmstadt, Larson, & Davidson, 2000).

Finally, *response modulation* is an attempt to alter experiential, behavioral, and physiological responses associated with a particular emotion directly. Physical exercises, expressive suppression and relaxation (e.g., deep breathing) are some examples of this strategy (Gross, 1998). "Expressive suppression," which is the attempt to decrease ongoing emotion-expressive behavior, is one of the best-researched ER strategies (e.g., Butler, Lee, & Gross, 2007; John & Gross, 2004; Haga, Kraft, & Corby, 2007). Research indicates that expressive suppression is associated with negative outcomes such as worsening memory for material presented

during the suppression period and socially relevant information (John & Gross, 2004; Richards & Gross, 2000). Interpersonally, suppression is also related to diminished closeness and minimized comfort level when interacting with significant others, such as romantic partners (Butler et al., 2003; John & Gross, 2004). John and Gross (2004) speculated that suppression creates an internal discrepancy within the self which might lead to negative feelings about the self and alienating the individual from others.

The five ER strategies described above differ in the time of their primary impact during the emotion-generation process and therefore, they may be organized in two higher-order categories: antecedent-focused strategies and response-focused strategies (Gross, 1998). Antecedent-focused strategies occur prior to an emotion is fully activated and they can change the entire process of emotion generation. According to Gross (1998), situation selection, situation modification, attentional deployment and cognitive change, are considered as antecedent-focused, while response modulation often occurs after an emotion response is generated.

Using the effortful control framework, Eisenberg, Fabes, and Losoya (1997) identified three self-regulation strategies, including (1) “attempts to regulate the situation” or “nichepicking”(e.g., problem-focused coping), (2) “attempts to directly regulate emotion (e.g., emotion-focused coping) and (3) “attempts to regulate

emotionally driven behavior (e.g., behavior regulation).” Other researchers categorize ER strategies according to the levels of emotion engagement. For example, Rice, Levine, and Pizarro (2007) identified two broad groups of ER strategies: emotion engagement and disengagement. While emotion engagement consists of attempts to work through an emotional experience “by identifying emotions and their causes and devising ways to respond to the emotional experience” (p. 813), emotion disengagement involves the elimination of subjective feelings and emotion displays, for example, through suppression. Emotion engagement involves strategies such as information gathering, active distraction or support seeking. These strategies are found to be associated with positive psychological, physical, behavioral, social outcomes and well-being (Ellenbogen & Hodgins, 2004; John & Gross, 2004; Gilliom et al., 2002; Grolnick, Bridges, & Connell, 1996; Raver, Blackburn, Bancroft, & Torp, 1999; Gonzales, Tein, Sandler, & Friedman, 2001; Pennebaker & Seigel, 1999; Ravindran, Matheson, Griffiths, Morali, & Anisman, 2002; Shedler, Mayman, & Manis, 1993; Silk, Shaw, Forbes, Lane, & Kovacs, 2006). Emotion disengagement includes suppression, avoidant or passive coping and repression (Causey & Dubow, 1992; Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000; John & Gross, 2004). Generally, these strategies are found to be less effective and more maladaptive at least, in the American culture (John & Gross,

2004). Individuals who tend to repress their emotions are more physiologically reactive to emotional stimuli than those who do not repress their emotional experiences (Weinberger, Schwartz, & Davidson, 1979). Emotion disengagement may lead to a rebound effect associated with an increase in negative thoughts (e.g., Edwards & Bryan, 1997; Nolen-Hoeksema, 1992; Roemer & Borkovec, 1994; Wegner, Erber, & Zanakos, 1993; Wegner & Gold, 1995).

Literature review demonstrated that a significant body of research on ER strategies overlaps with the coping mechanisms research as they both involve one's efforts to manage or modulate negative emotions associated with an emotional or stressful event (Losoya, Eisenberg, & Fabes, 1998). According to Lazarus and Folkman (1984), in most situations, people first need to regulate emotional distress associated with the situation in order to facilitate problem-solving coping. For example, a person tries to reduce his/her anxiety by thinking about a solution for the task or by taking the tranquilizer. This approach is somewhat similar to Gross's model (1998), where cognitive and behavioral changes are involved in the process of ER. Many ER strategies such as distraction, avoidance, cognitive reappraisal, and support seeking were studied in both children's coping research (Ayers, Sandler, West & Roosa, 1996; Nolen-Hoeksema, 1992; Watson & Sinha, 2008) and ER literature (e.g., Melka, Lancaster, Bryant, & Rodriguez, 2011; Rivers, Brackett, Katulak and

Salovey, 2006; Sheppes, Scheibe, Suri & Gross, 2011). As a matter of fact, it is not uncommon that some ER studies use questionnaires designed for coping research (e.g., Coats & Blanchard-Fields, 2008; Silk, Steinberg, & Morris, 2003). It is important to note that Gross emphasized that coping and ER are distinct constructs and they only overlap partially. Coping involves analyzing and solving a problem rather than simply regulating one's emotions.

In addition to the overlap of coping and ER research, another common problem in ER research is a lack of clarity in the definition of ER strategies. To illustrate, Gullon, Hughes, King and Tonge (2010) use the term “expressive suppression” to describe “a form of response modulation involving the inhibition of ongoing emotion-expressive behavior” (p. 568), while Roger and Neshoever (1987) offered the term “emotion inhibition” to describe “the total suppression of emotion” (p. 529). According to these definitions, “emotion suppression” and “emotion inhibition” seem to refer to the same process. Definitions of commonly used concepts related to ER and coping strategies are summarized in Table 1 (see Appendix A).

## **Development of Emotion Regulation in Childhood**

The capacity to regulate one's emotion is one of the major socio-developmental tasks and it is one of the earliest self-regulatory mechanisms that children begin to master (see Feldman, 2009). Research demonstrated that infants can discriminate facial expressions by 5 months though they may not yet understand their emotional significance (Ludemann, 1991). Infants' averting behavior increases from 2 to 4 to 6 months (Moore, Cohn, & Campbell, 2001) and by 5 months, they begin to learn to regulate their frustrations (Stifter, Spinrad, & Braungart-Rieker, 1999).

Braungart-Rieker and Stifter (1996) found that in response to a frustrating arm-restraint procedure, children's communication increases but avoidance decreases between 5 and 10 months of age, suggesting the development of a more sophisticated means of regulation. By 12 months, children are able to actively regulate their emotions by shifting their gazes from strangers as they become alarmed (Water, Mtas, & Sroufe, 1975) or by retreating to the mother when a stranger is present (Bretherton & Ainsworth, 1974; Bronson, 1972).

Infants initially rely on their caregivers to regulate their emotions, however, they progressively internalize these abilities as they mature and move from extrinsic to intrinsic emotion regulation (Thompson & Meyer, 2007). Between 18-36 months, toddlers become more aware of social demands and learn self-monitoring skills,

which originates from reciprocal child-caregiver interactions (Kopp, 1982). They also begin to use a broader repertoire of strategies to regulate their emotions (Diener & Mangelsdorf, 1999). For example, the ability to effortfully inhibit behavior upon request (inhibitory control) becomes more evident in between 24 to 36 months of age (Gerardi-Caulton, 2000) and significantly improves between 36 and 48 months of age (Jones et al., 2003).

Children's efforts to control themselves become more obvious and conscious during their preschool and kindergarten years (Cassano, Perry-Parrish, & Zeman, 2007; Sroufe, 1995). With the growth of language skills, children master emotion-related language and begin to use it not only to comment on or explain their own or someone else's feeling state, but also to guide or influence their companions' behavior (Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986). Acquisition of language significantly changes the nature of children's cognition and communication from 2 and 6 years of age and language becomes a self-regulation tool (Campos, Frankel, & Camras, 2004). Starting at the age of 3, children are capable to identify happiness and tell whether they are happy or not (Saarni, 1999); and between 4 to 6 years old, they learn to identify and label anger, fear, and sadness (Saarni, 1999).

During middle childhood, children's abilities to express their emotions continue to grow with the increasing knowledge of affective language. They move beyond

basic feelings of happy, sadness and fear, and begin to understand more complex emotions, such as shame, guilt, pride and jealousy (Saarni, 1999). They learn to use ER strategies, including distraction (Stansbury & Zimmerman, 1999; Rivers, Brackett, Katulak, & Salovey, 2006), inhibition (Zemna, Shipman & Suveg, 2002), cognitive reappraisal (Gullon, Hughes, King, & Tonge, 2010), seeking comfort (Rivers et al., 2006) and verbal expression of emotion (Zeman & Garber, 1996). Children also become increasingly aware of the private nature of emotion and they learn to apply emotions display rules which allow them to deny, inhibit or conceal their feelings in accord with situational demands (Caroll & Steward, 1984; Lewis, 2000; Manstead, 1995; Zeman & Shipman, 1996). For example, compared to 7-year-old children, 10-year-old children reported less frequent use of expressive strategies, such as verbal expression, facial expression, crying, sulking and aggressive display of emotions and became more reluctant to use negative emotion displays (Shipman, Zeman, Nesin, & Fitzgerald, 2003). Research with 8, 10 and 12 year olds demonstrated that older children have an increased capacity and desire to control emotionally expressive behaviors and they are more likely to view their ability to regulate emotion as central to their social competence (Underwood, Hurley, Johanson, & Mosley, 1999). In another research with 9 to 15-year-old children, older children use suppression less frequently but use cognitive reappraisal more often; while younger children used



suppression more often than older children. Rice, Levine and Pizarro's study (2007) investigated the effects of emotional engagement and disengagement strategies on 7 to 10-years-old American children's memory in a sad situation (watching a sad movie). The researchers identified the following ER strategies that children used while watching the sad movie: "cognitive engagement" (when children reappraise the content of the sad film), "cognitive disengagement" (when children deemphasize the content of the film or use distraction, "behavioral" (when children described suppressing or changing emotional expression, gaze aversion and watching the movie). Cognitive strategies were reported significantly more frequently than behavioral strategies. The researchers also noticed that younger children reported distracting themselves more often than the older children. On the other hand, older children used reappraisal of the importance of the film (e.g., "It's just a movie, that's all,") or its content (e.g., "I thought the horse would get better") more often than the younger children. Improvements in representational thought and information processing abilities foster emotional understanding and adaptive coping (Harris, 1989; Saarni & Harris, 1989; Harter & Buddin, 1987; McCoy & Masters, 1985; Wintre & Vallence, 1994). As children get older, they learn not only emotional vocabulary, but also the ability to recognize the situations that elicit emotions, anticipate the consequences of emotions and their expression, and use emotion language to regulate

their own and others' emotions (Dunn, Brown, & Beardsall, 1991).

### **Outcomes of Emotion Regulation in Children**

Emotion regulation is associated with many social, cognitive and achievements in child development. It contributes to children's school readiness and academic competence as children who have difficulty regulating their attention and behavior are likely to have difficulty with learning and paying attention in the classroom (Blair, 2002). Effective ER is associated with children's social competence (Eisenberg, Fabes, Guthrie, & Reiser, 2000; Eisenberg, Smith, Sadovsky, & Spinrad, 2004). Well-regulated children, both emotionally and behaviorally, are being more liked by their peers, as reported by their teachers and parents (Graziano, Reavis, Keane, & Calkins, 2007; Wilson, 2003), while children with a deficit in ER are at risk for peer rejection (Maszk, Eisenberg, & Guthrie, 1999).

Children with high levels of negative emotionality but deficits in ER are at risk for externalizing problems (Eisenberg et al., 2005). They also tend to internalize their experiences which increase the likelihood of childhood depression (Zahn-Waxler, Cole, Welsh, & Fox, 2000). Children with anxiety and school refusal behavior reported more frequent use of suppression and less frequent use of reappraisal, as compared to their non-referred peers (Hughes, Gullone, Dudley, & Tonge, 2010). Therefore, identifying factors that influence the development of ER strategy remains

crucial in preventing and treating children psychopathology.

### **Gender Differences in Emotion Regulation**

Gender plays a significant role in the development of ER (see Bordy & Hall, 2000, for a review). Overall, men tend to use suppression more often than women (e.g., John & Gross, 2004). Gender differences are also reflected in stereotypes regarding emotion expression. For example, it is expected that European American women feel/express such feelings as awe, distress, embarrassment, fear, guilt, love, sadness, shame, surprise, and sympathy. However, European American men are expected to have such feelings as anger and disgust (Durik et al., 2006).

Research with children indicates that girls express positive feeling more directly than boys (Wang & Leichtman, 2000). Boys tend to suppress sadness while girls tend to suppress anger (Young & Zeman, 2003). These gender differences in ER persist into adulthood and they were found across 37 countries (Fischer, Mosquera, van Viane, & Manstead, 2004). Such differences may reflect different socialization practices when parents express greater desire for boys to inhibit sadness and fear, and for girls—to inhibit anger (Casey, 1993). Researchers also found that parents tend to encourage girls to express sadness to a greater degree than their sons (Cassano, Zeman, & Perry-Parrish, 2007; Chaplin, Cole, & Zahn-Waxler, 2005).

Gender differences in expressing negative emotions may occur as early as preschool

age (Chaplin, Cole, & Zahn-Waxler, 2005).

Not only do boys and girls differ in their preferences of ER strategies, psycho-social outcomes of using specific ER strategies also vary depending on gender. Particularly, in boys, the capacity to neutralize negative emotional expressions predicted peer acceptance by boys and girls, whereas in girls, the capacity to substitute a positive emotion for a negative one predicted girls' acceptance by other girls but not boys (Young & Zeman, 2003). McDowell, Kim, O'Neil and Parke (2002) found that 8 to 9-year-old girls, who were rated by their teachers as socially avoidant, exhibited less reasoning and more sad responses to the scenarios eliciting negative emotions; while girls rated as positive in social situations demonstrated fewer anxious responses.

### **Emotion Regulation Strategies in Children**

Based on Adrian et al., (2011) review, research development on ER research on children's ER can be summarized into the following domains: 1) Typical development of ER during infancy, childhood & adolescence (e.g., Blandon, Calkins, Grimm, Keane, & O'Brien, 2010; Bockner, Brophy-Herb, & Banerjee, 2009); 2) Atypical development of ER during infancy, childhood & adolescence (e.g., Alink, Cicchetti, & Rogosch, 2009); 3) the effect of parenting on ER development (e.g., Berlin & Cassidy, 2003; Chang, Schwartz, Dodge, & McBride-Chang, 2003; Mirabile, Scaramella,

Sohr-Preston & Robinson, 2009), 4) The effect of culture on ER development (e.g., Cole & Tamang, 1998; Garner & Spears, 2000); 5) Emotion expression and emotion display rules (e.g., Dennis, Cole, Wiggins, Cohen, & Zalewski, 2009; Novin, Banerjee, Dadkhah, & Rieffe, 2009); and 6) Relationship between ER and social competence (e.g., Gazelle & Druhen, 2009; Hessler & Katz, 2007).

Review of the literature identified the following of ER strategies studied in childhood: cognitive reappraisal (Ayers, Sandler, West, & Roosa, 1996), suppression (Gullone, Hughes, King, & Tonge, 2010), emotion expression (Cole & Tamang, 1998; Dennis, Cole, Wiggins, Cohen, & Zalewski, 2009; Shipman, Zeman, Nesin, & Fitzgerald, 2003), emotion display rules (Zeman & Garber, 1996), problem-solving (Ayers, Sandler, West, & Roosa, 1996; Zalewski, Lengua, Wilson, Trancik, & Bazinet, 2011), aggression (Eisenberg et al., 1993; Fabes et al., 1994), behavioral avoidance (Eisenberg et al., 1993; Fabes et al., 1994; Zalewski, et al., 2011) and other cognitive strategies including self-blame, blaming others, acceptance, refocus on planning, positive refocusing, rumination, positive reappraisal, putting into perspective and catastrophizing (Garnefski, Kraaij, & Spinhoven, 2001). Zeman and Shipman (1996) found that children use different strategies for different emotions. For example, they want to express sadness to receive support but not pain because children cannot control the painful experience and they prefer not to show anger because of potential

negative consequences. ER strategies and related methods of these studies are summarized in Table 2 (see Appendix B).

## **Methods of Studying Emotion Regulation Strategies in Childhood**

The review of the studies summarized in Table 2 indicated that studies on ER have employed four major methodological approaches, including self-report, informants' report (parent, teacher, or peer), natural observational, and physiological–biological indicators (Zeman, Klimes-Dougan, Cassano, & Adrian, 2007). Among these approaches, self-report is one of the most common methods to assess ER in middle childhood (Adrian et al., 2011). Of the 26 empirical studies reviewed, 6 of them utilized self-report questionnaires (Ayers, Sandler, West, & Roosa, 1996; Garber, Braafladt, & Weiss, 1995; Gullone, Hughes, King, & Tonge, 2010; Penza-Clyve & Zeman, 2002; Zeman et al., 2001), 8 studies used an observation approach (Melnick & Hinshaw, 2000; Rice et al., 2007; Underwood, 1997; Reijutjes et al., 2006; Shipman & Zeman, 1999; Suveg et al., 2008), 9 employed vignettes together with semi-structure interviews (Davis et al., 2010; De Castro et al., 2005; Downey, Lebolt, Rincon, & Freitas, 1998; Giesbrecht, Miller, & Muller, 2010; Eisenberg et al., 1993; Katz & Windecker-Nelson, 2002; Kidwell & Barnett, 2007; McDonwell et al., 2000; Rossman, 1992; Zahn-Wakler et al., 1996; Zeman & Garber, 1996; Zeman, Shipman, & Penza-Clyve, 2001); and 9 studies used only interviews without vignettes (Ayers et al., 1996; Kidwell & Barnett, 2007; Rossman, 1992; Shipman et al., 2003; Suveg et al., 2008; Zalewski et al., 2011; Zeman & Garber, 1996; Zeman et al., 2001).

Self-report questionnaires usually ask a child to rate his/her emotional experiences using the Likert scales e.g., Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA) (Gullone, Hughes, King, & Tonge, 2010), Child Perceived Coping Questionnaire (Rossman, 1992) and Children Sadness Management Scale (Zeman et al., 2001). To illustrate, Zeman and colleagues (2001) developed the Children Sadness Management Scale to examine children's degree of emotion inhibition and dysregulated-expression (e.g., mopping around, crying and whining). Two of the studies also employed mothers and teachers rating scales as part of their studies (Kidwell & Barnett, 2007; Lei et al., 2000) to assess children's ability to regulate their emotions.

When using vignettes and semi-structure interviews, 8 studies employed open-ended questions and asked children what they would do in the situation or when an emotion is felt. ER strategies were often assessed with questions like "When you feel so [negative motion mentioned], can you think of something that could make you feel better? What can you think of?" (De Castro, Merk, Koops, Veerman, & Bosch, 2005) or "when you felt [child's emotion term] and wanted to show/not show that you felt that way, then what would you do?" (Cole, Bruschi, & Tamang, 2002). Using this approach, De Castro and colleagues (2005) identified five types of ER strategies in their study. They included "solutions" (when an attempt to solve the problem was



mentioned (i.e., “I’ll go to the teacher and explain what happened”), “distraction” (e.g., “Go to my room and play my music”), “cognitive” (i.e., when a cognitive strategy was suggested, e.g., “I’ll think it was only a game”), “aggressive” when any form of aggression was mentioned, and “by other” when another person was involved. Some researchers also employed Likert-scales in the interview. For example, Zeman and colleagues (2001) asked children in the Affection Regulation Interview to rate on a Likert scale about the likelihood that they would/would not show their emotions.

Another approach to study ER in children is to use direct observation which is considered the gold standard in the field (Adrian et al., 2011). Of all studies reviewed, 9 used observation as the single method or a part of the process of inquiry (McDonwell et al., 2000; Melnick & Hishow, 2000; Reijutjes et al., 2006; Rice et al., 2007; Suveg et al., 2008; Underwood et al., 1999; Zahn-Wakler et al., 1996; Zalewski et al., 2011). In observation studies, researchers usually studied one specific emotion, for example, anger (Kidwell & Barnett, 2007; Melnick & Hishow) or sadness (Rice et al., 2007). In these studies, children were exposed to emotion induction tasks such as watching a sad movie (Rice et al., 2007) or doing a lego task which induced frustration (Melnick & Hishow, 2000). Some studies use preselected ER strategies (Ayers et al., 1996; Cole & Tamang, 1998; Gullone et al., 2010; Lei et al., 2000; McDonwell et al., 2000; Penza-Clyve & Zeman, 2002; Raval, Martini, &

Raval, 2010; Reijtjes et al., 2006; Rossman, 1992; Shipman et al., 2003; Zahn-Wakler et al., 1996; Zalewski et al., 2011; Zeman & Shipman, 1996; Zeman et al., 2001). For instance, Gullone and colleagues (2010) studied suppression and cognitive reappraisal in children, using the Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA). In another study, Reijtjes and colleagues (2006) preselected the following strategies based on the engagement–disengagement dimensions: problem-oriented engagement behavior, disengagement/passive behavior, behavioral distraction, cognitive engagement strategies and cognitive disengagement strategies.

Other research investigated strategies generated by children (Ayers et al., 1996; Cole et al., 2002; Davies et al., 2010; De Castro et al., 2005; Garber et al., 1995; Kidwell & Barnett, 2007; Melnick & Hishow, 2000; Raval et al., 2007; Rice et al., 2007; Suveg et al., 2008; Underwood et al., 1999; Zeman & Garber, 1996.) In some of these studies, children were asked to generate a response, such as “when you feel so [negative emotion], can you think of something you could make you feel better? What can you think of?” (De Castro et al., 2005). Researchers then coded these responses into categories, either based on priori coding (e.g., Ayers et al., 1996; Melnick & Hishow, 2000) or using open coding approach (e.g., De Castro et al., 2005; Suveg et al., 2008).

A significant body of ER research focused on children's emotion expression and/or emotion display rules (e.g., Raval, Martini, & Raval, 2007; Underwood, Hurley, Johanson, & Mosley, 1999; Zeman & Garber, 1996; Zeman & Shipman, 1996; Zeman et al., 2001). In particular, researchers investigated whether children would display their emotions to another person. For example, Zeman and Garber (1996) studied how 7 to 11-years-old European American children display their sad, anger feelings and physical pain in the presence of observers, including their parents or peers. The results indicated that regardless of the type of emotion experienced, children reported a desire to control their emotions in front of peers to a greater degree than when they were with their parents or alone. Younger children in the study reported a desire to express sadness and anger more often than older children, while older children appeared to use more active distraction strategies. Girls were more likely to express sadness and pain than boys. Overall, children's primary reason for controlling their expression was an expectation of a negative interpersonal interaction after disclosure.

Regarding specific emotions studied, out of the 26 studies reviewed, 17 studies involved anger, 12—sadness, 3—fear/anxiety/worry, 5—excitement/ happiness and 7 involved some kind of negative emotionality or situations that provoked distress (See Table 2). Relatively fewer studies, about three, have looked at children's fear regulation (e.g., Rydell et al., 2003; Roth, Assor, Niemiec, Ryan, & Deci, 2009).

Different types of negative emotions may have differential effects on the regulatory processes (Halberstadt, Crispy, & Eaton, 1999). Review of the studies demonstrated that some strategies received more attention than others. For example, aggressive behaviors or verbal expressions are the most often studied ER strategy (e.g., Cole & Tamang, 1998), followed by behavioral avoidance (e.g., Ayers et al., 1996) and facial display of emotions (e.g., Cole & Tamang, 1998). Common ER strategies found in the children literature are summarized in the following Table 3 on page 35.

It is found that among the 26 studies reviewed, only 9 studies include a cultural group different than the Americans. These cultural groups include Chinese (Lei, Schwartz, Dodge, & McBride-Chang, 2000), Australian (Gullone, Hughes, King, & Tonge, 2010), Nepalese (Cole & Tamang, 1998), Netherlands and Iranian children (Novin, Banerjee, Dadkhah, & Rieffe, 2009), European American and Nepalese children (Cole, Bruschi, & Tamang, 2002), Japanese and U.S. children (Zahn-Wakler et al., 1996), Indian children (Raval, Martini, & Raval, 2007; 2010), Indian children and U.S. children (Wilson, Raval, alvina, Raval, & Panchal, 2012).

Table 3

*Frequency of Common ER Strategies Studied in the Childhood Literature*

ER Strategies (Frequency studied)	Authors
Aggression (11)	Cole & Tamang, 1998; De Castro et al., 2005; Lei et al., 2000; Raval et al., 2007; Raval et al., 2010; Shipman et al., 2003; Suveg, et al., 2008; Zahn-Wakler et al., 1996; Zeman & Garber, 1996; Zeman & Shipman, 1996; Zeman et al., 2001
Behavioral avoidance (8)	Ayers et al., 1996; Cole & Tamang, 1998; Garber et al., 1995; Reijutjes et al., 2006; Rossman, 1992; Suveg et al., 2008; Zahn-Wakler et al., 1996; Zalewski et al., 2011; Zeman & Garber, 1996
Facial Expression (7)	Cole & Tamang, 1998; Cole et al., 2002; Raval et al., 2007; Shipman et al., 2003; Underwood et al., 1999; Zeman & Garber, 1996; Zeman & Shipman, 1996;
Problem-solving (7)	Ayers et al., 1996; De Castro et al., 2005; Garber et al., 1995; Melnick & Hishow, 2000; Reijutjes et al., 2006; Suveg et al., 2008; Zalewski et al., 2011;
Cognitive appraisal (6)	Ayers et al., 1996; De Castro et al., 2005; Garber et al., 1995; Gullone et al., 2010; Reijutjes et al., 2006; Zalewski et al., 2011
Verbal Expression (6)	Ayers et al., 1996; Rice et al., 2007; Shipman et al., 2003; Underwood et al., 1999; Zeman & Garber, 1996; Zeman & Shipman, 1996
Seeking social support/Understanding (5)	Ayers et al., 1996; Davies et al., 2010; Garber et al., 1995; Melnick & Hishow, 2000; Rossman, 1992
Inhibition/Suppression/Repression (4)	Gullone et al., 2010; Rice et al., 2007; Zalewski et al., 2011; Zeman et al., 2001
Distraction (4)	Ayers et al., 1996; De Castro et al., 2005; Reijutjes et al., 2006; Rossman, 1992

## **Culture and Emotion Regulation**

“When joy, anger, sorrow and pleasure have not yet arisen, it is called ch’ung (moderation). When they arise to their appropriate levels, it is called “harmony.”

Moderation is the great root of all-under-heaven.”

*Confucious, Doctrine of the moderation, Ch1*

“If you don't manage your emotions, then your emotions will manage you.”

*Doc Childre and Deborah Rozman, Transforming Anxiety*

*Contemporary American authors*

## **Definitions of Culture**

Culture is defined as the socially inherited collection of past human behavioral patterns and accomplishments (D’Andrade, 1996). Through accumulated knowledge, experience and learning of the past, culture provides a template that guides human behavior (Cole, 1996; Rosaldo, 1984) and a framework for collective deliberations about what is true, beautiful, good and normal (Shweder et al., 1998). Greenfield, Keller, Fuligni, and Maynard (2003) identified two main components of culture, namely shared activities (cultural practices) and shared meaning (cultural interpretation). They argued that these two components are cumulative in nature and can be transformed over developmental and historical time. It is important to note that culture is not static because each generation contributes to the development of cultural processes and is being shaped by those cultural processes (Rogoff, 2003). Some aspects in a culture may transform, while some remain fairly stable (Tardif, Wang, and Olson, 2009).

## **Dimensions of Cultural Orientations**

Individualism vs. collectivism is one of the major frameworks used to describe cultural orientations (e.g., Chan, 1994; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). Triandis (1995) identified four attributes to define cultural orientations: self, goals, relationship, and determinants of behavior. Individualistic orientation puts an emphasis on personal rights above duties; it emphasizes a concern for oneself and immediate family, and celebrates personal autonomy, self-fulfillment, personal accomplishments, independence and personal uniqueness (Hofstede, 1980; Kim, 1994; Markus & Kitayama, 1991; Triandis, 1995). In individualistic cultures, personal achievements are crucial sources of well-being and life satisfaction (Diener & Diener, 1995; Markus & Kitayama, 1991).

For collectivistic orientation, group membership is a central aspect of identity. Sacrificing for the common good and maintaining harmonious relationships with group members are highly valued (Hofstede, 1980; Kim, 1994; Markus & Kitayama, 1991; Triandis, 1995). Collectivistic societies value mutual obligations and expectations based on ascribed statuses (Schwartz, 1990). In collectivistic cultures, well-being results from fulfilling social obligations and roles. Collectivistic cultures value restraint in emotional expression, rather than open and direct expression of feelings, in order to keep in-group harmony (Markus & Kitayama, 1991). Oyserman

and colleagues (2002) speculated that individuals from collectivistic cultures might place more value on decoding interpersonal emotions than on individual expression of emotions; and they also tend to express their emotions indirectly compared to members of individualistic cultures. Meta-analysis demonstrated that European Americans are significantly more individualistic, and less collectivistic. On the contrary, the Hong Kong Chinese are found being more collectivistic than the European Americans (Oyserman, Coon, & Kemmelmeier, 2002).

Another mainstream framework to describe cultural orientations is proposed by Markus and Kitayama (1991) who conceptualized cultural differences in terms of how people construe the self and others. The majority of the Western individuals seek to maintain their independence from others by attending to the self and by discovering and expressing their unique inner attributes. On the contrary, many Asian individuals appreciate the fundamental relatedness of individuals to each other. Such differences in orientations give rise to the different self-construals: the self is viewed as “interdependent” in the Asian cultures, while it is conceptualized as “independent” in the Western cultures. According to Markus and Kitayama (1991), the independent self does not neglect social responsiveness; however, social responsiveness is often derived from the need to express or assert oneself. Interdependent cultures, such as the Japanese and Chinese, focus on their relationships with others and social



memberships (Kanagawa, Cross, & Markus, 2001; Markus & Kitayama, 1991).

They value relational expectations and self-improvement in meeting role-based obligations (Rothbaum, et al., 2000). Conflict is often avoided to maintain social harmony.

Some scholars have challenged a polar dimension of cultural orientations (e.g., Individualism vs. Collectivism; Independent self (autonomy) vs. Interdependent self (relatedness) and proposed the coexistence of these dimensions (e.g., Tamis-LeMonda et al., 2008). Kağıtçıbaşı (1996, 2005) argued that with increasing Westernization among the urban educated middle-class in East Asian cultures, a new model that combines autonomy and relatedness is more appropriate. Emotion socialization practices in “a Westernized Asian culture” may strike a balance in teaching children to control negative emotions while encouraging them to express emotions (Wilson et al., 2012).

Another theory that addresses cultural orientation is proposed by Hofstede (1980) and it captures two dimensions: Power Distance, Uncertainty Avoidance and Long vs. Short-Term Orientation (Hofstede, 1980). High Power Distance cultural groups tend to afford individuals in higher hierarchy with more power and accept the unequal power distribution within society (Hofstede, 1980). They emphasize self-regulation and discourage assertiveness when interacting with people in high hierarchy

(Matsumoto, 2007). Low Power Distance cultural groups, on the other hand, tend to minimize power and status differences among individuals and prefer equal distribution of power within society. Unlike the High Power Distance cultural groups, these cultures tend to encourage assertiveness and discourage self-regulation when interacting with people in higher hierarchy (Matsumoto, 2007). The dimension of Uncertainty Avoidance, refers to the degree to which people feel threatened by the unknown or ambiguous situations and have developed beliefs, institutions, or rituals to avoid them (Hofstede, 1980). Cultures high on Uncertainty Avoidance are often associated with greater levels of anxiety among its members; they also develop more institutions and rules to deal with this anxiety (Hofstede, 1980). The third orientation, Long- versus Short-Term Orientation refers to the extent in which culture group members encourage delayed gratification of material, social, and emotional needs among its members (Hofstede, 2001). Cultural groups that take a long-term perspective to relationships are more likely to regulate emotional reactions to preserve the possibility of positive future outcomes.

### **The Impact of Cultural Orientation on Emotion Regulation**

Culture plays a significant role in emotion regulation though supplying individuals with rules and values informing which emotions and emotional expression are appropriate and which are not (Hochschild, 1979; Raver, 2004). Culture-specific

methods of emotion regulation are organized according to the cultural ideals of independence/individualism and interdependence/collectivism. For independent selves, emotions are often regarded as a direct expression of the self and an affirmation of the importance of the individual (Markus & Kitayama, 1994). For example, European American culture regards emotion as a source of self-authenticity and individuality and encourages emotion expression.

In interdependent/collectivistic cultures, emotional experience is more influenced by one's immediate relational context than in independent/individualistic cultures (Oishi, Diener, Scollon, & Biswas-Diener, 2004). Research suggested that while Americans tend to see emotions as feelings of the individual, the Japanese see them as inseparable from the feelings of the group (Masuda, Ellsworth, Mesquita, Leu, & Veerdonk, 2008). For example, Masuda and colleagues (2008) found that when looking at cartoons depicting interpersonal situations, Americans tended to focus on the emotions of the central person and disregard the emotions of the surrounding people. The Japanese, however, tend to focus on the emotional expressions of both, the central person and the surrounding people. These contrasting focuses of attention reflect the values placed on self (autonomy) and relating to others (relatedness) (Mesquita & Albert, 2007). In the Chinese culture, strong emotions are viewed as potentially destructive to social relations; therefore, moderation in

emotional expression is strongly encouraged (Bond, 1991; Kitayama & Markus, 1994, 2000; Lupton, 1998; Mesquita & Leu, 2007). Anthropologist Potter (1988) described the Chinese attitudes towards emotion display as indifference. One of her informants stated, "How I feel does not matter!"

Several studies have documented that East Asians use suppression more frequently than other cultural groups (Butler et al., 2007; Gross & John, 2003). Study of emotion regulation strategies across 23 countries demonstrated that people from cultures that are long-term oriented and value hierarchy, are more likely to use emotion suppression (Matsumoto, Yoo, & Nakagawa, 2008). It is congruent with the idea that interdependent cultures give a priority to social obligations and responsibilities rather than to self-expression. On the contrary, in cultures that place value on individual affective autonomy and egalitarianism, such as the United States, individuals tended to use suppression less frequently. Moreover, using suppression may be more maladaptive for people with individualistic orientation than for people who hold collectivistic orientation (Butler, Lee, & Gross, 2007).

Research indicated that cultural variations in ER may be evident as early as in the preschool and elementary school years. For example, Cole and colleagues (2002) found that 8 to 12-year-old Nepalese Tamang children were more likely to feel shame in difficult situations while Nepalese Brahman and American children frequently felt

anger. Nepalese Brahman children were more likely to conceal their negative emotion than Nepalese Tamang and American children.

Another research indicated that Indian children considered others to be less accepting of their expressions of anger and sadness than pain and they reported a greater desire to control their anger and sadness than physical pain (Raval, Martini, & Raval, 2007). Wilson and colleagues (2012) found that American children reported a stronger desire to communicate their feelings than the Indian children; they also reported a desire to obtain social support/help as a reason to express anger and sadness to a greater degree than Indian children.

The affect valuation theory suggests that culture promotes the experience of certain emotions, which is known as ideal affect (Tsai, 2007). Tsai, Knutson, and Fung (2006) compared the ideal affect of European American, Hong Kong Chinese, and Chinese American college students. They found that European Americans reported valuing high positive arousal states significantly more and low positive arousal states significantly less than their Hong Kong Chinese counterparts. As predicted by their bicultural orientation, Chinese Americans valued high positive arousal states more than did the Hong Kong Chinese students, but also valued low positive arousal states more than European Americans. Similar findings were also found in the children sample. For instance, European American preschoolers

showed more preference for excited smiles and perceived the excited smile as happier than Taiwanese Chinese preschoolers (Tsai, Louie, Chen, & Uchida, 2007). The ideal affect is also reflected in the media. For example, American women's magazines contain more excited smiles and fewer calm smiles than the Chinese women's magazines (Tsai & Wong, 2007). These differences were also found in men's magazines (e.g., GQ, HIM) and news magazines (e.g., Newsweek, Next Guy) (Tsai & Wong, 2007) and children storybooks (Tsai, Louie, Chen, & Uchida, 2007). Cultural environment offers specific situations that promote or inhibit certain emotions that perhaps shape the idea of the ideal affect (Mesquita & Albert, 2007). American culture offers many situations to make individuals feel unique and happy (D'Andrade, 1984). For example, at schools, American teachers often praise children, while Chinese children are more often exposed to shaming experiences. Indeed, shame is a more prevalent emotion in Japan and China, as compared to North America (Wang & Leichtman, 2000; Mesquita et al., 2006) and is widely used as a mean of social control (Chao, 1996; Chen, Chen, Kaspar, & Noh, 2000; Schoenhals, 1993). For instance, a common parenting phrase used among the Chinese is, "Do you know how shameful it is to do that? Even if you are not ashamed, I feel ashamed."

Language provides a vehicle through which cultural ideas are transmitted

(Wierzbicka, 1993; Slobin, 2003). Leff (1973) hypothesized that since the Chinese language, as compared to English, has fewer words expressing emotions, the Chinese would find it difficult to verbally communicate nuances of their emotional experiences. For example, instead of labeling a discrete emotional state, such as anger and sadness, they may say, “I feel uncomfortable.” It is well-known that Chinese culture views psychological and physical states as closely intertwined and the Chinese often talk about emotions using somatic terms (Kleinman, 1986; Ots, 1990). Indeed, the Chinese language holds a strong association between body parts and emotions (Yu, 2002). For instance, anger (literally translated as “to create energy”), refers to the getting of an internal energy within the body. The metaphor, “heart is the container of emotions,” is widely used in the Chinese culture (Yu, 2002), as well as in the American culture (Pérez, 2008). Many emotion-related Chinese words, such as nu (anger), kong (fear), bei (sorrow), also include heart as part of the word (Russell & Yik, 1996). Chinese children often make references to their “hearts” when they talk about their emotional experiences (Wan & Way, 2009).

### **Cultural Differences in the Family Socialization of Emotion Regulation**

The role of family in the development of children’s emotion regulation is critical. There are three major developmental theoretical frameworks that may explain how family environment shapes ER processes: The psycho-cultural model (Withing, 1977),

the developmental niche (Super and Harkness, 1986), and eco-cultural theory (Weisner, 1996; 1997).

The psycho-cultural model explains cultural differences as a result of contextual and structural conditions that shape child early experiences (see Whiting, 1977 for a review). Super and Harkness (1986) further expanded this model and coined the term “developmental niche” which is composed of three elements: (1) the *physical and social settings in which the child lives*; (2) *the cultural customs of childcare and child rearing*; and (3) *the psychology of the caretakers*. In this model, the child is viewed as an active agent who interacts with his/her micro- environment. Whiting’s as well as Super and Harkness’s models are integrated in the eco-cultural theory that emphasizes the role of daily routine and activity settings in psychosocial development (Weisner, 1996; 1997).

Greenfield and colleagues (2003) proposed two developmental pathways: one emphasizes individuation and independence, whereas the other emphasizes group membership and interdependence. Barrett and Campos (1997) suggested that children’s emotional development is affected by socialization at both familial and societal levels through (1) teaching children’s the “appropriate” behavioral responses to emotional experiences; (2) exposing children to environment that triggers particular types of emotional responses and (3) prescribing rules concerning emotional



expression.

Parenting styles and goals have a significant impact on emotion socialization (Chan, Bowes, & Wyver, 2009; Coplan, Hastings, Lagace-Seguin, & Moulton, 2002; Eisenberg, Cumberland, and Spinrad, 1998). For example, McDowell and colleagues (2002) found that American parents who were less warm but more controlling, had children who exhibited maladaptive ER strategies. In the Hong Kong sample, mothers' harsh parenting negatively affected their children's ER and fathers' harsh parenting is positively associated with their children's level of aggression at school (Chang, Schwartz, Dodge, & McBride-Chang, 2003). Since different cultures have different values attached to emotion expression, it may influence parental goals for emotion socialization. Chinese mothers often give less attention to their children's emotional states, but focus more on socially inappropriate behaviors, and the impact of these behaviors on others (Cheah & Rubin, 2004). In contrast, European mothers focus more on their children's needs, helping children to feel happy and maintain positive self-esteem (Cheah & Rubin, 2004).

Emotion-related socialization practices, such as talking about emotions (also known as emotion coaching), help children to develop the capacity to regulate themselves (Eisenberg, Cumberland, & Spinard, 1998; Halberstadt, 1991). Parents have so called meta-emotion philosophy which is a system of parents' beliefs,

thoughts and feelings about their own and their children's emotions (Gottman, Katz, and Hooven, 1996). Emotional expression in family and emotion coaching contribute to the development of social-emotional competence in children as the environment provides children with opportunities to regulate themselves and to observe ER practices (Greenberg et al., 1999). For example, American parents who frequently discuss emotional reactions tend to have preschoolers who are competent in regulating emotions (Kuersten-Hogan & McHale, 2000) and parents who use more emotion-coaching strategies are more aware of their children's emotions (Gottman, Katz, & Hooven, 1997). Parents, who believe negative emotions are a part of healthy experiences, "coach" their children to label feelings, and engage them in problem-solving process to identify constructive ways to manage their emotional reactions (Gottman, Katz, & Hooven, 1997). Studies show that children, whose parents use more emotion-coaching strategies, are better at calming themselves down than those who have emotion-dismissing parents (Gottman et al., 1996). On the other hand, parents who tend to dismiss emotions are less concerned with their children's emotions (Lunkenheimer, Shields, & Cortina, 2007). They use less elaborate language for emotions and believe that negative emotions are unhealthy and harmful; they also attempt to alter their children's emotional states rather than to teach them adaptive emotion regulation strategies. Parents who dismiss their children's

emotions tend to have children with externalizing problems (Lunkenheimer, Shields, & Cortina, 2007).

Research with Chinese parents indicated that they often take a moralistic approach to child rearing (Ekblad, 1984). They raise their children to be “good” boys and “good” girls and to achieve in school (Kam, 2012); but they may not be very sensitive to children’s’ feeling (Wang, 2006). With such parental values, parents tend to dampen their children’s emotional expressions in the interests of maintaining group harmony (Tsai et al., 2002). However, there are some variations in parental behavior within the Chinese culture. Chan, Bowes and Wyver (2009) found that authoritative mothers, who held individualistic emotional competence goals, adopted an emotion-encouraging approach, whereas authoritarian mothers, who held relational emotional competence goal, adopted an emotion-dismissing approach.

Parents may directly teach ER strategies as well as teach children indirectly through modeling emotional behavior and discussing emotions (Saarni, 1999). Children imitate the way how their parents regulate and express their emotions (Barrett & Campos, 1987; Bridges, Denham, & Ganiban, 2004; Denham, 1998; Morris et al., 2007). Parental emotion regulation or expression provides an environment in which children learn the appropriateness of emotional expression in terms of its valence, duration and intensity. Excessive negative emotions from

parents often exert a dysregulating effect on young children's emotions (Cummings, Davies, & Campbell, 2000).

Children's and their parents' gender may impact the way how emotions are communicated and which regulatory strategies are promoted in the family. In the American culture, mothers talk to girls about emotions more often than to boys (Dunn, Bretherton, & Munn, 1987; Fivush, 1993). Furthermore, mothers tend to focus more on anger with their sons and more on sadness with their daughters (Fivush, 1991). Mothers seem to play a more essential role in their children's emotion regulation development than fathers as mothers discuss causes of emotions and help children regulate their emotions more often than fathers (Fivush, Brotman, Buckner, & Goodman, 2000). Cassano and his colleagues (2007) found that fathers were more likely to respond to their children's sad feelings by minimizing the problem or encouraging inhibition of expression, whereas mothers were more likely to respond with problem solving strategies and encourage children to express their feelings.

### **Emotion Regulation and Educational Context**

School context may significantly contribute to the development of self-regulation in children (Gottfredson, 2001). In the United States, ER is introduced in many school-based prevention and intervention programs. For example, in the Incredible Years program, students are taught to identify emotions in themselves and in others,

label emotions accurately, and talk about them (Webster-Stratton et al., 2001).

Likewise, the Promoting Alternative Thinking Strategies (PATHS) curriculum encourages students to actively discuss their feelings (Greenberg & Kusche, 1998).

A recently developed emotion curriculum for children in the Head Start program uses puppets, emotion storybooks, and interactive games to increase children's ability to label and understand emotions (Izard, Trentacosta, King, & Mostow, 2004).

Self-help resources, including prints, online information and videos, provide a bank of resources that teach American children, teachers and parents about ER strategies. Some examples include Verdick and Lisovskis's *How to take the grrr out of anger (laugh and learn)*, Huebner's *What to do when you worry too much: a kid's guide to overcoming anxiety*, Lite and Fox's *The Goodnight Caterpillar: A children's relaxation story to improve sleep, manage stress, anxiety, anger and* Dlugokinski's *Dealing with feelings...etc.* Youtube videos helping parents and school teach children emotion regulation are also available. These self-help books and media promote the use of certain ER strategies, such as charting your emotions (Marion, 2010) and deep breathing to ease children's anxiety (Teel, 2005).

In China, the situation is different. In the past, the value was placed on academic success at the expense of children's emotional and social development (Vaughan, 1993; Pang & Richey, 2007). For example, both the 1986 Compulsory

Education Law and 2006 National Congress of the People's Republic of China stated that the supreme goal of education in China is “the well-rounded development of children and adolescents in morality, intellect and physical well-being.” As one can see, emotional development is not mentioned in either of these documents.

Moral education, which is rooted in the Confucian’s traditions, is a significant part of the Chinese school curriculum with the ultimate goal to teach children self-control and to show respect for the others. Values such as “integrity” and “care for others” are given priority (other values include “perseverance”, “respect for others”, “responsibility”, “national identity” and “commitment”). These values are often embedded in the school curriculum (Education Bureau, 2012). Moreover, in 2004, the Chinese government has developed criteria for evaluating students' moral development including teaching students the following values and behaviors: patriotism, compliance, valuing academic achievement, maintaining physical health, respect to authority, development of self-esteem, be considerate of the group, be honest and responsible as well as preserving the environment (Ministry of Education, 2004).

Although in today’s China, more self-help information is available for parents to teach children about emotions, China is still way behind the United States in terms of resources on ER available for children, their parents, and teachers.

## CHAPTER 3. METHOD

### **Participants**

The study was carried out in Virginia, the United States (US) and Hong Kong (HK), China. Children were recruited from three regular schools in Staunton (population 23,746), Stuart Draft (population 9,235) and Harrisonburg (population 48,914) in the United States and two regular schools located in the suburban areas of Hong Kong (population 7.01 million).

Participants were 54 European American children (25 females and 29 males, mean age = 10.6) and 89 Hong Kong Chinese children (44 female and 45 male, mean age = 10.6 years). In the following sections, these children are referred as American and Chinese children for the ease of reading. All the participants were given a small gift (worth US\$1) for their participation.

### **Protection of Participants' Rights**

Prior to the study, parents signed a consent form in which they were informed about the nature of this research (see Appendix C & D). The children were also explained about the study before proceeding to participation. They were informed that they could withdraw from the study at any time if they would feel uncomfortable. No identifying information was collected and each child was given a participant ID for research purpose.

## Measurement

The Survey for Emotion Regulation Strategies was designed specifically for this study (see Appendix E & F). It consists of three stories describing an imaginary child (Ann or Johnny) encountering situations that provoke feelings of sadness, fear or anger. After reading each story, children were asked to rate the degree of helpfulness of each ER strategy, including deep breathing, situation avoidance, thinking positively, talking to someone and suppression, in the situation. These strategies were preselected based upon Gross's (1998) model of ER.

The children were given the following instruction: "I am going to tell you three stories about Johnny/Ann and want your advice on how to help Johnny/Ann in those stories. There is no correct or incorrect answer. I just want to know your opinion. Do you have any questions? If not, we can start now."

The interviewers explained to the children how to use the Likert scale with the following direction, "Look at this ruler—"0" means not helpful at all, "1"—very slightly helpful, "2"—will help a little bit, "3"—helpful, "4"—definitely helpful, "5"—very helpful. So, what is your opinion—is it helpful or not to use [name of the strategy] to deal with [name of the negative emotion]?" After rating each of the strategy, the children were asked to explain why they thought these strategies would or would not help the character to deal with his/her feeling. The children's responses were



recorded verbatim. To avoid any order effect, the three stories were presented in counterbalancing order.

Demographic information, including gender, age and living arrangements (i.e., who they are currently living with) were collected at the end of the interview.

### **Translation**

The stories were written in English and were translated and back-translated by Cantonese native speakers to reflect everyday speech and preserve cultural meanings. Two versions, English and Cantonese, then were compared to ensure equal meanings.

### **Data Collection**

Invitations to participate in the current study were sent to all the elementary schools in Staunton, Stuart Draft and Harrisonburg in the U.S. and to all the primary schools in H.K. Three local schools in the U.S. and two local schools in H.K. agreed to participate. Children were individually interviewed by trained local undergraduate and graduate students during a school day in a private location at the school. The interviewers first established rapport with the child by engaging the child into casual conversation. The stories were read one at a time to the child. The average time of each interview was approximately 20 minutes.

At the end of the interview, the interviewers thanked the children for their participation, gave them a small gift and debriefed about the nature of the research.

Children were informed that this research would allow the investigators to understand children's preferences for ER strategies.

### **Data Analyses**

To answer the research questions, the following statistical procedures were used:

**Research question 1.** Are preferences for ER strategies (deep breathing, thinking positively, situation avoidance, talking to someone and suppression) affected by culture, gender, and the type of emotion?

Five mixed ANOVAs were conducted to evaluate the effect of culture, gender and emotion situations on each ER strategy. The between-group factors were culture with two levels (American and Chinese) and gender with two levels (female and male), whereas the within-group factor was emotion situation with three levels (sadness, anger and fear).

**Research question 2.** Are there cultural differences in how American and Chinese children explain the effectiveness/ineffectiveness of each ER strategy?

Children's responses were coded in their original language to preserve their cultural meanings. Two bilingual (Chinese and English) and two English speaking research assistants used emergent coding strategy (Stemler, 2001) to code one-third of the protocols in each sample. Then, they discussed and refined the emerged themes in order to develop a coding manual (see Appendix G). At the end this process, 23

coding themes were identified. After that, the two bilingual speakers (Chinese and English) coded the Chinese children's responses and, three English speaking research assistants coded the American children's responses. Kappa's statistics in each cultural sample are presented in Table 4.

Table 4

*Kappa Statistics for Coding Categories*

Coding themes	American Sample N = 54 Kappa coefficient	Chinese Sample N = 89 Kappa coefficient	Total Sample N = 143 Kappa coefficient
Cognitive reappraisal	.81	.85	.83
Distraction	.74	.83	.79
Expressing emotion	.86	.89	.88
Expressing oneself to obtain emotional support	.84	.79	.82
Physiological changes	.89	.87	.88
Preventing from acting out	.94	.95	.95
Promoting pleasant feeling	.87	.81	.84
Promoting rationality	.71	.86	.79
Reducing negative feeling	.88	.93	.91
Stop thinking/Forgetting	.78	.88	.83
Allowing to get advice/direct assistance	.89	.84	.87
Helping to actively deal with the problem	.74	.8	.77
Giving rise to desirable outcomes	.63	.76	.70
Generating or intensifying negative feelings	.86	.88	.87

(Continued)

*Kappa Statistics for Coding Categories (Continued)*

Coding themes	American Sample Kappa coefficient	Chinese Sample Kappa coefficient	Total Sample Kappa coefficient
Problem/Feeling unresolved	.70	.83	.77
Not action-oriented	.73	.66	.70
Leading to other negative consequences	.69	.72	.71
Circular explanation	.91	.95	.93
Other responses	.66	.73	.70
Uncodable responses	.94	.8	.87
Overall	.84	.85	.85

## CHAPTER 4. RESULTS

Distributions of the participants' gender, age and living arrangement are presented in Table 5. Approximately an equal number of girls and boys participated in both cultural samples. More Chinese children live with their parents and grandparents together as compared to their American peers.

Table 5

*Participants' Characteristics*

	American sample	Chinese sample
Gender		
Female	25 (46.3%)	44 (49.4%)
Male	29 (53.7%)	45 (50.6%)
Age		
10 years old	24 (44.4%)	32 (36%)
11 years old	30 (55.6%)	57 (64%)
Living Arrangement		
Intact family	40 (74.1%)	80 (89.9%)
Only Mother	4 (7.4%)	6 (6.73%)
Only Father	10 (18.5%)	3 (3.37%)
Grandparents live with family	6 (11.11%)	29 (33.58%)
Child has siblings	2 (3.7%)	9 (10.1%)

### **Quantitative Analyses: Research Question 1**

Are preferences for ER strategies (deep breathing, thinking positively, situation avoidance, talking to someone and suppression) affected by culture, gender, and the type of emotion?

To answer this research question, five mixed ANOVAs were conducted to evaluate the effect of culture, gender and emotion situation on each ER strategy. The

between-groups factors were culture with two levels (American and Chinese) and gender with two levels (female and male), whereas the within-group factor was emotion situation with three levels (sadness, anger and fear). Independent and paired-samples *t*-tests were conducted as post hoc tests with familywise error controlled using the Bonferroni correction approach.

### **Deep Breathing**

Mauchly's test indicated that the assumption of sphericity was violated,  $\chi^2(2) = 6.94, p < .05$ . Therefore, degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ( $\epsilon = .95$ ). Levene's test revealed that the homogeneity of variances assumption was upheld for deep breathing across all three emotion situations,  $p > .05$ . There were significant main effects of culture and emotion situations on deep breathing,  $F(1, 139) = 30.40, p < .001, \eta^2_p = .18, F(1.91, 264.99) = 7.70, p < .001, \eta^2_p = .05$ , respectively. No main effect for gender was found,  $F(1, 139) = .146, p = .23$ . A significant Culture  $\times$  Emotion situation interaction was found,  $F(1.91, 265) = 7.73, p < .05, \eta^2_p = .03$ . To follow up on the significant interaction effect, independent *t*-tests were conducted to compare the means obtained in the American and Chinese samples ( $\alpha = .017$ ).

The comparisons revealed that American children had higher means for deep breathing in the sad and anger situations,  $t(141) = 5.693, p < .00, r = 0.43, t(131.28) =$

5.076,  $p < .001$ ,  $r = 0.67$ , respectively. There was no difference between American and Chinese children for deep breathing in the fear situation,  $t(141) = 1.531$ ,  $p = .128$ .

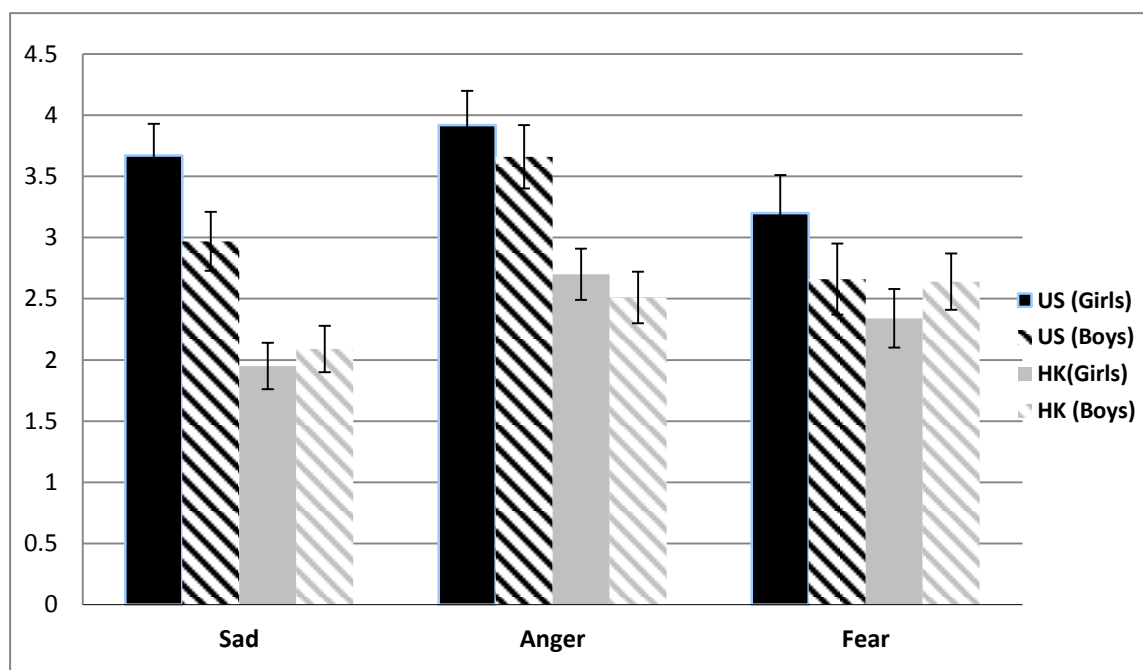
Paired sample  $t$ -tests were further conducted in each cultural sample to see whether the rating for deep breathing was different in different emotion situations (e.g., sad, anger, and fear). American children reported deep breathing as a more effective strategy in dealing with the anger than with the sad and fear situations,  $t(53) = 3.97$ ,  $p < .005$ ,  $r = 0.7$ ,  $t(53) = 3.83$ ,  $p < .000$ ,  $r = .31$ , respectively. The difference on deep breathing between the sad and fear situations was not significant,  $t(53) = 1.61$ ,  $p = .113$ . In the Chinese sample, deep breathing was more effective in dealing with the anger situation than with the sad situation,  $t(88) = 3.14$ ,  $p < .005$ ,  $r = .23$ ; and more effective in dealing with fear than with sad feelings. No significant differences were obtained on deep breathing for the anger and fear situations,  $t(88) = .56$ ,  $p = .57$ , as well as between the fear and sad situations,  $t(88) = 2.40$ ,  $p = .02$ . The obtained means in the American and Chinese samples are presented in Figure 1 on page 62.

### **Thinking Positively**

There was a significant main effect of culture on thinking positively,  $F(1,139) = 36.28$ ,  $p < .001$ ,  $\eta^2p = .21$  and the American children ( $M = 3.43$ ,  $SD = .13$ ) rated this strategy significantly higher than the Chinese children ( $M = 2.43$ ,  $SD = .10$ ). No main effect for gender was found,  $F(1, 139) = 3.02$ ,  $p = .085$ . The obtained means in

the American and Chinese samples are presented in Figure 2 on page 63.

Figure 1. Means for Deep Breathing in the American and Hong Kong Samples



A significant Culture  $\times$  Gender interaction was found,  $F(1,139) = 6.18, p < .05$ ,  $\eta^2_p = .04$ . American girls ( $M = 3.39; SD = .19$ ) rated this strategy higher than boys ( $M = 3.08, SD = .18$ ), while Chinese boys ( $M = 2.49, SD = .14$ ) rated this strategy higher than girls ( $M = 2.36, SD = .15$ ).

### Situation avoidance

Mauchly's test indicated that the assumption of sphericity was violated,  $\chi^2(2) = 21.52, p < .05$ , therefore the degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ( $\epsilon = .87$ ). Levene's test revealed that the homogeneity of variances assumption was violated across all the three emotion situations,  $p < .05$ . The obtained means in the American and Chinese samples are



presented in the Figure 3.

Figure 2. Means for Thinking Positively in the American and Hong Kong Samples

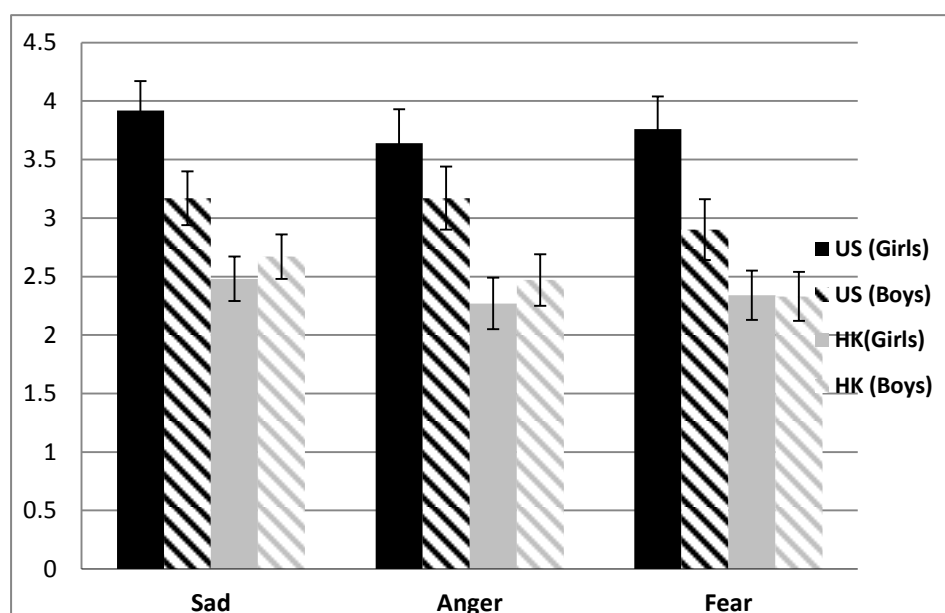
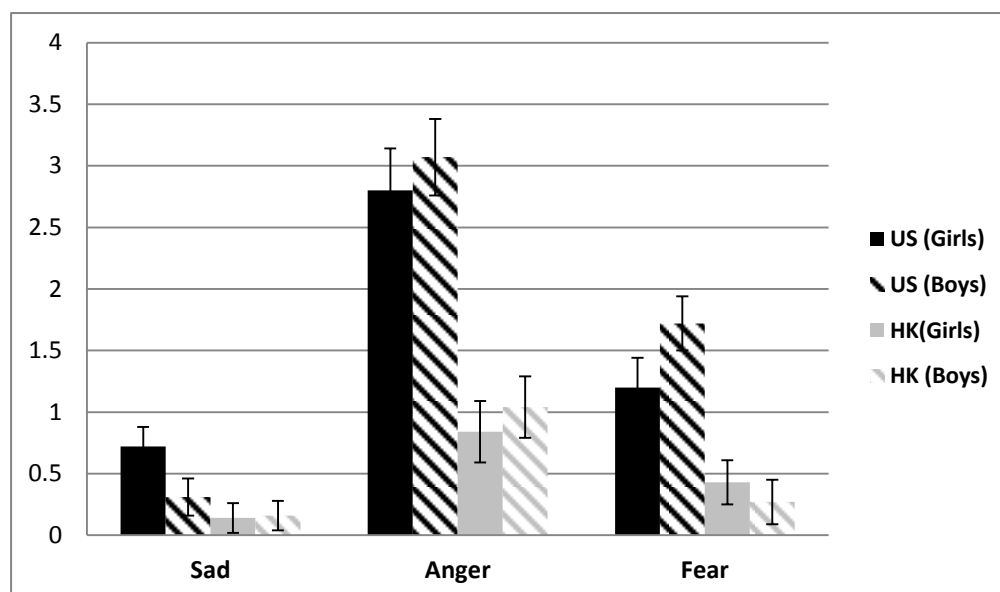


Figure 3. Means for Situation Avoidance in the American and Hong Kong Samples



There were significant main effects of culture and emotion situations on situation avoidance,  $F(1, 139) = 60.70, p < .000, \eta^2_p = .30$  and  $F(1.75, 366.87) = 67.40, p < .001, \eta^2_p = .33$ , respectively. No main gender effect was found,  $F(1, 139) = .245, p = .62$

There was a significant Culture  $\times$  Emotion situation interaction effect on situation avoidance,  $F(1.75, 366.87) = 16.74, p < .001, \eta^2_p = .11$ . To follow up on the significant interaction effect, independent  $t$ -tests were conducted ( $\alpha = .017$ ). The comparisons revealed that compared to the Chinese children, American children had higher means for situation avoidance in the anger and fear situations,  $t(95.52) = 6.60, p < .001, r = 0.56$ , and  $t(64.31) = 4.65, p < .001, r = 0.50$ , respectively; however, there was no significant difference in the sad situation,  $t(71.624) = 2.23, p = .029$ .

Paired-samples  $t$ -tests were further conducted to see how the effectiveness of situation avoidance varies on the type of emotions being regulated within the American and Chinese samples. In the American sample, the mean for situation avoidance was higher in the anger situation than in the fear and sad situations,  $t(53) = 5.12, p < .000, r = .32, t(53) = -2.44, p < .000, r = .16$ , respectively; and the mean for situation avoidance in the fear situation was significantly higher than in the sad situation,  $t(53) = 4.02, p < .000, r = .23$ . Similarly, in the Chinese sample, the mean for situation avoidance was higher in the anger than in the fear and sad situations,  $t(88) = 3.53, p < .005, r = .15, t(88) = -4.85, p < .000, r = .16$ . However, the difference in the means for situation avoidance in the fear and sad situations was not significant,  $t(88) = 2.13, p = .04, r = .04$ .

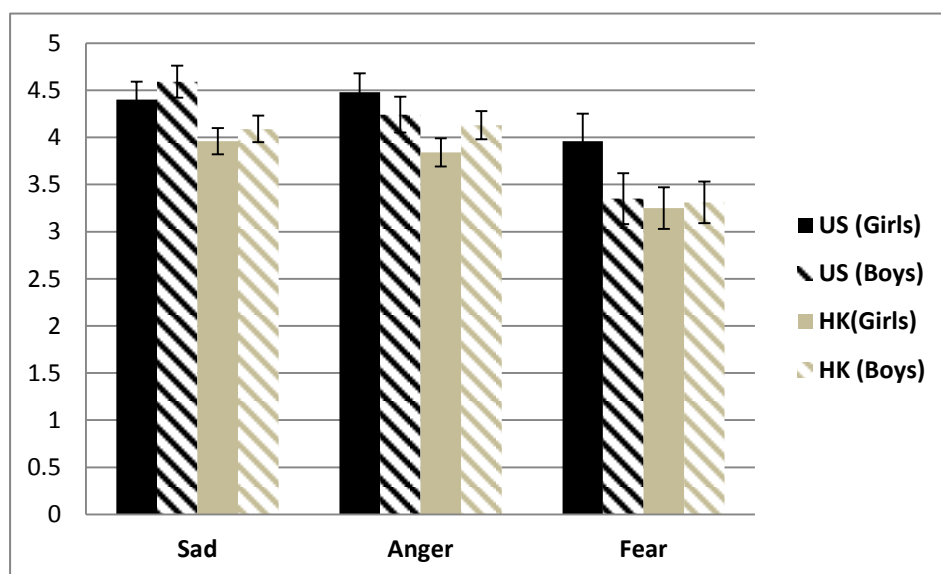
## Talking to Someone

There was a significant main effect of culture on talking to someone,  $F(1,139) = 7.59, p < .01, \eta^2_p = .05$  with American children scoring higher than the Chinese children across all the three emotion situations. The main effect for gender was not significant,  $F(1, 139) = .041, p = .839$ . There was a significant main effect of emotion situation on talking to others,  $F(1.57, 217.93) = 27.71, p < .001, \eta^2_p = .17$ . Paired sample  $t$ -tests revealed ( $\alpha = .017$ ) that both American and Chinese children preferred talking to someone in the anger situation more than in the fear situation,  $t(142) = -6.42, p < .000, r = .32$ . No significant difference between means for talking to someone was found between the anger and sad situations,  $t(142) = .98, p = .33$ .

The obtained means in the American and Chinese samples are presented in

Figure 4.

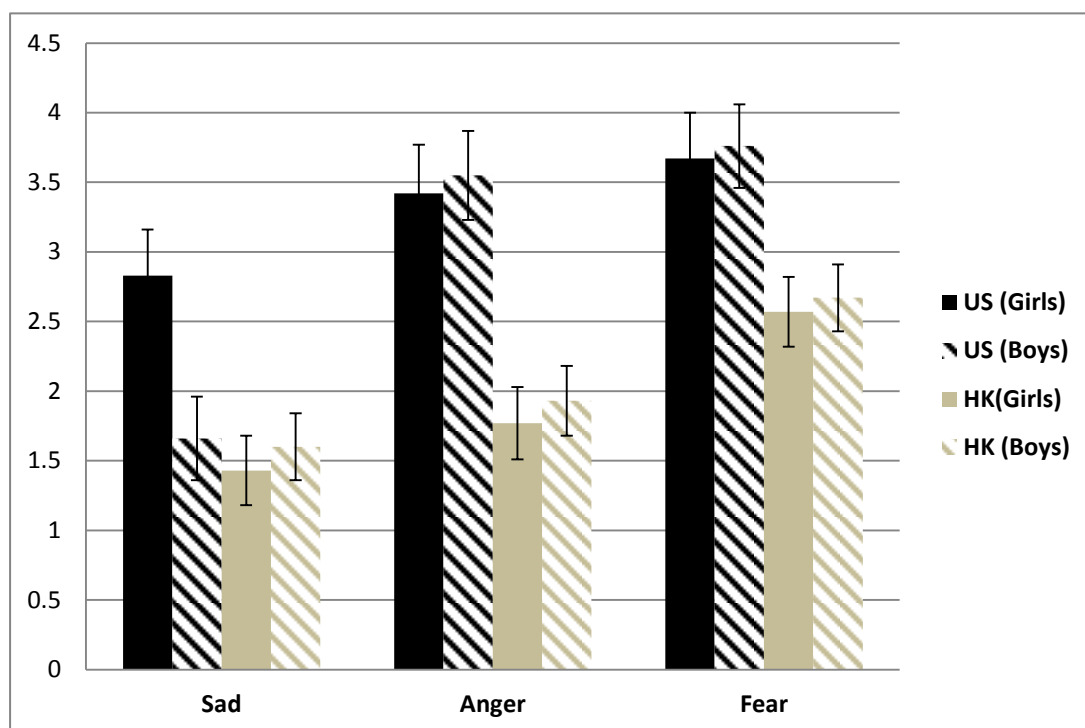
Figure 4. Means for Talking to someone in the American and Hong Kong Samples



## Suppression

Mauchly's test indicated that the assumption of sphericity was violated ( $\chi^2(2) = 11.39, p < .005$ ), therefore the degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ( $\epsilon = .93$ ). Levene's test revealed that the homogeneity of variances assumption was upheld for suppression in both sadness and fearful situations,  $p > .05$ , but not for the anger condition,  $p < .05$ . The obtained means in the American and Chinese samples are presented in Figure 5.

Figure 5. Means for Suppression in the American and Hong Kong Samples



There were significant main effects of culture,  $F(1,139) = 31.86, p < .000$ , and emotion situation on suppression,  $F(1.85,255.61) = 27.28, p < .001, \eta^2_p = .17$ . No main effect for gender was found,  $F(1, 139) = .18, p = .67$ . There was a significant

interaction effect between culture and emotion situation,  $F(1.85, 255.61) = 3.35, p < .05, \eta_p^2 = .02$ . To follow on the significant interaction effect, independent  $t$ -tests were conducted ( $\alpha = .017$ ). The comparisons revealed that American children had higher means for suppression in the anger and fear situations,  $t(127.30) = 5.90, p < .001, r = 0.46, t(140) = 3.93, p < .001, r = 0.32$ , respectively; but not in the sad situation,  $t(93.75) = 2.22, p = .03$ .

Paired-samples  $t$  tests within each cultural sample revealed that American children obtained a higher mean for suppression in the anger situation than in the sad situation,  $t(52) = 3.97, p < .000, r = .02$ , and a higher mean in the fear situation than in the sad situation,  $t(52) = 5.02, p < .000, r = .14$ . No difference between means for suppression in the anger and fear situations was obtained,  $t(53) = 1.20, p = .237$ . Chinese children rated suppression higher in the fear situation than in the anger and sad situations,  $t(88) = 3.92, p < .000, r = .44$ , and  $t(88) = 5.18, p < .000, r = .23$ , respectively. No difference between means for suppression in the sad and anger situations was obtained,  $t(88) = 1.47, p = .144$ .

### **Qualitative analyses: Research Question 2**

Are there cultural differences on how European American and Hong Kong Chinese children explain the effectiveness/ineffectiveness of each ER strategy? Twenty three categories were identified to code children's responses. They were

combined into two major groups: “Explanations of why strategies are helpful” and “Explanations of why strategies are unhelpful.”

## **Deep Breathing**

### *Explanations of why deep breathing is helpful*

The explanation that deep breathing could reduce negative feelings received the highest frequency in both the American and Chinese samples (33.33% to 48.31%) in all the emotion situations (sad, anger, and fear). While slightly more of the Chinese than American children suggested deep breathing could reduce negative feeling in the anger (44.94% Chinese and 35.19% Americans) and fear situations (48.31% Chinese and 33.33% Americans), a slightly higher percentage of the American children (44.45%) as compared to the Chinese children (39.33%) endorsed this rationale for the sad situation.

About 19.1% to 22.22% of the children in both samples believed that deep breathing could promote pleasant feelings in the sad and fear situations. However, some cultural differences emerged regarding the anger situation. While 24.72% of the Chinese children reported deep breathing could promote pleasant feeling, only 12.96% of the American children provided this rationale.

Interestingly, 25.93% of the American children stated deep breathing could prevent one from acting out in the anger situation as compared to only 2.25% of the

Chinese children. These American children also indicated that deep breathing might help to promote rationality in all the three emotion situations (7.41% to 16.67%); however, this explanation was not popular in the Chinese sample (0 to 4.49%).

Another cultural difference was found for the explanation that deep breathing could help one to forget about negative feelings. About 17% of the American children offered this rationale in the anger situation as compared to 3.37% of the Chinese children. In the fear situation, 9.26% of the American children provided this explanation as compared to 2.25% of the Chinese children. Only a few children in both samples offered this explanation for the sad situation.

None or very few children endorsed cognitive reappraisal in the sad and anger situations. Regarding the fear situation, about 11 % of the Americans indicated that deep breathing could help to reappraise the fear situation as compared to only 2.25% of the Chinese children. Some American children (9.26%) believed that in the fear situation, deep breathing may result in positive physiological changes, such as lowering the heart rate, as compared to only 1.2% of children in the Chinese sample. For other situations, this explanation received very low frequencies in both samples.

Other explanations of why deep breathing was helpful, including distraction, expressing emotions, leading to desirable outcomes, providing advice/ direct

assistance and active problem solving, received very low or zero frequencies for all the emotion situations in both of the cultural samples.

### ***Explanations of why deep breathing is unhelpful***

As to reason why deep breathing was unhelpful, the highest frequencies (23.60% to 33.71%) in both samples were obtained for the explanation that this strategy left the problem or feelings unresolved in the sad and fear situations. In the anger situation, more Chinese children (26%) believed that deep breathing left the problems unresolved as compared to the American children (8%).

Other explanations of why deep breathing was unhelpful, such as it was not action-oriented, might potentially generate or intensify negative feelings, or lead to other negative consequences, received low frequencies in both samples for all situations.

Overall, children from both samples suggested that deep breathing could reduce negative feelings or promote pleasant feelings. Fewer American children as compared to their Chinese peers believed that deep breathing could promote positive feelings in the anger situation; however, more American children explained that deep breathing could prevent one from acting out or stop thinking/forget about the anger situation.



More American children reported that deep breathing could help to promote rationality across all the emotion situations. Moreover, more American children suggested that deep breathing could result in physiological changes and cognitive reappraisal in the fear situation.

As for reasons why deep breathing could be unhelpful, the most popular explanation in both samples was this strategy left the problem/ feelings unresolved in all the situations. The only exception was in the anger situation: only a few American children stated that deep breathing was unhelpful for this reason. See Table 6 for frequency distribution (see Appendix H).

### **Thinking Positively**

#### ***Explanations of why thinking positively is helpful***

In both samples, about 22 to 31% of the children stated that the strategy “thinking positively” helped to promote pleasant feeling in all the emotion situations, except for the fear situation in which only 5.56 % of the Americans believed that thinking positively would work. Apart from promoting pleasant feelings, children from both samples believed that thinking positively was effective because it allowed them to forget about the emotional situation. More American children than Chinese children suggested this reason in the anger (35.1% Americans and 17.98% Chinese)

and fear situations (37.04% Americans and 21.35% Chinese), but not in the sad situation.

Across the three emotion situations, more American (20.37% to 29.63%) than Chinese children (10.11 to 15.73%) believed that thinking positively could reduce negative feelings. In addition, more American children (12.96% to 22.22%) explained that it helped to distract oneself in all three emotion situations as compared to the Chinese children (3.37% to 6.74%). Interestingly, only American children (9.26%) explained that thinking positively might prevent one from acting out in the anger situation.

Other explanations of why thinking positively was helpful, including expressing emotions, resulting in physiological changes, promoting rationality, resulting in active problem solving and leading to desirable outcomes, received very low or zero frequencies for all emotion situations in both cultural samples.

### ***Explanations of why thinking positively is unhelpful***

In regards to why thinking positively was unhelpful, the most frequent explanation was that this strategy left the problem and/or feeling unresolved (18.52% to 35.96%). Across all the three emotion situations, the frequencies were somewhat higher in the Chinese sample (28.09% to 35.96%) than in the American sample (18.52% to 25.93%). Other explanations of why thinking positively was unhelpful,

including this strategy might generate or intensify negative feelings, lead to other negative consequences and it was not action-oriented, yielded low or zero frequencies.

Overall, the most popular explanation was thinking positively could promote pleasant feelings in all the emotion situations, except only a few Americans reported this reason in the fear situation. Children from both cultures believed that this strategy could also allow them to forget about the situation, with more American than Chinese children reported this reason in the anger and fear situations. More American children also suggested that this strategy might help to distract one from negative emotions in all the emotion situations. As to reasons why thinking positively could be unhelpful, children indicated that it left the problem and/or feeling unresolved, with more Chinese than American children offering this rationale. See Table 7 for frequency distribution (see Appendix I).

### **Situation Avoidance**

#### ***Explanations of why situation avoidance is helpful***

About 26% of the American children suggested that situation avoidance might lead to desirable outcomes in the anger situation while this explanation was uncommon in the Chinese sample (1.12%). Similar frequencies were obtained for this explanation in the fear situation among all the children (3.56% and 3.37%).

Some of the American children reported that situation avoidance could reduce negative feelings in the anger (16.67%) and fear situation (11.11%), but not in the sad situation. This explanation, however, was not popular among the Chinese children at all. It is important to note, overall, Chinese children appeared not to find situation avoidance very helpful.

### *Explanations of why situation avoidance is unhelpful*

In regards to why this strategy was unhelpful, children from both countries reported situation avoidance did not resolve the problems and/or feelings (29.63% to 62.96%). Interestingly, while more American (62.96%) than Chinese children (34.83%) believed it left the problem and/or feelings unresolved in the sad situation, more Chinese children (50.56%) than European American children (29.63%) offered this reason in the fear situation. The difference between the two cultures was less obvious in the anger situation (24.07% Americans and 31.46% Chinese).

The children suggested that situation avoidance was unhelpful because it was not action-oriented. More Chinese (29.21%) than American (14.81%) children gave this explanation for the sad situation; however, more Americans indicated this reason for the anger (44.12% Americans and 25.84% Chinese) and fear situations (31.48% Americans and 17.98% Chinese).

Another explanation was that situation avoidance might lead to other negative consequences, such as getting bad grades and poor peer relationships etc. More American children (31.48%) than Chinese children (11.24%) offered this explanation in the fear situation. In the anger situation, 25.84% of the Chinese children believed it might lead to other negative consequences, as compared to about 13% of their American counterparts. Low to zero frequency was obtained for generating or intensifying negative feelings.

Interestingly, responses of about 32% of European American children and 20% of the Chinese children indicated cognitive reappraisal in the fear situation. Children tried to reappraise the situation when they did not find situation avoidance helpful and they spontaneously offered to reinterpret the situation, making the situation more tolerable for themselves.

While some American children suggested that situation avoidance could reduce negative feelings in the anger and fear situation or lead to desirable outcomes in the anger situation, children from both cultures found situation avoidance mostly unhelpful. First, they suggested that it left the problem and/or feelings unresolved, with more American than Chinese children suggested this reason in the sad situation, but more Chinese than American children—in the fear situation. Second, children indicated situation avoidance was not action-oriented, with more American reported

this reason in the anger and fear situations but more Chinese children—in the sad situation. Finally, children believed this strategy might lead to other negative consequences with more Americans offering this rationale in the fear situation, but more Chinese—in the anger situation. See Table 8 for frequency distribution on (see Appendix J).

### **Talking to Someone**

#### ***Explanations of why talking to someone is helpful***

When explaining why talking to someone could be helpful in situations that evoke negative emotions, children from both countries (20.22% to 50%) believed that it allowed one to get advice and direct assistance in all of the emotion situations. More American than Chinese children believed in this reason for the sad (50% Americans and 21.35% Chinese) and anger situations (50% Americans and 22.47% Chinese). However, this difference was absent in the fear situation (27.78% Americans and 20.22% Chinese). In the American sample, fewer children reported this rationale in the fear situation (27.78%) than in the sad (50%) and fear situations (50%).

Considerably more Chinese (19.1% to 26.97%) than American children (5.56% to 11.11%) reported that talking to someone provided them an opportunity to express themselves and obtain emotional support in all the emotion situations. Children

from both cultures suggested that talking to someone was helpful because it allowed them to express their emotions (14.61% to 31.48%). They also believed that talking to someone can promote pleasant feelings in the sad situation (18.52% Americans and 12.36% Chinese).

Additionally, they reported talking to someone could lead to desirable outcomes such as developing friendships and others would reach out to the character in the sad situation (14.81% Americans and 13.48% Chinese). Regarding the explanation that talking to someone might reduce negative feelings, it was a more popular response in the fear situation (31.48% American and 22.47% Chinese), but not as much in the sad (11.11% American s and 13.48% Chinese) and anger situations (14.81% American and 16.85% Chinese).

Other explanations of why this strategy was helpful, including cognitive reappraisal, distraction, preventing from acting out, promoting rationality, forgetting and active problem solving, were low in frequencies or absent.

### ***Explanations of why talking to someone is unhelpful***

Explanations of why talking to somebody was unhelpful, (i.e., problem/ feeling unresolved, not action-oriented, leads to undesirable outcomes, generates or intensifies negative feelings) received low frequencies.

Overall, children from both cultural groups believed that talking to someone was helpful because it allowed one to get advice and direct assistance in all of the emotion situations. However, more American endorsed this rationale in the sad and anger situations but more Chinese children—in the sad and anger situations. Children also believed that talking to someone could help them to express their emotions. It could also promote pleasant feelings and it might lead to desirable outcomes in the sad situation. Interestingly, within the American sample, more children believed it could reduce negative feeling in the fear situation, but not so much in the other situations. See Table 9 for frequency distribution (see Appendix K).

## **Suppression**

### ***Explanation of why suppression is helpful***

Children in both samples indicated that not thinking about the situation might help to forget about the situation and/or feeling in the anger (18.52% American and 21.35% Chinese) and fear situations (22.22% American and 29.21% Chinese). Fewer children from both cultures reported this reason in the sad situation (3.70% American and 11.24% Chinese).

Children from both cultural groups believed that not thinking about the situation might help to reduce negative feelings in the sad situation (27.27% American and 11.24% Chinese), but not as much in the anger and fear situations.



About 9% of the American children suggested that suppression might prevent one from acting out in the anger situation; however, this rationale was not offered in the other situations. Considerably more American than Chinese children believed that this strategy might help to distract oneself in the sad situation (11.11% American and 1.12% Chinese), but not as much in the anger situation (1.48% American and 1.12% Chinese).

Other explanations of why suppression was helpful (i.e. promoting rationality, cognitive reappraisal, promoting pleasant feeling, active problem solving, leading to desirable outcomes, expressing emotion, expressing emotions to obtain emotional support, getting advice/ assistance) were unpopular.

### ***Explanations of why suppression is unhelpful***

In regards to the explanations of why this strategy was unhelpful, children from both cultures indicated that not thinking about the situation would leave the problem/ feeling unresolved (14.81% to 34.83%). Although similar percentages between the two groups were noted in the sad situation (25.93% Americans and 26.97% Chinese), more Chinese children than American children suggested this rationale in the fear (14.81% Americans and 23.60% Chinese) and anger situations (20.37% American and 34.83% Chinese).

Children from both cultures also indicated that not thinking about the situation might lead to other negative consequences in all three emotion situations. When compared across the emotion situations, children from both cultures were more likely to endorse this rationale in the fear situation (35.19% American and 34.83% Chinese) than in the sad (14.81% American and 12.36% Chinese) and anger situations (16.67% American and 15.73% Chinese). A similar trend was observed when the children explained that this strategy might generate or intensify negative feelings. It was endorsed more frequently in the fear situation (24.07% Americans and 17.98% Chinese) than in the sad (7.41% Americans and 7.87% Chinese) and anger situations (3.70% Americans and 1.85% Chinese).

Children from both cultures indicated that this strategy was not action-oriented in the sad (11.11% American and 16.85% Chinese) and anger situations (5.56% Americans and 12.36% Chinese), but none of the children suggested this reason in the fear situation.

Overall, American and Chinese children reported that not thinking about the situation might help one to forget about the situation and/or feeling in the fear and anger situations, but not as frequent in the sad situation. They also suggested that it might reduce negative feelings in the sad situation with more American than Chinese children offering this explanation. Additionally, more American than Chinese

children reported this strategy might distract one from the sad situation.

Furthermore, only American children indicated that not thinking about the situation could prevent one from acting out.

In regards to the explanations of why this strategy was unhelpful, children from both cultures suggested that this strategy left the problem and/or feelings unresolved and could potentially lead to other negative consequences. More children from both cultures believed that it could lead to other negative consequences in the fear situation, as compared to the anger or sad situations. Similarly, they also believed that it could generate or intensify negative feelings in the fear situation. Similar number of children from both cultures indicated that not thinking about the situation was not action-oriented in the sad and anger situations, but not at all in the fear situation. See Table 10 for frequency distribution (see Appendix L).

## CHAPTER 5. DISCUSSION

Effective ER is important for children's psychological well-being and social competence (Eisenberg, Liew, & Pidada, 2004; Zhou et al., 2008). By the middle childhood, children acquire effective ER strategies including distraction (Stansbury & Zimmerman, 1999; Rivers et al., 2006), inhibition (Zemna, Shipman, & Suveg, 2002), cognitive reappraisal (Gullon et al., 2010), seeking comfort (Rivers et al., 2006) and verbal expression of emotion (Zeman & Garber, 1996). Previous research demonstrated that boys tend to suppress sad feelings while girls tend to suppress anger (Young & Zeman, 2003). Culture plays a significant role in the development of ER as it provides templates for an ideal affect and supplies with beliefs, norms, and rules guiding emotion display and regulation (Matsumoto, 1990; Mesquita & Albert, 2007; Shweder, Haidt, Horton, & Joseph, 2008).

The present study investigated the perceived effectiveness of ER strategies by 10 to 11- years-old Hong Kong Chinese and European American children.

### ***Deep Breathing***

It was hypothesized that American children would consider deep breathing as a more effective strategy than the Chinese children. Results indicated that for the sad and anger situations, American children rated the effectiveness of deep breathing higher than Chinese children. In the U.S., prevention and intervention programs

explicitly teach children to use this strategy (e.g., Emotion Based Intervention Program (Izard et al., 2008) and The Incredible Years Program (Webster-Stratton & Reid, 2004; Webster-Stratton, Gaspar, & Seabra-Santos, 2012). However, to my knowledge, Hong Kong there is few socio-emotional programs that would teach this strategy.

Children's ratings of the effectiveness of ER strategy also varied as a function of emotion types. American children reported deep breathing as more effective in dealing with anger than with sadness and fear. Supported by existing literature, deep breathing is often taught to children as a relaxation technique to deal with anger (Sukhodolsky, Solomon, & Perine, 2010). Interestingly, Chinese children also found deep breathing more effective in dealing with anger and fear than with sad feelings. The reason that deep breathing is considered to be more effective for anger and fear might be related to the physiological intensity of these two emotions. As research indicated, anger and fear are often accompanied with higher respiratory feedback than sadness (Philippot, Chapelle, & Blairy, 2002; Roemer & Orsillo, 2002).

***Thinking Positively:***

Across all the negative emotion situations, American children considered thinking positively as a more effective strategy as compared to their Chinese peers.

As discussed earlier, European Americans place more value on positive feelings than

their Chinese peers (Tsai, Knutson, & Fung, 2006) which explain the obtained difference. No difference was found for thinking positively across the three discrete emotions in both samples. Apparently, engaging in positive thinking seems to be effective for the children in dealing with the three negative emotions.

### *Situation Avoidance*

Overall, results did not support the hypothesis that Chinese children would consider situation avoidance more effective than European American children. On the contrary, American children had higher means than Chinese children for situation avoidance in the anger and fear situations. It is possible that this reflects the fact that American children are often taught to walk away (i.e., to avoid) from a situation that may potentially activate anger/aggression (e.g. name calling). In both sample, children found situation avoidance more effective in dealing with anger than with sadness and fear. The reason why situation avoidance was perceived to be more effective for anger might be related to the nature of the anger scenario presented to children: This scenario describes a situation when the character was bullied by a peer. Roecker, Dubow and Donaldson (1996) found that children preferred to use avoidance as a coping strategy to deal with a peer conflict situation. By the age of 10, children learn to deal with their anger by avoiding anger-provoking situations (Zeman & Shipman, 1996).

### ***Talking to someone***

As hypothesized, American children considered talking to someone more effective than the Chinese children across all three emotion types. Consistent with the literature (Markus & Kitayama, 1991), European Americans value the expression of emotion and readily talk about how they feel; however, the Chinese tend to engage in fewer overt emotional exchanges (Lin & Fu, 1990; Markus & Kitayama, 1994; Tsai, et al., 2007).

Interestingly, both American and Chinese children preferred talking to someone when they feel angry and sad but less when they experienced fear. Existing findings also indicate that children express their anger and sadness by discussing it with socialization figures, such as parents and peers (Shipman, Zeman, Nesin, & Fitzgerald, 2003). It is puzzling why children rated talking to someone as less effective in a fearful situation than in sad and anger situations as Saarni (1997) found that children seek social support not only when they feel sad but fearful as well. It could be that the children in this study did not find the fear situation as intense enough to seek social support.

### ***Suppression***

The results indicated that in the anger and fear situations, American children found suppression more effective as compared to the Chinese children; however, this

difference was not present for the sad situation. This finding contradicts the hypothesis that Chinese children would use suppression more often than American children. It is unclear why American rated suppression higher than their Chinese peers as research has found that the Chinese generally favor the use of emotion suppression (Soto, Levenson, & Ebling, 2005). However, it should be noted that overall, suppression was not considered to be an effective strategy by both groups of children.

American children preferred using suppression in anger and fear situations, over the sad situation. Chinese children found suppression more effective in dealing with fear compared with anger and sadness.

### *Gender differences*

In the present study, no gender differences were found for ER strategies, except for thinking positively. Unpredictably, results indicated that American girls rated thinking positively higher than American boys, while Chinese boys rated this strategy higher than Chinese girls. This result is interesting as the Western literature have shown that men presented higher levels of positive thinking than women (Caprara, Caprara, & Steca, 2003; Caprara & Steca, 2005). It is also surprising that American girls did not rate talking to others higher than boys as previous as Western research has shown girls tend to talk more about their feelings than boys (Chaplin et al., 2005;



Wang & Leichtman, 2000), but it could be that children in previous studies were younger (age 3 to 6).

### *Children's Explanations for Effectiveness of Emotion Regulation Strategies*

The qualitative analyses of this study focused on the reasons how children explain the effectiveness/ineffectiveness of ER strategies.

#### *Deep Breathing*

When American and Chinese children were asked to explain why deep breathing was effective, the most popular response was that deep breathing helped to reduce negative feelings such as sadness and anger. Only American children stated that deep breathing could prevent one from acting out in the anger situation. This cultural difference may be related to the stronger association between anger and aggression in the American culture than in the Asian cultures (Lockman, Barry, Powell, & Young, 2010; Zahn-Waxler, Friedman, Cole, Mizuta, & Hiruma, 1996).

In regard to the explanation of why deep breathing could be ineffective, the mostly reported reason in both cultures was that it left the problem and/or feelings unresolved across all the three emotion scenarios. This finding is significant because deep breathing is widely taught in prevention and intervention programs (e.g., Silva et al., 2003).

### ***Thinking positively***

The results suggested that thinking positively is associated with a positive affect (Aldwin, 1994). The children in the present study also believed that thinking positively promoted pleasant feelings. However, in the American sample, relatively fewer children believed that it could promote pleasant feeling in the fear situation when compared with the sad and anger situations.

About one third of the American children explained that thinking positively might help them to forget about the negative emotions/events in the anger and fear situations; however, relatively fewer Chinese children reported the same reason. As discussed earlier, European American children place more value on the expression of positive feelings than their Chinese peers (Tsai, Knutson, & Fung, 2006). Moreover, American children as young as five years old can see the benefits of positive thinking (Bamford & Lagattuta, 2012).

### ***Situation Avoidance***

Those American children, who reasoned that this strategy was helpful, suggested it could reduce negative feelings. According to Roecker, Dubow, and Donaldson (1996), avoidance can temporary provide some emotional relief that might aid problem-solving afterwards. For the most part, Chinese children did not find this strategy as effective as their American peers. They believed that situation avoidance

left the problem or feeling unresolved. A common response among the Chinese children was “When he is back to school, he will still be angry.” In the anger situation, more American children reported that situation avoidance could lead to desirable outcomes and reduce negative feelings. One of the American girl said, “you don't have to deal with that person. Seeing the person probably makes her angry.”

An interesting finding was that both Chinese and American children tried to reappraise the situation when being prompted with situation avoidance. For example, an American girl said, “Maybe the dog doesn't know you well and it is trying to be friendly.” Likewise, a Chinese boy explained, “Because it is not something special, it is only a dog.” Cognitive reappraisal was not preselected for this study; however, children spontaneously generated this strategy. According to Gross (1998), cognitive reappraisal can change the intensity of emotion before the emotion is completely generated.

Children suggested situation avoidance (i.e., not going to the school) may result in negative consequences. Cultural variations emerged in children's explanations of the potential negative consequences associated with not going to school. Many Chinese children suggested that avoiding the sad situation (i.e., not going to school) would have a negative impact on one's academic experience. Some examples

included, “You won’t get friend if you don’t go to school and you ignore your academics,” “you won’t be able to learn what the teacher teaches on that day. You are going to have more pressure,” “your grades will be affected,” “the reason for going to school is to learn but not to make friends” and “you cannot pick up new knowledge.”

Relatively fewer American children offered similar explanation.

It should be noted that overall, both American and Chinese children did not to find situation avoidance helpful because it would not resolve the problem or the feelings. One the Chinese children said, “Even though you are not going to the park, you would possibly still encounter the dog when go outside.” American children also suggested that situation avoidance is a passive behavior and one should go do something instead: “it’s not good to run away from your problems.”

### ***Talking to someone***

In the sad situation, children said that they wanted to talk to someone in order to express their emotions and to obtain emotional support. However, in the anger situation, Chinese children reported that they would like to talk to someone in order to get advice or direct assistance, but American children wanted to express their anger.

In the fear situation, American children reported that talking to someone could reduce negative feelings, while the Chinese children indicated they would talk in order to obtain emotional support. For example, an American girl said, “I will tell her that I

am frightened.” A very common response, among the Chinese children was “Other people will comfort you.” Therefore, Chinese children tried to get either emotional support or assistance from the others, while the Americans children focused more on the expression of their feelings. These findings may reflect an orientation towards direct self-expression of emotions in the American culture and more interpersonal orientation in the Chinese culture (Markus & Kitayama, 1991).

Another interesting finding was that American children were more likely to seek help from adults, like teachers, parents and guidance counselors, while Chinese children rarely identified a particular individual that they would go to talk to but they referred them as “people.” For instance, they said, “I will talk to people.” In the United States, school counselors are an integral part of school system; however, in Hong Kong, there are currently no school counselors.

### ***Suppression***

Suppression was not considered to be an effective strategy by both groups of children as it left the problem and/or feelings unresolved, especially in the sad and anger situations. Children said that suppression of fear could lead to other negative consequences. For example, an American girl said, “she might be injured the next time if she walks through the park.” A similar response was given by a Chinese boy, “he might still see the dog in another park and it might attack him.” According to

these responses, there appears to be a protective value in thinking about a fearful event. Instead of suppressing it, these children believed that thinking about the event could prevent bad events from happening.

### **Limitations**

Although the present study contributes significantly to the understanding of culture-specific ER strategies, a few limitations should be outlined. The scenarios used in the present study differed in terms of their contexts: In the sad and anger situations, the character was involved in interpersonal situations such as having no friends and being bullied at school, while in the fear situation, the character encountered a dog in the park. Without controlling for the interpersonal context, it is possible that children's responses could be affected by the setting and the interpersonal nature of the event (Zeman & Shipman, 1996). Another limitation is that the ER strategies were preselected for the study; no doubt, there are some other strategies that children may spontaneously generate in emotion-provoking situations. Next, since it was an analog study, it is unknown whether children would use the same ER strategy as they reported. Finally, due to logistical reasons, the data was collected in a rural area in the States and a suburban area in Hong Kong. Therefore, children's responses might be affected by the rural vs. urban subcultures in addition to culture at large.

### **Implications for Clinical Practice**

Despite the limitations discussed above, the current study makes an important contribution to the literature concerning cross-cultural differences in ER strategies as well as children's beliefs about the effectiveness of these strategies. The results from the present study can be used to develop a culturally sensitive theory of ER in middle childhood. More specifically, the data indicates that when implementing socio-emotional interventions, it is important to explore children's beliefs about the ER strategies. Although many children believed that deep breathing could reduce negative emotions, about one-quarter of them suggested that deep breathing did not work because it left the problem and/or feeling unresolved. On one level, this implies that children need more than deep breathing to be part of their intervention. On the other level, one type of ER skill does not necessarily fit all and satisfy the needs of children. It is important to note that if children do not consider the strategy as effective, their engagement in intervention/ therapy will be compromised.

Based on the current findings, the following recommendations are made when working with European American and Chinese children:

- (1) Both European American and Chinese children value the opportunity to talk to someone about their negative emotions and they find that experience helpful.

However, American children emphasize the need to express their feelings through

talking to someone, while the Chinese children consider it as a way to seek emotional support, advice and assistance. These differences in expectations of talking to someone should be taken into account when working with American and Chinese children.

- (2) Children's beliefs on the effectiveness of ER strategies should be routinely explored. For instance, American children found that thinking positively is helpful in preventing them from acting out; however, for the Chinese children "preventing from acting out" is not an issue at all. Focusing on the "wrong" concern might hinder the children from expressing themselves or it might make the children feel misunderstood.
- (3) Children believe that some ER strategies may leave problem and/or feeling unresolved (e.g., deep breathing and thinking positively); therefore, it is important to teach children an array of strategies which may help them to deal with negative emotions.

### **Directions for Future Research**

In addition to scenarios used in the present study, future research may use multiple methods to study ER strategies (observational methods and/ or parent/teachers rating measures) which may provide a more comprehensive picture of the development of ER in children. One way to improve the current design is to ask



the children how the character might feel in the presented scenarios instead of informing the child that the character feels in a particular way (e.g., sad or angry).

Future study should recruit participants from similar communities, e.g., urban or rural.

Future studies may also explore ER strategies in children with and without mental health problems.

## APPENDIXES

### Appendix A. Commonly Studied Emotion Regulation Strategies and Coping Strategies

Table 1

*Commonly Studied Emotion Regulation Strategies and Coping Strategies*

Category	Authors	Description of strategy	Research Domain
Expressive Suppression	Gullon, Hughes, King & Tonge (2010)	A form of response modulation involving the inhibition of ongoing emotion-expressive behavior.	ER
Inhibition	Zeman, Shipmen & Penza-Clyve (2001)	Masking or suppressing emotional expression. E.g., I get mad but I don't show it.	ER
Emotion inhibition	Watson & Sinha (2008)	Involving the total suppression of emotion (Roger & Neshoever, 1987). E.g., "I seldom show how I feel about things."	ER
Emotion control coping	Watson & Sinha (2008)	Inhibiting emotional responses.	ER
Self-control	Folkman & Lazarus (1988)	Controlling one's emotion expression. E.g., I tried to keep my feelings to myself; kept others from knowing how bad things were.	Coping
Passivity	Coats & Blanchard-Fields (2008)	Including avoidance or denial, accepting problem and suppression.	ER

(Continued)

Table 1

*Commonly Studied Emotion Regulation Strategies and Coping Strategies (continued)*

Category	Authors	Description of strategy	Research Domain
Passive/indirect strategies	Rivers, Brackett, Katulak & Salovey (2006)	Physical or cognitive strategies that deal with the emotional situation indirectly or passively, such as waiting for the target to apologize or fix the situation, saying negative things about the target or ignore one's feelings.	ER
Passive withdrawal	Zeman & Garber (1996)	Withdrawing or acting in some passive manner to show the emotion or not act in such a way to hide the emotion. For example, "I would mope around"; "I would just sit there and look out the window."	ER
Positive cognitive restructuring	Zalewski, Lengua, Wilson, Trancik & Bazinet (2011)	Rethinking the situation in a more positive way.	Coping
Cognitive Reappraisal	Gullon, Hughes, King & Tonge (2010); Richards & Gross (2000)	Redefining a potentially emotion-eliciting situation in such a way that its emotional impact is changed.	ER
Positive Reappraisal	Folkman & Lazarus (1988)	Redefining a potentially emotion-eliciting situation in a positive way.	Coping
Optimism	Zalewski, Lengua, Wilson, Trancik & Bazinet (2011)	Thinking about the situation working out.	Coping

(Continued)

Table 1

*Commonly Studied Emotion Regulation Strategies and Coping Strategies (continued)*

Category	Authors	Description of strategy	Research Domain
Emotion manipulation	Altshuler & Ruble (1989)	Exploring behavior directly designed to alter emotion, either through expressing one's feelings, masking them or changing them through relaxation or other means.	Coping
Emotion regulation coping	Zeman, Shipment and Penza-Clyve (2001) Lazarus and Folkman (1984);	Perceptions of one's ability to cope with anger and sadness through constructive control over emotional behaviors. E.g., I try to calmly deal with what is making me feel mad.	ER
Problem focused coping	Eisenberg, Fabes & Guthrie (1997)	Attempting to deal with the task or situation or thinking about how to cope with a situation. .	Coping
Task oriented coping	Watson and Sinha (2008)	Analyzing the problem before reacting.	Coping
Solving the problem	Coats & Blanchard-Fields (2008)	Problem solving and planning.	ER
Planful Problem-Solving	Folkman & Lazarus (1988)	E.g., I knew what had to be done, so I double my efforts to make things work." I made a plan of action and followed it."	Coping
Direct problem solving	Zalewski, Lengua, Wilson, Trancik & Bazinet (2011)	Changing the problem situation or environment	Coping

(Continued)

Table 1

*Commonly Studied Emotion Regulation Strategies and Coping Strategies (continued)*

Category	Authors	Description of strategy	Research Domain
Attempts to change the situation	Rivers, Brackett, Katulak & Salovey (2006)	Active and direct attempts to modify the emotion through behaviors (e.g, fixing the situation, apologizing to target for own behavior) or cognitive strategies (e.g., cognitive reappraisal, thinking about the positives or negatives of the situation.	ER
Approach	Altshuler & Ruble (1989)	Strategies that involved focusing on the situation itself in order to accommodate to it and make it better.	Coping
Cognitive decision making	Zalewski, Lengua, Wilson ,Trancik & Bazinet (2011)	Thinking about choices and solutions, planning	Coping
Facial display	Shipman, Zeman, Nesin & Fitzgerald (2003)	Expressing, showing or masking emotions based on one's facial features.	ER
Facial expression	Zeman & Garber (1996)	Showing or masking the emotion based on his or her facial expression.	ER
Nonverbal expression	Rivers, Brackett, Katulak and Salovey (2006)	Nonverbal expressions such as crying, yelling, screaming, taking deep breaths, violent behaviors, and relaxation	ER
Expressing emotions	Coats & Blanchard-Fields (2008)	Expressing feeling.	ER

(Continued)

Table 1

*Commonly Studied Emotion Regulation Strategies and Coping Strategies (continued)*

Category	Authors	Description of strategy	Research Domain
Verbal expression of feelings	Rivers, Brackett, Katulak and Salovey (2006); Zeman & Garber (1996)	All verbal expressions of feeling.	ER
Verbal display	Shipman, Zeman, Nesin & Fitzgerald (2003)	Saying the emotion one is feeling.	ER
Seek comfort	Rivers, Brackett, Katulak & Salovey (2006)	Engagement in activities specifically focused on receiving comfort or support from others.	ER
Seeking emotional information or support	Coats & Blanchard-Fields (2008)	Understanding feelings, get advice and emotional support	Coping
Seeking social support	Folkman & Lazarus (1988)	Talking to someone who could do something concrete about the problem; accepted sympathy and understanding from someone.	Coping
Social diversion	Watson & Sinha (2008)	Attempts made to be with other people.	Coping

(Continued)

Table 1

*Commonly Studied Emotion Regulation Strategies and Coping Strategies (continued)*

Category	Authors	Description of strategy	Research Domain
Aggression	Shipman, Zeman, Nesin & Fitzgerald (2003)	Mild aggressive behavior, such as stomping around and yelling.	ER
Confrontative Coping	Folkman & Lazarus (1988)	Mild aggressive behavior, such as stomping around and yelling.	Coping
Behavior-aggressive	Zeman & Garber (1996)	Showing or masking emotions by acting aggressively or reporting that he or she would behave aggressively.	ER
Aggression control	Watson & Sinha (2008)	Showing or masking emotions by acting aggressively, like hitting.	ER
Distraction	Watson & Sinha (2008)	Engage in an alternative behaviors, like getting a snack or taking a walk.	Coping
Behavioral distraction	Altshuler & Ruble (1989)	Diverting attention away from the stressful situation by engaging in some other behaviors but remains aware of it to some degree.	Coping
Cognitive avoidance	Zalewski, Lengua, Wilson, Trancik & Bazinet (2011)	Efforts to avoid thinking about the problem.	Coping
Cognitive distraction	Altshuler & Ruble (1989)	Diverting attention away from the stressful situation but remains aware of it to some degree.	Coping

(Continued)

Table 1

*Commonly Studied Emotion Regulation Strategies and Coping Strategies (continued)*

Category	Authors	Description of strategy	Research Domain
Avoidant actions	Zalewski, Lengua, Wilson, Trancik & Bazinet (2011)	Behavioral efforts to avoid the problem situation.	Coping
Behavior-active	Zeman & Garber (1996)	Engagement in some other behaviors to deal with the emotion.	ER
Distraction	Rivers, Brackett, Katulak & Salovey (2006)	Engagement in activities unrelated to the situation, such as exercise, studying or hanging out with friends.	ER
Avoidance coping	Watson & Sinha (2008) Rivers, Brackett,	Engagement in activities unrelated to the situation, such as get some sleep.	Coping
Leaving the situation	Katulak & Salovey (2006)	Physical departure from the situation (e.g., leaving the situation, avoiding the target)	ER
Active withdrawal	Zeman & Garber (1996)	Actively withdraw from the situation that is causing the affective experience in order not to express the emotion.	ER
Complete avoidance: Escape	Altshuler & Ruble (1989)	Physically withdraw from the situation.	Coping
Complete avoidance: Denial	Altshuler & Ruble (1989)	Cognitively disengaged from the situation.	Coping



## Appendix B. Empirical Studies on Children's Emotion Regulation Strategies

Table 2

*Empirical Studies on Children's Emotion Regulation Strategies*

*(For the Purpose of the Present Study, Research about Infancy, Toddlerhood and Adolescence are excluded in the following review)*

Author(s)	Sample	Method	Strategies Studied	Emotions or Situations Studied
Ayers, Sandler, West & Roosa (1996)	Study 1= 217 children; Study 2=303 children, age ranged from 9 to 13 years, predominately Caucasians	Self-report questionnaires, Semi-structured interview	Cognitive decision making, direct problem solving, seeking understanding, positive cognitive restructuring, expressing feelings, physical release of emotions, distracting actions, avoidant actions, cognitive avoidance, problem-focused support, emotion-focused support.	Sadness
Cole & Tamang (1998)	50 children, age from 6 to 9 years old from two different Nepali cultural groups: Tamang & Chhetri-Brahmin	Semi-structure interview Vignettes	Prosocial (trying to repair or comply with the situation), aggressive (acting against others, verbally or physically, to achieve one's goal in the situation), manipulative (trying indirectly to change situation), and avoidant (moving away from the situation).  Display rules: Expression VS. Masking emotions	Happy, angry, sad, scared, and just OK

Table 2

*Empirical Studies on Children's Emotion Regulation Strategies (Continued)*

Author(s)	Sample	Method	Strategies Studied	Emotions or Situations Studied
Cole, Bruschi & Tamang (2002)	223 children, age ranged from 8 to 12, from three cultural groups: the US, Braham & Tamang	Semi-structure interview Vignettes	Children were asked what they would do in the situation: 1) Acting to change the situation, 2) accepting the situation. Emotion expression & display rules: show or not show emotions through facial expression.	Happy, ashamed, angry, okay
Davies et al. (2010)	41 children, age from 5 to 6 year old, predominately European American	Semi-structure interview Vignettes	Children's strategies are coded as the following categories: goal reinstatement, goal substitution, goal forfeiture, primary social support, secondary social support, agent-focused, and metacognitive	Anger and sadness-evoking events and children's abilities to alleviate the distress
De Castro et al. (2005)	54 boys, age 7 to 13	Semi-structure interview Vignettes		Ambiguous intention provocation

(Continued)

Table 2

*Empirical Studies on Children's Emotion Regulation Strategies (Continued)*

Author(s)	Sample	Method	Strategies Studied	Emotions or Situations Studied
Garber, Braafladt, & Weiss (1995)	275 children, in kindergarten through 8 <sup>th</sup> grade (Mean age= 10.6), predominately European American, middle class	Self-report questionnaire	Problem-solve, seek support, cognitive strategies, behavioral avoidance, change affect and negative responses	Emotional reactions towards fights with peers or poor performance at a game
Gullone, Hughes, King & Tonge (2010)	1128 Australian children, age ranged from 9 to 15 years	Self-report questionnaires	Suppression and cognitive reappraisal.	Negative emotionality
Kidwell & Barnett (2007)	69 African Americans children, Mean age 4.5,	Observation, Semi-structure interview, Child self-report, Parent report, Teacher report.	Children's responses to the interviews were coded as having "some regulation difficulties" vs. "well regulated."	Happy, calm, excited, mad, sad and scared

Table 2

*Empirical Studies on Children's Emotion Regulation Strategies (Continued)*

Author(s)	Sample	Method	Strategies Studied	Emotions or Situations Studied
Lei, Schwartz, Dodge & McBride-Chang, 2000	325 children, age between 3 to 6 years old, Southern Chinese	Mother report Teachers report	The degree of emotion dysregulation; Aggression	General negative emotionality
McDonwell et al. (2000)	98 children, age between 8 to 9 years old,	Semi-structure interview Vignettes Observation	Venting, adaptive coping, nonadaptive coping	Anger, sad, excitement
Melnick & Hishow (2000)	82 boys and their families, age 6 to 12	Observation	Mild emotion ventilation, intense emotion ventilation, problem-solves, seeks help and accommodates, negative responses/ focus on negative, shuts down	Anger/Frustration
Penza-Clyve & Zeman (2002)	208 children, aged 9 to 10 years, predominately European American	Self-report questionnaire Semi structure interview	Reluctance to express negative emotions to others; emotion awareness	Negative emotionality

(Continued)

Table 2

*Empirical Studies on Children's Emotion Regulation Strategies (Continued)*

Author(s)	Sample	Method	Strategies Studied	Emotions or Situations Studied
Raval, Martini, & Raval (2007)	80 Indian children, aged 5, 6, 8, 9 years old,	Semi-structured interview Vignettes	Facial expression, active or passive withdrawal responses, crying, aggressive behaviors and direct verbal expression	Anger, sadness, physical pain
Raval, Martini, & Raval, (2010)	80 Indian children, aged 6 to 8 years old	Semi-structured interview Vignettes	facial expression, direct verbal expression, indirect verbal expression, communicate withdrawal, crying and aggressive behavior. manipulating facial expression, verbal concealment, distraction, physically hiding, regulatory withdrawal. Problem oriented engagement behavior, disengagement/passive behavior, behavioral distraction, cognitive engagement strategies (cognitive analysis, positive reappraisal, catastrophizing), Cognitive disengagement strategies (mental avoidance, mental distraction)	Anger, sadness, physical pain
Reijutjes et al. (2006)	186 children, aged from 10 to 13 years old	Observation	Emotion disengagement (not to feel or express sadness) and emotional engagement (talk about feelings), cognitive engagement, cognitive disengagement and behavioral strategy.	Academic failure Social rejection
Rice, Levine & Pizarro (2007)	200 children, aged from 5 to 11 years	Observation		Sadness

(Continued)

Table 2

*Empirical Studies on Children's Emotion Regulation Strategies (Continued)*

Author(s)	Sample	Method	Strategies Studied	Emotions or Situations Studied
Rossman (1992)	345 children, age 6-12 year old	Semi-structure interview Self-report questionnaire,	social support (peer and caregiver), communicated affect (distress and anger), distraction/avoidance and self-calming	Anger, distress
Shipman, Zeman, Nesin & Fitzgerald (2003)	72 boys and 72 girls, age 7 and 10 years, predominately Caucasians	Structure Interview	Expressive strategies (verbal expression, facial expression, crying, sulking) and aggression.	Sadness & anger
Suveg et al. (2008)	56 children, age 8 to 13 years old	Observation Structure interview	Problem-solving Maladaptive responses	Happy, anxious, angry
Underwood, Hurley, Johanson & Mosley (1999)	382 children aged 8, 10-, and 12-year-old, predominately Caucasians	Observation Self-report questionnaire	Emotion expression through facial expressions, verbalizations, and gestures	Anger expression

Table 2

*Empirical Studies on Children's Emotion Regulation Strategies (Continued)*

Author(s)	Sample	Method	Strategies Studied	Emotions or Situations Studied
Wilson, Raval, Alvena, Raval & Panchal (2012)	120 Indian children and 60 U.S children, age ranged from 6 to 9 year old	Semi-structured interview and vignettes	Methods of expression: Facial expression, direct verbal communication, indirect verbal communication, withdrawal, crying and aggressive behaviors. (Raval et al., 2007). Methods of control: facial concealment, verbal concealment, distraction and no activity (Raval et al., 2007)	Anger, sadness and pain
Zahn-Wakler et al. (1996)	60 children, age 4 to 6 years old	Observation, interview and vignettes	Emotion expression of anger, aggressive behavior and language, prosocial, manipulative, avoidant	Anger Conflictual dilemmas
Zalewski, Lengua, Wilson, Trancik & Bazinet (2011)	196 children, age ranged from 9 to 12 years, predominately Caucasians	Structure interview Observation	Cognitive decision making, positive cognitive restructuring, direct problem solving, optimism, avoidant actions, wishful thinking, repression, appraisal.	Frustration & anxiety

Table 2

*Empirical Studies on Children's Emotion Regulation Strategies (Continued)*

Author(s)	Sample	Method	Strategies Studied	Emotions or Situations Studied
Zeman & Garber (1996)	192 children, age ranged from 7 to 11 years), predominately Caucasians	Structure Interview	Facial cues, activity, verbal utterances, pure affective responses (e.g., crying), aggressive response and passive-withdrawal.	Sadness, anger and pain
Zeman & Shipman (1996)	137 children, age range from 7 to 11 years, predominately Caucasians	Structure Interview	Verbal expression, facial expression, crying, passive behavior, aggressive behavior.	Sadness, anger and pain
Zeman et al., 2001	227 children, age 10, predominately Caucasians	Semi-structure interview Vignettes Self-report, peer ratings & maternal report Questionnaire	Expression inhibition and dysregulated-expression	Sadness and anger



## Appendix C. Parent/Guardian Informed Consent

### **Identification of Investigators & Purpose of Study**

Your child is being invited to participate in a research study conducted by Kayan Phoebe Wan, M.A. and Elena Savina, *Ph.D.* from James Madison University. The purpose of this study is to investigate emotion regulation development in European American and Chinese children and to explore cultural mechanisms accountable for the variations. This study will contribute to the researcher's completion of her doctoral dissertation and the development of cultural-sensitive interventions for children in the future.

### **Research Procedures**

Should you decide to allow your child to participate in this research study, you will be asked to sign this consent form once all your questions have been answered to your satisfaction. This study consists of a survey and an interview that will be administered to individual participants in a private location at Guy K Stump Elementary School. Depending on school arrangement, your child might miss some class instruction. Your child will be asked to provide answers to a series of questions related to emotion regulation development.

### **Time Required**

Participation in this study will require 20 minutes of your child's time.

### **Risks**

The investigator does not perceive more than minimal risks from your child's involvement in this study.

### **Benefits**

There are no direct benefits to the participants; however, free consultation services and workshops related to children's psychological well-being and academic success will be provided if appropriate to the needs of the school. Potential benefits from participation in this study include the development of emotion regulation intervention programs in China and the United States where many children are recently found to be stressful and emotionally impacted. Such knowledge can also facilitate cultural understanding in therapy and aid cultural sensitive treatment.

### **Confidentiality**

The results of this research will be presented at classroom, conferences and academic papers. The results of this project will be coded in such a way that the respondent's identity will not be attached to the final form of this study. While individual responses are confidential, aggregate data will be presented representing averages or generalizations about the responses as a whole. All data will be stored in a secure location accessible only to the researcher. The researcher retains the right to use and publish non-identifiable data. At the end of the study,

all records will be destroyed.

### **Participation & Withdrawal**

Your child's participation is entirely voluntary. He/she is free to choose not to participate. Should you and your child choose to participate, he/she can withdraw at any time without consequences of any kind.

### **Questions about the Study**

If you have questions or concerns during the time of your child's participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

Researcher's Name: Phoebe Wan, M.A.

Advisor's Name: Elena Savina, Ph.D.

Department: Graduate Psychology

Department: Graduate Psychology

James Madison University

James Madison University

Telephone: 540-568-5003

Email Address: [wankx@dukes.jmu.edu](mailto:wankx@dukes.jmu.edu)

Email Address: [savinaea@jmu.edu](mailto:savinaea@jmu.edu)

### **Giving of Consent**

I have read this consent form and I understand what is being requested of my child as a participant in this study. I freely consent for my child to participate. I have been given satisfactory answers to my questions. The investigator provided me with a copy of this form.

I certify that I am at least 18 years of age.

\_\_\_\_\_  
Name of Child (Printed)

\_\_\_\_\_  
Name of Parent/Guardian (Printed)

\_\_\_\_\_  
Name of Parent/Guardian (Signed)

\_\_\_\_\_  
Date

Phoebe Wan  
\_\_\_\_\_  
Name of Researcher (Signed)

4/20/2011  
\_\_\_\_\_  
Date

## Appendix D. Parent/Guardian Informed Consent (Chinese version)

## 孩子參與研究同意書

親愛的家長：

本人誠意邀請貴 子女參與一項有關孩子情緒管理的中美跨國研究，旨於了解文化對十至十一歲孩童的情緒管理發展。此研究仍是本人的博士論文，研究結果將發佈在心理學學術研討會及期刊，並促進日後發展對孩童情緒管理的介入計劃。

此項研究包括一項訪問形式的問卷調查。你的孩子將於(時間)在校內受訪，回答一連串有關情緒管理的問題，過程大概為二十分鐘，訪問過程不涉及任何敏感題材及對貴 子弟造成不安的成份，貴 子女亦可以隨時終止參與研究。完成訪問後，本人將會送予孩子一份小禮物以示答謝。在訪問的過程，貴 子女的個人資料不會受到記錄，而所有研究資料也會受到保密。研究結果將會以匯總數據發表，所有個人資料並不會受到公開。若閣下同意貴子女參與研究，你需簽署此同意書，批准你的子女參與研究。

貴 子女的參予對了解香港孩童情緒管理發展有莫大的貢獻，對日後發展促進兒童情緒管理的計劃亦有很大的幫助，敬希閣下同意貴 子女參與此項研究。若閣下有任個疑問，歡迎致電到學校向某老師(學校聯絡)查詢，也可以電郵研究員尹嘉茵 (wankx@dukes.jmu.edu)查詢有關研究的問題。

謝謝閣下及貴 子女的寶貴時間及參與。

本人年滿十八歲，已細讀有關是次研究資料，並同意子女\_\_\_\_\_ (姓名)參與是次研究。

美國詹姆斯麥迪遜大學  
臨床及學校心理學博士學位學生

尹嘉茵敬啟  
二零一一年五月二十日

\_\_\_\_\_ (家長姓名)

\_\_\_\_\_ (家長簽名)

\_\_\_\_\_ (日期)

## Appendix E. Survey of Emotion Regulation Strategies

Code: US\_\_\_\_\_

After establishing a rapport with a child, give him/her the following instruction:

I am going to tell you three stories of Johnny/Ann and want your advice on how to help Johnny/Ann in those stories. There are no correct or incorrect answers - I just want to know your opinion. Do you have any questions? If not, we can start now.

**Story 1**

***Johnny/Ann went to a new school and he/she does not have friends. He/she feels very sad and he/she wants to cry. He/she can do different things to deal with his/her feelings. He/she needs your advice about what to do. He/she can:***

**Take a deep breath.**

Now, look at this ruler – “0” means not helpful at all, “1”- very slightly helpful, “2” – will help a little bit, “3” – helpful, “4”- definitely helpful, “5” very helpful. So, what is your opinion - is it helpful or not to take a deep breath in order to deal with sad feelings?

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5  
not helpful at all very helpful

Why is it helpful/not helpful?

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**What about another thing to do such as thinking about something pleasant, for example, eating ice-cream, buying a new toy. Just something positive and pleasant! How is it helpful with his/her sad feelings? Remember how to use the ruler? (If a child does not remember, explain the ruler again).**

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5  
not helpful at all very helpful

Why is it helpful/not helpful?

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---



---

**Don't go to school next day - will it help Johnny/Ann with his/her sad feelings?**

☞ 0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 ☜  
 not helpful at all very helpful

Why is it helpful/not helpful?

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**Talk to somebody about how he/she feels. How is it helpful with his/her sad feelings**

☞ 0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 ☜  
 not helpful at all very helpful

Why is it helpful/not helpful?

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***Whom should he/she talk to?***

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**Just stop thinking that he/she does not have friends. Don't think about it. How is it helpful with his/her sad feelings?**

☞ 0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 ☜  
 not helpful at all very helpful

Why is it helpful/not helpful?

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What would you do in this situation to deal with your sad feelings?

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### Story 2

*A peer calls Johnny/Ann's names. He/she became very angry. Johnny/Ann can do different things to deal with his/her angry feelings. He/she needs your advice about what to do.*

*He/she can:*

**Take a deep breath. How is it helpful with his/her angry feelings?**

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

not helpful at all very helpful

Why is it helpful/not helpful?

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**Think about something pleasant and positive, for example, eating ice-cream or buying a new toy. Just something positive and pleasant. How is it helpful with his/her angry feelings?**

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

not helpful at all very helpful

Why is it helpful/not helpful?

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**Try not to talk/ meet with that peer who called him/her names – will it be helpful with his/her anger?**

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

not helpful at all very helpful

Why is it helpful/not helpful?

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**Talk to somebody about how he/she feels. How is it helpful with his/her angry feelings?**

☹0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5☺  
not helpful at all very helpful

Why is it helpful/not helpful?

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*Whom should he/she talk to?*

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**Just stop thinking about peer who called her names. Don't think about it anymore. How is it helpful with his/her angry feelings?**

☹☹0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5☺  
not helpful at all very helpful

Why is it helpful/not helpful?

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What would you do in this situation to deal with your angry feelings?

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### Story 3

*One day, Johnny/Ann walked through the park alone and encountered a big dog. The dog jumped and barked at him/her and then ran away. Johnny/Ann is very scared. Johnny/Ann can do different things to deal with his/her feelings. He/she needs your advice about what to do. He/she can:*

**Take a deep breath. How is it helpful with his/her fearful feelings?**

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

not helpful at all very helpful

Why is it helpful/not helpful?

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**Just think about something pleasant and positive, such as eating ice-cream or buying a new toy. Just thinking about something pleasant and positive. How is it helpful with his/her fearful feelings?**

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

not helpful at all very helpful

Why is it helpful/not helpful?

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**How about don't go to the park anymore – will it be helpful with his/her fear?**

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

not helpful at all very helpful

Why is it helpful/not helpful?

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**Talk to somebody about how he/she feels. How is it helpful with his/her fearful feelings?**



0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5  
 not helpful at all very helpful

Why is it helpful/not helpful?

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*Whom should he/she talk to?*

---

**Just stop thinking about the scary dog. Don't think about the scary dog anymore. How is it helpful with his/her fearful feelings?**

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5  
 not helpful at all very helpful

Why is it helpful/not helpful?

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What would you do in this situation to deal with your fearful feelings?

---

**Demographics**

Gender: F/M	Age: 10/11
Living Arrangement	
Mother	Father
Grandmother	Grandpa
Younger brother(s) _____ how many? _____	Younger sister(s) _____ how many? _____
Elder brother(s) _____ how many _____	Older sister(s) _____ how many? _____

## Appendix F. Survey of Emotion Regulation Strategies (Chinese Version)

以下是有關小玲的三個故事，她需要你的意見去幫助她。答案沒有對錯，這也不是一個考試，我只是想知道你的想法。如果你在填寫過程有甚麼問題，遇到不懂寫的字，請問在場的老師，你的老師會協助你。如果你沒有問題的話，我們可以開始了。在以下的問卷，請你圈上適當的數字及填上你的意見。

### 故事一

小玲到了一個新的學校去上學，她沒有任何的朋友。她覺得很悲傷，而且很想哭。她可以做不同的事情去處理她悲傷的情感。她需要你的意見去幫助她。她可以：

#### 1. 進行深呼吸

現在我們看看以下的這把尺，0是完全沒有用，1是或許有幫助，2是有少許幫助，3是有幫助，4是很有幫助，5是十分有幫助。好了，你給小玲的意見是深呼吸對處理她的悲傷有沒有幫助呢？

☹️ 0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 🤗

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

#### 2. 如果試做另外一件事情—想想美好的事情，如吃冰淇淋，你覺得這樣對她處理悲傷的情緒會有幫助嗎？

☹️ 0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 🤗

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

#### 3. 第二天不回去上學—這樣可以幫助小玲處理他悲傷的情感嗎？

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

4. 跟其他人說說他的感受。

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

小玲應該跟誰分享她的感受呢？\_\_\_\_\_

5. 不去想她沒有朋友的這件事情。

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

6. 如果你遇到這樣的情況，你會怎樣處理你悲傷的情緒呢？

---

## 故事二

有一個同學給小玲起了一個很難聽的名字，小玲變得很生氣。小玲可以做不同的事情去處理她的情緒。她需要你的意見告訴她應該怎樣做去處理她生氣的情緒。她可以：

1. 進行深呼吸

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

2. 如果試做另外一件事情—想想美好的事情，如吃冰淇淋，你覺得這樣對她處理悲傷的情緒會有幫助嗎？

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

3. 不去見及不與那個幫她起名字的同學講話。

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？ \_\_\_\_\_

4. 跟其他人說說他的感受。

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

小玲應該跟誰分享他的感受呢？ \_\_\_\_\_

5. 不去想那個給她起名字的同學。

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

6. 如果你遇到這樣的情況，你會怎樣處理你生氣的情緒呢？
- 
- 

### 故事三

小玲一個人在公園散步的時候遇到一隻很大的狗。那隻狗對著小玲又跳又吠，然後便走開了。小玲覺得很害怕。小玲可以做不同的事情去處理她的恐懼，她需要你的意見去幫助她處理那害怕的感受。她可以：

1. 進行深呼吸

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

2. 如果試做另外一件事情—想想美好的事情，如吃冰淇淋，你覺得這樣對她處理悲傷的情緒會有幫助嗎？

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

3. 以後都不到那個公園去。

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

4. 跟其他人說說她的感受。

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？

---

小玲應該跟誰分享他的感受呢？\_\_\_\_\_

5. 不去想那隻大狗。

0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5

完全沒有用

十分有幫助

為甚麼這樣做有幫助或沒有幫助呢？ \_\_\_\_\_

6. 如果你遇到這樣的情況，你會怎樣處理你害怕的情緒呢？

---

個人資料 (請圈上適用的答案)	
性別：男/ 女	年紀： 10/ 11 歲
我現在和以下的一起生活：	
爸爸	媽媽
妹妹 (幾個?) _____	弟弟 (幾個?) _____
哥哥 (幾個?) _____	姐姐 (幾個?) _____
祖父	祖母
其他：(請列出來) _____	

Appendix G. Coding Manual

Code(s)	Descriptions	European Americans	Hong Kong Chinese
Helpful Strategies Reasons			
Physiological Changes	The child states that the strategy can alter the physiological responses such as adrenaline rush, heart beating etc.	<ul style="list-style-type: none"> <li>- When I was a new kid, take some of my adrenaline rush.</li> <li>- if something scares you, you have to take deep breath to feel better, because your hearts beating all fast. So you won't feel dizzy.</li> <li>- You're going to be shaking and positive thinking will help you to breathe slowly.</li> </ul>	<ul style="list-style-type: none"> <li>- Deep breathing helps to express mood, <u>relieve physiological responses</u>.</li> <li>- Can <u>circulate breathing</u>, not so angry.</li> </ul>
Distraction	The child indicates that the strategy distracts the self from the current situation/feeling by <i>thinking</i> about something else or by <i>doing</i> something else.	<ul style="list-style-type: none"> <li>- She can think of another animal and calm down.</li> <li>- Get anger out of you, can distracts you and help forget about it.</li> <li>- Can focus on something else and she will not think about it as much.</li> <li>- He can just think about other things and get the day over.</li> </ul>	<ul style="list-style-type: none"> <li>- Can think of happy thing, not think of sad things.</li> <li>- Will put the unhappy events aside, the brain will not have the sad events.</li> <li>- Distracting attention.</li> </ul>

Forget	[FORGET THE INCIDENT/FEELING]: The child indicates the strategy could be helpful because the character can stop thinking/forget about the incident or feeling.	<ul style="list-style-type: none"> <li>- Take her mind off things.</li> <li>- Because it's all the bad thoughts is <u>out of your head</u> and is all positive.</li> </ul> <p>Forget the incident/feeling:</p> <ul style="list-style-type: none"> <li>- If you think of something good, you will forget about it.</li> <li>- If you stop thinking about the scary dog, you would not be reminded of it. (strategy 5)</li> <li>- When he sees a dog, he may not remember that incident.</li> </ul>	<ul style="list-style-type: none"> <li>- Don't think about the dog (Think positive).</li> </ul> <p>Forget the incident/feeling:</p> <ul style="list-style-type: none"> <li>- Forget the dog's barking.</li> <li>- Will forget bad things.</li> <li>- think happy things then you will forget unhappy things.</li> <li>- Naturally do not feel someone call him names.</li> </ul>
Strategy helps to actively deal with the problem	The child indicates that with the use of the strategy, he/she can actively deal with the situation/feelings such as facing them or overcoming them.	Thinking something pleasant can help you to deal with the problem.	<ul style="list-style-type: none"> <li>- deep breath can calm down and help make new friends</li> </ul>
Promote rationality	The child indicates that the strategy would allow the character to engage in some sort of reflection, thinking and planning.	<ul style="list-style-type: none"> <li>- When you think about positive things, you can <u>think about what to talk to friend.</u></li> <li>- You can think about what you're going to do next.</li> </ul>	<ul style="list-style-type: none"> <li>- Can temporarily calm down and think about things.</li> <li>- Calm, can think about my mistakes</li> <li>- Deep breathe and figure a way</li> </ul>



		<ul style="list-style-type: none"> <li>- Because they can help him think about it and meet other dogs so its not as scary anymore.</li> <li>- Might calm him down a little bit so he can think.</li> <li>- Because you can think about what's going on and how you feel.</li> </ul>	to make friends
Strategy allows to get advice and direct assistance	The child indicates that by talking to someone, the character will be able to get tips/advice to deal with feelings/situation.	<ul style="list-style-type: none"> <li>- If he talks to a guidance counselor, they will be able to work out some plan to meet new friends.</li> <li>- They can talk to that person not to do it. They can help you to avoid that (Avoid what?) avoid somebody calling you names and being mean to you.</li> <li>- They call somebody to get the dog out of the park.</li> <li>- Talk to guidance counselor and he can solve your problems</li> </ul>	<ul style="list-style-type: none"> <li>- Take the initiative to make friends with you.</li> <li>- Other classmates know your feeling and will play with you</li> <li>- Help him to resolve problem.</li> <li>- Others might want to make friends with you</li> <li>- Maybe someone will accompany him to the park, solve the issue</li> </ul>
Express emotion	The child indicates that the strategy helps because a feeling/emotion is/can be expressed.	<ul style="list-style-type: none"> <li>- He can let out his feeling.</li> <li>- Get it off his chest</li> <li>- That way he can get out his feelings</li> <li>- Be able to tell somebody how he feels.</li> </ul>	<ul style="list-style-type: none"> <li>- Express emotion</li> <li>- Will not hold it in the heart.</li> <li>- To tell friend why I'm not happy.</li> <li>- Vent/express about it.</li> <li>- Can talk about the fear.</li> </ul>

<p>Expressing oneself to obtain emotional support</p>	<p>The child indicates that the strategy will allow him/her to be understood OR receive comfort from others.</p>	<ul style="list-style-type: none"> <li>- If you express, they understand how you feel and will cheer you up and become friends.</li> </ul>	<ul style="list-style-type: none"> <li>- Friends will help you to share the burden.</li> <li>- They can understand your feelings.</li> <li>- They can comfort oneself.</li> </ul>
<p>Promote pleasant feelings</p>	<p>The child indicates the strategy will allow the character to calm down/feel relax/experience positive affect.</p>	<ul style="list-style-type: none"> <li>- Calm him down a lot in a nice level.</li> </ul>	<ul style="list-style-type: none"> <li>- Relax.</li> <li>- Heart would feel more comfortable.</li> <li>- helps to be happier</li> </ul>
<p>Reduce negative feelings</p>	<p>The child indicates the strategy is helpful because it reduces negative feelings, reduce emotional intensity, eliminate unpleasant feelings or relieve stress.</p> <p>Suppress emotion</p> <p>The child indicates that the strategy is helpful because it allows he/she to internally control/suppress/repress emotions.</p>	<ul style="list-style-type: none"> <li>- Takes away your stress and feel relieved.</li> <li>- When you are think about other things to replace anger, watch video, start laughing, that's good.</li> <li>- Good to vent. Not exactly sure but relieved some of the stress.</li> <li>- It can take fear away. It makes me feel better.</li> <li>- It can make her anger go away.</li> </ul>	<ul style="list-style-type: none"> <li>- Soothe/alleviate/relieve feelings.</li> <li>- Eliminate worries.</li> <li>- Reduce fear, avoid fear.</li> <li>- control emotions</li> <li>- Taking deep breathes and calm down, restrain emotions.</li> <li>- Can suppress my emotions</li> <li>- Control the emotion.</li> </ul>

Prevent from acting out	The child indicates the strategy prevents any form of aggression, including relational, physical and verbal.	<ul style="list-style-type: none"> <li>- You wouldn't be as angry, if think of something bad, you might want to get back to that person.</li> <li>- Not thinking about bad stuff, may let out anger on teacher, mom or sister, brother</li> <li>- You might start to do bad stuff if you keep it to yourself. They can relieve you.</li> <li>- It can get out his anger instead of punching the peer/ letting it out to his peer.</li> <li>- Prevent her from saying anything mean back.</li> </ul>	<ul style="list-style-type: none"> <li>- Reduce the chance of being impulsive.</li> <li>- Will not be impulsive and hit people etc.</li> <li>- Talking to the peer will make him do some illegal things.</li> <li>- You will not blame somebody</li> </ul>
Learn from other people	The child indicates that the strategy is helpful because he/she learns it from someone else.	<ul style="list-style-type: none"> <li>- Because like sometimes when you get sad or mad, people tell you to take deep breath to calm down.</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- Most teachers agree on that.</li> <li>- Talks mentioned it and Teacher mentioned it.</li> <li>- Friends say it is useful.</li> </ul>
Strategy leads to desirable outcomes (such as making friends.... or prevents from negative outcomes (such as not	The child indicates the strategy is helpful because it will <u>result in</u> desirable or positive consequences or protect him/her from negative consequences .	<ul style="list-style-type: none"> <li>- She will make friends.</li> <li>- He will not see the dog again.</li> <li>- The peer will not call him names.</li> </ul>	<ul style="list-style-type: none"> <li>- She will make friends.</li> <li>- He will not see the dog again.</li> </ul>

getting into trouble...)			
Unhelpful Strategies Reasons			
<p>The strategy is unhelpful because the problem/feeling is unresolved</p>	<p>The child reports that the strategy is unhelpful because problems/ feelings persisted.</p> <p>[CAN'T FORGET] The child indicates that the strategy is unhelpful because the character still remembers the incident or cannot forget about what had happened.</p> <p>[IRRELEVANT] The child comments that the strategy is unhelpful because it does not match the nature of the problem and the strategy has nothing to do with the situation and the child DOES NOT offer any other alternative strategy.</p>	<p><b>FEELING UNRESOLVED</b></p> <ul style="list-style-type: none"> <li>- He won't call him names if he doesn't see him. But anger might still be there.</li> <li>- If she doesn't encounter the dog, she will not overcome the fear.</li> <li>- Might have scare him and this will not take away his fear.</li> <li>- You can't have any friends and it makes you scared when you see the dog. You feel the same way.</li> <li>- Because it doesn't always help that much because it doesn't relieve the feelings. It holds it.</li> <li>- She will not linger that but when that person shows up at her face, she still gets hurt.</li> <li>- You're not really doing anything and it will not make you happy.</li> <li>- Talking to somebody is not going to</li> </ul>	<p><b>FEELING UNRESOLVED</b></p> <ul style="list-style-type: none"> <li>- Emotions are still overwhelming.</li> <li>- Cannot eliminate sorrow.</li> <li>- When he back to school, he will be angry.</li> <li>- Unable to reduce fear.</li> <li>- Other people cannot deal with the emotions for you.</li> <li>- Passing by still makes Johnny unhappy.</li> </ul> <p><b>PROBLEM UNRESOLVED</b></p> <ul style="list-style-type: none"> <li>- Cannot really solve problems</li> <li>- Deep breathing won't get you friends.</li> <li>- Others can't help you (to solve the problem).</li> <li>- Even not going to the park,</li> </ul>

[TEMPORARY] The child states the strategy will work only for a short period of time or will not last its effect.

help you face your fear.

- Instead of not talking, better to talk, because of bottle up effect.
- You may just hold it until you get too angry and you yell at them
- Sometimes, still feel sad; you just have to try something else. Sometimes it helps.

#### PROBLEM UNRESOLVED

- It wouldn't really help, could help. Still have to school someday and it wouldn't help just not go to school a day.
- It is hard to tell somebody that you are afraid of a dog that is barking at you.
- She really would, help slightly, it will not make the person stop and she will have to deal with it later.
- Its going to come back again as he doesn't make friends and it's going to occupy with him.
- It's not going to solve the problem.
- It will not help you. I don't see. If you just do this, you may see that dog again.

possibly still encounter the dog when go outside.

- Not thinking about it but the incident still exists!

#### CAN'T FORGET

- Will still think about it, other ask will trigger thoughts.
- But hearing the dog's bark will always remember the event. he/she doesn't go doesn't mean she/he can forget

#### IRRELEVANT

- The main goal of going to school is to learn, not to make friends.
- I will never know if there are dogs there, if invited by friends, he cannot do anything about it.
- Scaring oneself is different from being unhappy and angry.
- The memory of dog will prevent you from thinking about other things.

CAN'T FORGET

- Even though think about something pleasant, the names of the peer who call her may remind her.
- Not helpful because you still remember it. When you're at school the next day you still remember it.

IRRELEVANT

- Because it is not really happening and you're only thinking about it.
- It is in your imagination.
- You're not really doing anything and it will not make you happy.
- Sometimes you want to go to the park
- She is not doing anything about it.(IMAGINED SOLUTIONS)

TEMPORARY

- If he thinks about his feelings, he would not be scared about it anymore. But, if he stop thinking about it, it would not work.

- External factors make him unhappy, so it is useless.

TEMPORARY

- Time is limited, might remember it later.
- Temporarily happy.
- Will not see classmates when not in school, can temporarily forget, but then still need to go to school.

		<ul style="list-style-type: none"> <li>- You can get your mind off it for a while and think of something else but if you go to school again it comes back to you. Once he is done, he will know what is going on again. It would only work temporarily.</li> <li>- It will help at the moment.</li> <li>- It might not help her but might calm her down for one day.</li> </ul>	
Strategy is unhelpful because it is not action-oriented	The child indicates that the strategy is unhelpful because it is passive. Instead, action-oriented strategy, such as confronting the situation or seeking assistance, may be offered.	<ul style="list-style-type: none"> <li>- You need to deal with the situation.</li> <li>- If you keep going to school, you will make new friends.</li> <li>- He needs to work it out with the peer.</li> <li>- You should deal with your fear.</li> <li>- Face your fear.</li> <li>- If she doesn't encounter the dog, she will not overcome the fear.</li> </ul> <p>Strategy does not work and one needs assistance:</p> <ul style="list-style-type: none"> <li>- He should go to talk to a friend.</li> <li>- I will run back to the house and told mom</li> <li>- He should go to talk to a friend.</li> </ul>	<ul style="list-style-type: none"> <li>- Not necessarily express the feelings must be brave and face it.</li> <li>- Should try to overcome.</li> <li>- Take action instead of thinking about it</li> <li>- Should leave as soon as possible, should not stand there and take deep breathes.</li> <li>- should take the initiative to make friends</li> <li>- One must face/confront it oneself.</li> <li>- Must bravely overcome one's fear.</li> <li>- Cannot overcome fear.</li> </ul>

		<p>Avoid Problem</p> <ul style="list-style-type: none"> <li>- It's not good to run away from your problems.</li> </ul>	<p>Strategy does not work and one needs assistance:</p> <ul style="list-style-type: none"> <li>- Should talk to parents</li> </ul>
<p>Strategy leads to_</p> <p><u>Other</u> potential</p> <p>Negative</p> <p>Consequences</p>	<p>The child indicates the strategy is unhelpful because it will <u>lead to</u> undesirable or negative consequences, other than the problems suggested in the stories, such as no friends in story 1, being called names in story 2 and being jumped and barked at by the dog in story 3.</p>	<ul style="list-style-type: none"> <li>- She might be injured the next time she walks through the park.</li> <li>- If the dog is still there, it will attack her if she thinks.</li> <li>- You might get to physical fights and bad things.</li> <li>- You'll miss all the work and you will end up not meeting friends.</li> <li>- If you don't talk to that person that going to encourage them. They will keep doing that.</li> </ul>	<ul style="list-style-type: none"> <li>- No one would like him.</li> <li>- Do not know how others think about it.</li> <li>- Don't talk to him will make the relationship become worse.</li> <li>- Not going to school may affect other things</li> <li>- Say it oneself, other people will be scared.</li> </ul>
<p>Generate or intensify</p> <p>negative feelings</p>	<p>The child indicates that the strategy is unhelpful because it might intensify or trigger negative emotions or experiences.</p> <p>(Note: Do not double code with other negative consequences)</p>	<ul style="list-style-type: none"> <li>- It can calm down at the moment but he would be sadder each day as he does not have friends.</li> <li>- It makes you feel bored.</li> <li>- Anger will come back, built up and he would hurt somebody really bad</li> <li>- It can calm down at the moment but he would be sadder each day as he does not have friends.</li> </ul>	<ul style="list-style-type: none"> <li>- Should also talk to the family, one will be more scared when keeping it to oneself.</li> <li>- If thinking about it will be happy, not thinking about it will be unhappy.</li> <li>- Because then you will think more about unhappy thing.</li> <li>- He is going to be more sad</li> </ul>



		<ul style="list-style-type: none"> <li>- Increase stress on her and it will keep happening to her.</li> <li>- It will help her, because if she thinks of things not pleasant, it may make her feel even more scared.</li> </ul>	<p>without friends.</p> <ul style="list-style-type: none"> <li>- Forget it but will feel very lonely.</li> </ul>
Others	The child indicates the strategy is unhelpful/helpful because different things work for different people, the strategy is less useful than the others, it is difficult to do due to emotional intensity and others might not be interested in helping the person.	<ul style="list-style-type: none"> <li>- Something are better for some people than others.</li> <li>- Calm down, but it doesn't help everyone.</li> <li>- Not for everybody. Some might have anger issues more than others</li> <li>- Sometimes, still feel sad; <u>you just have to try something else</u>. Sometimes it helps.</li> <li>- Sometimes it does not work but if you do more than one it might, but you don't have friends.</li> <li>- It is hard to tell somebody that you are afraid of a dog that is barking at you.</li> </ul> <p>Not interested:</p> <ul style="list-style-type: none"> <li>- Her parents might not worry about it, because it is just a dog.</li> <li>- Some people like to talk but sometimes I don't like to tell others.</li> </ul>	<ul style="list-style-type: none"> <li>- Can relax, but it will be better if someone else can comfort me.</li> <li>- Not as useful as deep breathing</li> <li>- Talking on the phone will be happier.</li> </ul> <p>Difficult to do:</p> <ul style="list-style-type: none"> <li>- The memory of dog will prevent you from thinking about other things (S2).</li> <li>- Too nervous/because you are very scared.</li> <li>- Calling one's name makes people very angry.</li> <li>- Can't think about it because of too angry.</li> </ul> <p>Not interested:</p> <ul style="list-style-type: none"> <li>- Some of them may not like to</li> </ul>

		<ul style="list-style-type: none"> <li>- It's not a big deal and people might not care.</li> </ul> <p>Learn from other people The child indicates that the strategy is helpful because he/she learns it from someone else.</p> <p>Difficult to do:</p> <ul style="list-style-type: none"> <li>- Because like sometimes when you get sad or mad, people tell you to take deep breath to calm down.</li> </ul>	<p>hear that.</p> <ul style="list-style-type: none"> <li>- Classmates would think it's not their business, he is mad at himself.</li> <li>- Other doesn't care about you.</li> </ul> <p>Learn from other people</p> <ul style="list-style-type: none"> <li>- Most teachers agree on that.</li> <li>- Talks mentioned it and Teacher mentioned it.</li> <li>- Friends say it is useful.</li> </ul>
Cognitive Reappraisal	The child copes with the situation/feeling by reappraising it. The strategy can be helpful or unhelpful as he/she reinterprets/reappraise the situation for the character.	<ul style="list-style-type: none"> <li>- Maybe the dog doesn't know you well and it is trying to be friendly.</li> <li>- The dog is probably not going to hurt me.</li> <li>- She can always make new friends.</li> <li>- She is not your real friend if she says mean things to you.</li> <li>- It was just something scary. I think he can handle it on his own.</li> </ul>	<ul style="list-style-type: none"> <li>- Because it is not something special, it is only a dog.</li> <li>- Will gradually get use to it, will not feel unhappy.</li> <li>- Adjust will not be that unhappy.</li> <li>- Other people will tell you that classmate doesn't mean that.</li> <li>- Can think about it, friends are unnecessary</li> </ul>
Circular explanation	The child repeats part of the question and does not provide any new information. For example, it is helpful because it	It is helpful because it is helpful./It is not helpful. / Just help a little bit/ He is taking a deep breath (s1). / He is thinking about something pleasant and positive (S2). You don't have to go to the school. (S3) You don't think about it (s5). /you talk to someone (s4).	

	helps.	
Do not know	The child indicates that he/she does not know why it works or not work.	- I don't know.
Uncodable responses	This code means that the coder cannot determine the code or feel uncertain about the codes.	- Ice-cream is delicious.

Appendix H. Frequency Distribution for Explanations for Deep Breathing in the American and Hong Kong Samples

Table 6

*Frequency Distribution for Explanations for Deep Breathing in the American and Hong Kong Samples*

	Sad		Anger		Fear	
	US %	HK %	US %	HK %	US %	HK %
<i>Explanations of why the strategy is helpful</i>						
Cognitive reappraisal	1.85	0	0	0	11.11	2.25
Distraction	1.85	0	3.70	0	5.56	0
Expressing emotion	0	2.25	7.41	1.12	0	2.25
Results in physiological changes	0	1.12	3.70	1.12	9.26	1.12
Prevents from acting out	5.56	0	25.93	2.25	0	0
Promotes pleasant feeling	22.22	20.22	12.96	24.72	20.37	19.10
Promotes rationality	16.67	1.12	7.41	4.49	12.96	0
Reduces negative feeling	44.45	39.33	35.19	44.94	33.33	48.31
Stop thinking/forgetting	1.85	2.25	16.67	3.37	9.26	2.25
Provides advice/direct assistance	0	0	1.85	0	1.85	0
Active problem solving	3.70	0	1.85	2.25	0	1.12
Leads to desirable outcomes	9.26	4.49	0	1.12	0	0
<i>Explanations of why the strategy is unhelpful</i>						
Generates or intensifies negative feelings	1.85	1.12	1.85	0	0	1.21
Problem/feeling unresolved	24.07	33.71	7.41	25.84	24.07	23.60
Not action-oriented	5.56	2.25	3.70	0	7.41	5.62
Leads to other negative consequences	1.85	1.12	1.85	1.12	3.70	0
Circular Explanation	7.41	3.37	3.70	1.12	3.70	2.25
Other Responses	7.41	4.49	0	2.25	7.41	1.12

Appendix I. Frequency Distribution for Explanations for Thinking Positively in the American and Hong Kong Samples

Table 7

*Frequency Distribution for Explanations for Thinking Positively in the American and Hong Kong Samples*

	Sad		Anger		Fear	
	US	HK	US	HK	US	HK
	%	%	%	%	%	%
<i>Explanations of why the strategy is helpful</i>						
Cognitive reappraisal	0	0	0	2.25	3.70	1.12
Distraction	22.22	3.37	18.52	3.37	12.96	6.74
Expressing emotion	0	0	1.85	0	0	0
Results in physiological changes	0	0	0	0	0	3.70
Prevents from acting out	1.85	0	9.26	0	0	0
Promotes pleasant feeling	31.48	31.46	29.63	23.60	5.56	22.22
Promotes rationality	5.56	0	0	0	3.70	0
Reduces negative feeling	20.37	14.61	29.63	15.73	20.37	10.11
Stop thinking/forgetting	14.81	14.61	35.19	17.98	37.04	21.35
Active problem solving	0	1.12	0	0	3.70	0
Leads to desirable outcomes	7.41	3.37	3.70	0	0	0
<i>Explanations of why the strategy is unhelpful</i>						
Generates or intensifies negative feelings	0	0	1.85	2.25	0	0
Problem/feeling unresolved	18.52	28.09	18.52	31.46	25.93	35.96
Not action-oriented	1.85	2.25	5.56	1.12	1.85	3.37
Leads to other negative consequences	1.85	0	5.56	3.37	5.56	2.25
Circular explanation	1.85	1.12	1.85	1.12	3.70	3.37
Other responses	0	5.62	1.85	2.25	0	1.12

Appendix J. Frequency Distribution for Explanations for Situation Avoidance in the American and Hong Kong Samples

Table 8

*Frequency Distribution for Explanations for Situation Avoidance in the American and Hong Kong Samples*

	Sad		Anger		Fear	
	US	HK	US	HK	US	HK
	%	%	%	%	%	%
<i>Explanations of why the strategy is helpful</i>						
Cognitive reappraisal	3.70	2.25	7.41	5.62	31.48	20.22
Distraction	0	0	1.85	0	0	0
Expressing emotion	0	0	1.85	0	0	0
Prevents from acting out	0	0	3.70	1.12	0	0
Promotes pleasant feeling	3.70	1.12	1.85	0	1.85	0
Promotes rationality	0	0	1.85	0	0	0
Reduces negative feeling	0	1.12	16.67	3.37	11.11	0
Stop thinking/forgetting	1.85	0	7.41	4.49	3.70	1.12
Gets advice/direct assistance	1.85	0	0	0	1.85	0
Active problem solving	0	0	3.56	1.12	0	0
Leads to desirable outcomes	3.70	0	25.93	1.12	3.56	3.37
<i>Explanations of why the strategy is unhelpful</i>						
Generates or intensifies negative feelings	7.41	4.49	1.85	1.12	3.56	2.25
Problem/feeling unresolved	62.96	34.83	24.07	31.46	29.63	50.56
Not action-oriented	14.81	29.21	44.12	25.84	31.48	17.98
Leads to other negative consequences	40.74	32.58	12.96	25.84	31.48	11.24
Circular explanation	0	1.12	0	2.25	0	0

Appendix K. Frequency Distribution for Explanations for Talking to Someone in the American and Hong Kong Samples

Table 9

*Frequency Distribution for Explanations for Talking to Someone in the American and Hong Kong Samples*

	Sad		Anger		Fear	
	US %	HK %	US %	HK %	US %	HK %
<i>Explanations of why the strategy is helpful</i>						
Cognitive reappraisal	0	1.12	0	2.25	5.56	3.37
Distraction	1.85	0	0	0	1.85	0
Expressing emotion	31.48	26.97	16.67	21.35	22.22	14.61
Expressing oneself to obtain emotional support	9.26	26.97	5.56	19.10	11.11	25.84
Prevents from acting out	0	0	5.56	1.12	0	0
Promotes pleasant feeling	18.52	12.36	1.85	10.11	7.41	10.11
Promotes rationality	1.85	0	0	0	1.85	1.12
Reduces negative feeling	11.11	13.48	14.81	16.85	31.48	22.47
Stop thinking/forgetting	1.85	2.25	0	3.37	0	1.12
Gets advice/direct assistance	50	21.35	50	22.47	27.78	20.22
Active problem solving	3.70	3.37	11.11	3.37	9.26	4.49
Leads to desirable outcomes	14.81	13.48	7.41	13.48	1.85	1.12
<i>Explanations of why the strategy is unhelpful</i>						
Generates or intensifies negative feelings	0	0	1.85	1.12	1.85	0
Problem/feeling unresolved	1.85	2.25	1.85	3.37	7.41	7.87
Not action-oriented	0	0	0	0	3.70	1.12
Leads to other negative consequences	0	0	1.85	1.12	0	2.25
Circular explanation	0	1.12	0	2.25	5.56	3.37
Other responses	0	0	1.85	3.37	3.70	0

Appendix L. Frequency Distribution for Explanations for Suppression in the American and Hong Kong Samples

Table 10

*Frequency Distribution for Explanations for Suppression in the American and Hong Kong Samples*

	Sad		Anger		Fear	
	US %	HK %	US %	HK %	US %	HK %
<i>Explanations of why the strategy is helpful</i>						
Cognitive reappraisal	9.26	6.74	5.56	2.25	12.96	5.62
Distraction	11.11	1.12	1.48	1.12	11.11	5.62
Prevents from acting out	0	0	9.26	0	0	0
Promotes pleasant feeling	3.70	5.62	9.26	6.74	3.70	1.12
Promotes rationality	1.85	1.12	1.85	0	0	0
Reduces negative feeling	27.78	11.24	9.26	5.62	0	0
Stop thinking/forgetting	3.70	11.24	18.52	21.35	22.22	29.21
Active problem solving	1.85	0	5.56	0	1.85	0
Leads to desirable outcomes	5.56	5.62	11.11	3.70	5.56	2.25
<i>Explanations of why the strategy is unhelpful</i>						
Generates or intensifies negative feelings	7.41	7.87	3.70	1.85	24.07	17.98
Problem/feeling unresolved	25.93	26.97	20.37	34.83	14.81	23.60
Not action-oriented	11.11	16.85	5.56	12.36	0	0
Leads to other negative consequences	14.81	12.36	16.67	15.73	35.19	34.83
Circular explanation	1.85	3.37	7.41	3.37	7.41	3.37
Other responses	0	2.25	0	0	0	1.12



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