THE ROLE OF EMOTION REGULATION IN CHILDHOOD DEPRESSIVE SYMPTOMS

A thesis submitted to Kent State University in partial fulfillment of the requirements for the degree of Master of Arts

Shannon N. Siener

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CHAPTER 1

INTRODUCTION

Childhood depressive symptomatology has received more attention in recent years. While there was once disagreement regarding whether or not depression or depressive symptoms occurred in childhood, it is now widely recognized that depressive disorders and symptoms occur during childhood and are similar to those occurring in adolescence and adulthood (Nolen-Hoeksema & Girgus, 1994). The diagnostic criteria for a depressive episode for children and adults in the DSM-IV-TR are virtually identical with the exceptions of irritable mood for children in lieu of depressed mood (APA, 2000). Childhood depression affects 1-2% of children (Costello, Angold, Burns, Stangl, Erkanli & Worthman, 1996; Kovacs, 1996). Although a diagnosed depressive disorder is rare, experiencing depressive symptoms is more common as approximately 10-15% of prepubescent children experience moderate to severe depressive symptomatology (Nolen-Hoeksema, Girgus, & Seligman, 1992). Moreover, Hankin, Fraley, Lahey, and Waldman (2005) found that depression in children is a dimensional rather than a categorical construct. Hence, the experience of depressive symptoms would fall along the continuum of depressive disorders, which makes symptomatology very important to study further.

Depression in childhood increases the risk of experiencing later episodes of depression throughout the life course. Further, depression in childhood and adolescence
is associated with many negative outcomes such as academic problems, high-risk sexual behavior, and impaired social relationships (Horowitz & Garber, 2006). Moreover, clinically depressed children are more likely to complete suicide (Stolberg, Clark, & Bongar, 2002). Thus, due to these associated risks, it is important to study the causes and correlates of depression and depressive symptoms in children and adolescents.

Etiological models of the development of childhood depression have to date commonly focused on cognitive (Abela, 2001), genetic (Rice, Harold, & Thapar, 2002), and familial factors (Duggal, Carlson, Sroufe, & Egeland, 2001). In addition, gender differences in depression begin to emerge around 12 or 13 years of age as girls begin experiencing more depressive symptoms and clinical depression than do boys (Hankin, Mermelstein, & Roesch, 2007) and by age 15, females are twice as likely to be depressed as males (Nolen-Hoeksema & Girgus, 1994). More recently, models of depression have incorporated emotion processes (Durbin & Shafir, 2007). Individual differences in emotion and emotion processes may contribute to the development of psychopathology in childhood, including depression (Eisenberg, Cumberland, Spinrad, Fabes, Shepard, Reiser et al. 2001). The goal of this study was to examine the relation of depressive symptoms in childhood and both the temporal and process-oriented aspects of emotion regulation.

**Depression and Emotion Regulation**

Many different definitions of emotion regulation and ways of operationalizing the concept have been proposed. Shields and Cicchetti (1997) characterized emotion regulation as efforts to regulate emotion with the goal of modifying arousal to achieve
optimal engagement with the environment. Further, they proposed that temporal features
of emotion such as lability, flexibility, and situational responsivity of expressed emotions
all reflect emotion regulation processes. These features have also been referred to as
emotionality (Rothbart, Ahadi & Evans, 2000). Other definitions of emotion regulation
concentrate more on the mechanisms and processes involved in regulating one’s
emotions. Gross (1998) defines emotion regulation as processes that influence which
emotions individuals experience, as well as when and how they express their emotions.
Gross notes that both positive and negative emotions can be regulated, and regulation can
occur without conscious awareness. Thompson (1994) suggested that emotion regulation
processes include both extrinsic and intrinsic processes that aid in monitoring, evaluating,
and modifying emotional responses in order to achieve one’s goals. This includes
regulating emotional arousal through enhancement and maintenance as well as inhibition
of emotional arousal, and regulation efforts can impact the intensity and duration of
experienced emotions. While many conceptualizations of emotion regulation have been
utilized, all of the definitions of emotion regulation emphasize that the ability to
successfully coordinate one’s emotions with the varying stresses of the environment is
essential to adaptive functioning (Durbin & Shafir, 2007).

It may be that children who experience more intense and frequent emotions have
more difficulty in modifying these emotions and thus are more prone to experiencing
symptoms of depression. Consistent with this hypothesis, the experience of internalizing
symptoms has been linked to temporal features of children’s emotion regulation
including the frequency, duration, intensity, and recovery of expressed emotions.
Specifically, children in fourth and fifth grade with internalizing symptoms have been found to have a higher level of fear emotionality (Rydell, Berlin, & Bohlin, 2003). Another study found that children five to eight years old with internalizing symptoms have been found to be more likely to express their anger and sadness in ways that are excessive and not constructive (Zeman, Shipman, & Suveg, 2002). In addition, depressive symptoms in early to mid adolescence have been linked to experiencing greater lability and intensity of sadness, anger, and anxiety (Silk, Steinberg, & Morris, 2003).

Internalizing symptoms may also be related to emotion regulation processes. Emotion regulation processes refers to how emotions are managed after they are aroused and experienced at a certain level of intensity (Rydell, Berlin & Bohlin, 2003). As noted earlier (Thompson, 1994), emotion regulation processes are involved in the evaluation, monitoring, and modification of emotion. Specifically, more depressed children may process emotional events in a biased way. For example, depressed children ages eight to sixteen have difficulties inhibiting the processing of negative emotional information in order to concentrate on another task (Ladouceur, Dahl, Williamson, Birmaher, Ryan & Casey, 2005). Based on Beck’s model of depression, Leitenberg (1984) proposed four common errors in the thinking of depressed children. Overgeneralization occurs when an individual assumes that an outcome in one situation will always occur in responses to that situation and similar situations in the future. Catastrophizing occurs when an individual misconstrues an event as catastrophic or expects the outcome of an event will be disastrous. Personalization transpires when an individual interprets negative events as
having some sort of personal significance or feels personally responsible for these events. Selective abstraction refers to instances in which the individual concentrates on only negative aspects of a situation. Increased cognitive errors have been linked to both depressive symptomatology and clinical depression in middle childhood (Leitenberg, 1994; Epkins, 1998; Cole & Turner, 1993; Tems, Stewart, Skinner, Hughes, & Emslie, 1993). Further, cognitive errors explain unique variability in depressive symptomatology above and beyond both the perceived and actual competence of the child (Epkins, 1998).

Another aspect of emotion regulation that may be related to depressive symptoms is the monitoring of one’s emotions. Monitoring one’s emotional state includes having an awareness of one’s emotions (Thompson, 1994). Individuals who have an impoverished awareness of their emotions may consequently experience difficulties in the regulation and expression of these emotions, which may affect their susceptibility to developing depression (Lane & Schwartz, 1987). For example, children who are aware of their emotions may be more able to consider and execute strategies which allow the individual to better cope with the situation which initially evoked the emotion (Southam-Gerow & Kendall, 2000). Poor awareness of emotions has been found to be positively correlated with internalizing symptoms (Zeman, Shipman & Suveg, 2002), and specifically, depressive symptomatology (Penza-Clyve & Zeman, 2002). Thus, it seems likely that if children lack awareness of their emotions, they may not engage in constructive coping strategies that would allow the modification of the problematic situations and emotions.
Emotion regulation also refers to processes that can modify emotion, such as coping strategies (Thompson, 1994). Children who are not able to effectively alter or address their negative emotions through coping strategies are likely more at risk for experiencing depressive symptoms. Coping refers to the efforts made by children to regulate responses which may arise due to stressful events, including their emotions, cognitions, and behavioral and physiological responses (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Coping can be both cognitive and behavioral in nature. For example, Ayers, Sandler, West & Roosa (1996) discussed avoidant coping as including both actions (e.g., coping by avoiding problems) and cognitions of avoidance (e.g., refusing to think about it).

More depressed children may fail to use constructive coping strategies. Some studies have suggested that engaging in avoidant coping techniques is significantly associated with the expression of depressive symptoms in middle childhood (e.g., Herman-Stahl, Stemmler, & Petersen, 1995; Herman-Stahl & Petersen, 1996; Sandler, Tein, & West, 1994). However, the link between avoidance and depression in middle childhood has not been a consistent finding. Compas et al. (2001) conducted a review of the coping literature including 63 studies examining the relationship between coping and psychological adjustment. They found 83 significant effects between disengagement coping (which includes avoidance and social withdrawal) and internalizing symptoms, and 101 nonsignificant effects. Thus, mixed results have been found for the link between internalizing disorders and avoidant coping strategies. Additionally, it has been determined that adolescents with depressive symptoms utilize involuntary engagement
coping strategies (e.g., rumination) (Silk et al., 2003). Vulic-Prtoric & Macuka (2006) found that depressive symptomatology was significantly associated with expressing one’s feelings as a method of coping. This strategy is utilized when children vent their feelings through verbal expressions or actions. While this method may offer some temporary relief, it ultimately tends to sustain the problem rather than alleviate it. This is similar to what others term emotion-focused coping (e.g., Compas et al., 2001), and is often considered to also be avoidant in nature. Thus, while findings are mixed, it seems that depressed children might more often employ coping strategies that aim to avoid or withdraw from the situation rather than constructively change the situation. Consistent with this interpretation, a number of studies have found that problem-focused and engagement coping is associated with better adjustment, including lower levels of depression in children (Compas et al., 2001; Fields & Prinz, 1997). However, it should be noted that Compas et al. (2001) had difficulties classifying studies that specifically measured problem-focused coping and therefore only found four studies which specifically measured problem-focused coping and found it to be related to fewer internalizing symptoms. Nonetheless, depressed children may use avoidant coping methods as well as fail to engage in more constructive coping strategies such as problem solving and positive reframing.

While both emotionality and emotion regulation are associated with internalizing symptoms, it is also important to consider how the two may operate together. Emotionality may act as a set point for the experience of emotion in terms of intensity and lability. Once an emotion is experienced, the child must engage in efforts to modify the emotion
relative to the individual and situation. If emotion regulation efforts are successful, then the temporal features of emotion may be modified (e.g., child feels less intensive negative affect). It is possible that individuals who typically experience more labile emotions may be more reactive to their environments, and thus have a greater need for regulating their emotions (Durbin & Shafir, 2007). This raises the possibility that depressive symptoms may be most likely to occur when an individual has both a tendency to experience higher levels of negative emotions and difficulties in regulating emotions. This possible interaction has not been examined in previous research.

In summary, children with internalizing disorders and symptoms experience a wide range of emotion regulation difficulties. Each study defined and measured the concept of emotion regulation in a different way. Furthermore, most studies did not consider the relationship between emotion regulation and depression or depressive symptoms specifically. Rather, they examined internalizing disorders and symptoms more generally, often combining symptoms of depression and anxiety. Finally, studies have typically examined individual aspects of emotion regulation, without considering ways in which different aspects of emotion regulation may interact with emotionality.

The Current Study

The goal of the current study was to extend our understanding of depressive symptomatology and emotion regulation in middle childhood. We focused on middle childhood because this is an age by which depressive symptomatology is present in a sizable proportion of children (Graham & Easterbrooks, 2000). Moreover, middle childhood is a time during which emotion regulation abilities become more advanced and
are related to competence (Shields & Cicchetti, 1997). We considered how both emotionality and emotion regulation are related to depressive symptomatology, and also explored possible interaction effects. Additionally, we measured emotion regulation using multiple methods and multiple sources. Both the mother and child reported on multiple aspects of emotion and emotion regulation. In addition to mother and child reports of emotionality and emotion regulation, this study incorporates an observational assessment of emotion regulation through the coding of an interaction between the target child and his or her mother as they discussed areas of disagreement. This observational method is important in that it may provide a more objective measure of emotion regulation than self-report or a parent’s report of the child’s characteristics.

Our first hypothesis was that children who report experiencing more depressive symptoms would show greater intensity in the expression of emotions. Additionally, we expected that more depressed children would have poorer awareness of their emotional states and also that we would observe less consistency between their affect and behavior. Our third hypothesis was that children with more depressive symptomatology would show biased processing of emotional events in that they would exhibit a greater amount of cognitive errors. Our fourth hypothesis was that more depressed children would utilize more passive coping strategies such as avoidance or disengagement from tasks rather than more active strategies such as direct attempts at problem-solving and positive reframing. Additionally, for descriptive purposes we looked collectively at all of the emotion regulation processes and the temporal features to see how much variance they explained. Finally, we tested whether poorer regulation of emotion will be more strongly
associated with the presence of depressive symptomatology when a child also has higher levels of emotionality.
CHAPTER 2

METHOD

Participants

Invitation letters were distributed through local schools and clinics. The final sample included 87 children with an age range of 122 to 154 months (48 girls, 39 boys, mean age = 11.32) and their mothers. Approximately 95% of the sample was recruited from local schools, while 5% of the sample was recruited from local mental health clinics. According to mother report, 14% of children had some form of psychopathology. Two identified their children as having a mood disorder (one was reported to have Major Depressive Disorder and a second was identified as having Pediatric Bipolar Disorder), and 10 mothers indicated that their children had another form of psychopathology (e.g. attention deficit disorder, anxiety disorders). Approximately 67% of the children were Caucasian, 17% African American, 6% American Indian, 1% Hispanic, and 9% mixed or biracial. Approximately 60% of the children came from intact homes, 33.3% came from single-parent homes, and 7% had a step-parent in the household. The families’ SES was computed using the Hollingshead’s Four Factor Index of Social Status (Gottfried, 1985), which has a potential score range of 8-66 (sample mean = 41.17, SD = 12.40, range 12 to 66). Approximately 16% of families fell into the category of major business and
professionals, 37% were identified as medium business and professionals, 27% as skilled workers, 13% as semiskilled workers, and 3% as unskilled laborers.

Procedure

As a part of a larger study, each child came to a campus laboratory with his or her mother for a single two hour visit. Parental consent and child assent were obtained at the beginning of the session. Children and their mothers independently filled out questionnaires assessing a variety of constructs and also took part in a series of interaction tasks. An eight minute interaction between the mother and child was taped in which the dyad was asked to discuss an important problem in their relationship. Within the eight minute time frame, they were asked to discuss why it was a problem, their feelings about the problem, and any possible solutions they may have to ameliorate the problem. Interactions were then coded using a modified coding system (Davila, Yoneda, Starr, Ramsay Miller, & Stroud, 2008) for the child’s level of emotionality and the consistency and coherency of the child’s emotions. The child’s level of engagement with his or her mother throughout the interaction was also rated using an adapted rating system (Gini, Oppenheim & Haimovich, 2002). Children were given $20 for their participation, and mothers were given $10.

Measures

Depressive Symptoms

Children completed the Children’s Depression Inventory Short Form (Kovacs, 1992) to assess depressive symptoms in children. This measure was designed to assess
children ranging from 7 to 17 years of age. Children answered 10 items on which they rated their depression on a scale from 0 to 2, where a higher rating indicates more severe depressive symptoms. The Children’s Depression Inventory Short Form has demonstrated good internal consistency (e.g., α = .94, Saylor, Finch, Spirito, & Bennett, 1984). It is based on the widely-used Children’s Depression Inventory which has demonstrated good validity and reliability previously (Kovacs, 1985). Internal consistency in the current sample was adequate (α = .60).

**Temporal Features of Emotion Regulation**

*Negative reactivity.* The School-Age Temperament Inventory (McClowry, 1995) was filled out by mothers to assess each child’s negative reactivity (Appendix A). This questionnaire consists of 21 items, which are answered on a Likert scale ranging from 1 to 5. A response of 1 indicates never, while a response of 5 indicates always. This measure has four scales. The scale examining the dimension of negative reactivity, which has 12 items, was of interest in the current study in order to capture the temporal aspect of emotion regulation. It has previously demonstrated adequate reliability and validity properties (McClowry, 1995; McClowry, Halverson & Sanson, 2003). The internal consistency in the current sample was found to be α = .92.

*Observed emotionality.* To augment the maternal questionnaire, an observation of emotionality was included (Appendix B). A child high in emotionality demonstrates a low threshold for the arousal of emotions and experiences emotions more intensely. Emotionality was rated on a scale ranging from 1 (affectively flat) to 5 (high display of
emotion). For all observer rating scales, two trained coders rated nine interactions until agreement was reached. The inter-rater agreement was then calculated based on an additional 24 participants. When a discrepancy larger than 1 point was present, the two coders discussed the interaction until an agreement was reached. Inter-rater agreement was high for this scale (intraclass correlation = .97).

*Emotion Regulation Processes: Evaluation of Emotion*

**Cognitive errors.** The Children’s Negative Cognitive Error Questionnaire (Leitenberg et al., 1986) was used to assess each child’s assessment of emotionally charged situations (Appendix C). This is a 24-item questionnaire which assesses four types of cognitive errors based on Beck’s (1976) original cognitive theory. The cognitive errors assessed include catastrophizing, overgeneralization, personalizing, and selective abstraction. The child is given a hypothetical situation in each item as well as a statement illustrative of a distorted belief and is asked to rate, on a 5-point likert scale, how similarly he or she would interpret the situation, with higher scores indicating more similarity. The questionnaire’s reliability and validity have been established previously (e.g., Leitenberg, Yost & Carroll-Wilson, 1986; Watts & Weems, 2006). The inter-relations between the different types of errors were relatively high (ranging from .66 to .79). The mean of all items was taken for the current study as depressed children are more likely to engage in cognitive distortions included on any of the previously mentioned scales due to their increased likelihood of thinking in negatively biased ways about themselves and emotionally-stimulating situations (Leitenberg, Yost & Carroll-
Wilson, 1986). This measure demonstrated adequate internal consistency in the current sample ($\alpha = .92$).

*Emotion Regulation Processes: Awareness of Emotion*

*Awareness of emotions.* Both mothers and children were given The Emotion Expression Scale for Children (Penza-Clyve & Zeman, 2002) to assess children’s awareness of their emotions (Appendix D). This questionnaire consists of 16 items answered on a Likert scale ranging from 1 (not at all true) to 5 (extremely true). The scale has two components, a factor which measures poor awareness, and one that measures expressive-reluctance. The scale which measures poor awareness was of interest in the current study. This measure of awareness involves the children being able to identify and label their emotions. This scale has demonstrated adequate internal consistency ($\alpha = .83$) previously (Penza-Clyve & Zeman, 2002). In the current study, this scale demonstrated adequate internal consistency for both mothers ($\alpha = .87$) and children ($\alpha = .78$). Although the two were not highly related ($r = .20$), the mean of the score from both mothers and children was taken. The two were aggregated as each may have some limitations, the child may not have the metacognitive skills to be aware of his or her emotions, and mothers may not be able to effectively identify whether or not their child has awareness of his or her emotions.

*Observed consistency in affect and behavior.* Consistency in affect and behavior was coded in order to capture how congruent the child’s behaviors and emotions were throughout the interaction (Appendix E). It was expected that children who were more
aware of their emotions would show more consistency between their expressed affect and behavior. Consistency was rated on a scale ranging from 1 (prevailing inconsistencies and incoherence) to 5 (consistent, coherent and genuine). A child high on consistency would display emotions consistent with what he or she is reporting or describing. A child low on consistency would be displaying emotions different from those that he or she is describing (e.g., a child may be talking about feeling angry or sad but is laughing as he or she does so). Inter-rater agreement was high for this scale (intraclass correlation = .96).

*Emotion Regulation Processes: Modifying Emotions*

*Coping.* The Coping Questionnaire (Eisenberg, Fabes, Karbon, Murphy, Wosinski, Polazzi, et al., 1996) was given to mothers to assess which strategies children use to cope when distressed (Appendix F). This measure was adapted from the Children’s Coping Strategy Checklist (Program for Prevention Research, 1992). Items were categorized into a number of subscales based on the most recent manual (Program Prevention for Research, 1999). The questionnaire measures a number of different styles of coping: problem-focused coping, avoidant coping, positive reframing, emotion-focused support seeking and problem-focused support seeking. The different coping styles have previously demonstrated good internal consistency (e.g., Eisenberg, Fabes, Karbon, Murphy, Wosinski, Polazzi, et al., 1996). The mean of the items for each scale was computed to determine a score for the scale. Problem-focused coping and positive reframing were included as they both represented coping strategies in which the child actively engages in the situation, either by attempting to problem solve or better one’s fit
to the current situation by utilizing positive restructuring. Avoidant coping was included as it is representative of a child disengaging from the situation and not addressing it or attempting to improve it any way. The concepts of interest in the current study demonstrated adequate internal consistencies: problem-focused coping ($\alpha = .93$), positive reframing ($\alpha = .84$), and avoidant coping ($\alpha = .85$).

*Observed engagement.* To obtain a behaviorally based measure of avoidance, the child’s engagement and involvement with his or her mother and the situation was coded (Appendix G). A very engaged child would show a good deal of interest and curiosity in the task and the mother’s statements and questions as well as be actively involved in the task and not display any signs of boredom or disengagement. A disengaged child would not be interested in the mother’s contributions and may appear distracted and withdrawn. The scale ranged from 1 (lack of interest) to 5 (high and genuine interest). Inter-rater agreement was high for this scale (intraclass correlation = .93).
CHAPTER 3

RESULTS

Preliminary Analyses

To determine if the observed variables were capturing the intended concepts, zero-order correlations among the coded observational variables and other conceptually-related variables were examined (see Table 1). The temporal features of emotion regulation—negative reactivity and observed emotionality—were significantly related to each other. That is, children who were rated higher by mothers on more negative reactivity also exhibited higher levels of emotionality during the mother-child conversation task. Although neither of the temporal features of emotion regulation were related to cognitive errors, children who were higher on negative reactivity or who exhibited higher levels of emotionality were less aware of their emotions, exhibited less consistency between their emotions and behaviors, and were less likely to utilize problem-focused coping strategies. Furthermore, children higher on negative reactivity were less likely to use positive restructuring coping strategies, used more avoidant coping, and were less likely to be engaged in the discussion of conflict with their mothers.
Table 1

Correlations Among the Measures of Emotionality and Emotion Regulation

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<td><strong>Temporal Features</strong></td>
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</tr>
<tr>
<td>1. Negative Reactivity</td>
<td>.24*</td>
<td>.19</td>
<td>.46**</td>
<td>-.22*</td>
<td>.27*</td>
<td>-.30**</td>
<td>-.45*</td>
<td>-.46**</td>
</tr>
<tr>
<td>2. Observed Emotionality</td>
<td>.01</td>
<td>.34**</td>
<td>-.25*</td>
<td>.07</td>
<td>.18</td>
<td>-.27*</td>
<td>-.20</td>
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<tr>
<td><strong>Emotion Regulation</strong></td>
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<tr>
<td>3. Cognitive Errors</td>
<td>.28*</td>
<td>-.12</td>
<td>.09</td>
<td>-.19</td>
<td>-.22*</td>
<td>-.17</td>
<td></td>
<td></td>
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<tr>
<td>4. Poor Awareness</td>
<td>-.30**</td>
<td>.35**</td>
<td>-.26*</td>
<td>-.34**</td>
<td>-.19</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5. Observed Consistency</td>
<td>-.15</td>
<td>.27*</td>
<td>.7*</td>
<td>.16</td>
<td></td>
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<tr>
<td>6. Avoidance</td>
<td>-.09</td>
<td>-.14</td>
<td>.10</td>
<td></td>
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<tr>
<td>7. Observed Engagement</td>
<td></td>
<td>.23*</td>
<td>.23*</td>
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<td></td>
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<tr>
<td>8. Problem-Focused Coping</td>
<td></td>
<td></td>
<td>.74**</td>
<td></td>
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<td></td>
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<td>9. Positive Restructuring</td>
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Note. * p < .05, ** p < .01

The relations among the emotion regulation processes were also examined, and 11 of 21 correlations were significant. Of these, 5 involved poor awareness of one’s emotions. Children who had less awareness of their emotions were more likely to make cognitive errors, exhibited less consistency between their emotions and behavior, were more likely to engage in avoidant coping techniques, were less likely to engage in the discussion of conflict with their mothers, and were less likely to engage in problem-focused coping. The emotion regulation process involving engaging in problem-focused coping was also related to a number of other processes other than awareness. Children
who utilized problem-focused coping strategies were less likely to make cognitive errors and exhibited more consistency between expressed emotions and their behaviors. They also exhibited more engagement in the discussion of conflict with their mothers and were more likely to utilize positive restructuring. Furthermore, children who were more engaged in the discussion of conflict with their mothers also exhibited more consistency between their emotions and behaviors, and were more likely to engage in positive restructuring coping strategies.

Depression: Associations with Temporal Features and Emotion Regulation

An examination of the zero-order correlations among the emotion regulation variables and the measure of depressive symptoms revealed support for some of the hypotheses. As shown in Table 2, 6 of 9 correlations were significant ($p < .05$). These correlations ranged from .23 to .40, which according to Cohen’s criteria (1992) exhibited a medium effect size. The hypotheses involving emotionality were supported, as children experiencing greater depressive symptoms exhibited more intense emotions as measured by negative reactivity as well as by the observation of emotionality. The predictions regarding the evaluation of emotions, specifically the propensity to make cognitive errors in emotionally charged situations, was also supported, as children who reported more depressive symptoms made more cognitive errors. There was also some support for predictions regarding the awareness of emotions, in that children who reported more depressive symptoms had poorer awareness of their emotions. Evidence was found to support some of the hypotheses made regarding coping. While depressive symptoms were not significantly associated with the use of avoidant coping or observed engagement
during the interaction, children reporting more depressive symptoms were less likely to engage in both problem-focused and positive restructuring coping strategies.

Table 2

*Correlations Among Main Study Variables*

<table>
<thead>
<tr>
<th></th>
<th>Depressive Symptoms</th>
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<tbody>
<tr>
<td><strong>Emotionality</strong></td>
<td></td>
</tr>
<tr>
<td>Negative Reactivity</td>
<td>.23* (.22*)</td>
</tr>
<tr>
<td>Observed Emotionality</td>
<td>.40** (.30**)</td>
</tr>
<tr>
<td><strong>Evaluation of Emotions</strong></td>
<td></td>
</tr>
<tr>
<td>Cognitive Errors</td>
<td>.25* (.19)</td>
</tr>
<tr>
<td><strong>Awareness and Integration of Emotions</strong></td>
<td></td>
</tr>
<tr>
<td>Poor Awareness</td>
<td>.39** (.37**)</td>
</tr>
<tr>
<td>Observed Consistency</td>
<td>-.15 (-.09)</td>
</tr>
<tr>
<td><strong>Coping</strong></td>
<td></td>
</tr>
<tr>
<td>Avoidance</td>
<td>.09 (.17)</td>
</tr>
<tr>
<td>Observed Engagement</td>
<td>-.07 (-.12)</td>
</tr>
<tr>
<td>Problem-Focused Coping</td>
<td>-.33** (-.36**)</td>
</tr>
<tr>
<td>Positive Restructuring</td>
<td>-.26** (-.29**)</td>
</tr>
</tbody>
</table>

Note. * p < .05, ** p < .01; the correlations in parentheses are after controlling for gender.

Because gender differences emerge in depression in adolescence and pre-adolescence (Hankin, Mermelstein, & Roesch, 2007; Nolen-Hoeksema & Girgus, 1994), a one-way ANOVA was conducted to determine if differences existed in our sample. It revealed significant gender differences in the presence of depressive symptoms, $F (1,85) = 15.73, p < .01$. Girls reported experiencing more depressive symptoms (M = .24, SD =
.21) than did boys (M = .09, SD = .11). Thus, partial correlations controlling for gender were conducted (see Table 2). These analyses demonstrated that only one of six significant correlations was attenuated; the association between the presence of depressive symptoms and cognitive errors was no longer significant when controlling for gender. As a check to see whether gender moderated the links between emotion regulation and depressive symptoms, exploratory analyses were conducted examining correlations separately for boys and girls, followed by tests of whether correlations differed in magnitude for boys and girls. Only one of nine pairs had a significant difference. The correlation between depressive symptoms and observed emotionality was significantly higher for girls (r = .42, p < .01) than for boys (r = .02, p = .91), (z = 1.91, p < .05). Given that only one significant gender difference was found, this should be interpreted with caution. In addition, it should be noted that the current study was modestly sized and likely underpowered to detect gender differences.

To look at the relationships between the group of emotion regulation variables and depressive symptoms in middle childhood, a multiple regression was conducted. This allowed us to examine the overall model of emotion regulation variables in combination and determine the amount of variance they explained. Gender was entered on Step 1, and emotionality and emotion regulation variables were entered on Step 2. As indicated in Table 3, Step 1 demonstrated that gender accounted for 15% of the variance in depression. Emotionality and the emotion variables were related to depressive symptoms, and explained an additional 36.5% of the variance in depression after controlling for gender.
Table 3

**Total Model Regression**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>Beta</th>
<th>t value</th>
<th>pr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: $R^2 = .15, F (1, 84) = 14.87, p &lt; .01$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.15</td>
<td>.39</td>
<td>3.86*</td>
<td>.39</td>
</tr>
<tr>
<td>Step 2: $R^2 = .37, F (9, 75) = 4.31, p &lt; .01$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Reactivity</td>
<td>-.02</td>
<td>-.09</td>
<td>-.78</td>
<td>-.09</td>
</tr>
<tr>
<td>Observed Emotionality</td>
<td>.05</td>
<td>.21</td>
<td>1.87</td>
<td>.21</td>
</tr>
<tr>
<td>Cognitive Errors</td>
<td>.03</td>
<td>.11</td>
<td>1.11</td>
<td>.13</td>
</tr>
<tr>
<td>Poor Awareness</td>
<td>.07</td>
<td>.23</td>
<td>2.29</td>
<td>.21</td>
</tr>
<tr>
<td>Observed Consistency</td>
<td>.02</td>
<td>.08</td>
<td>.82</td>
<td>.09</td>
</tr>
<tr>
<td>Avoidance</td>
<td>.02</td>
<td>.05</td>
<td>.47</td>
<td>.05</td>
</tr>
<tr>
<td>Observed Engagement</td>
<td>-.01</td>
<td>-.04</td>
<td>-.32</td>
<td>-.04</td>
</tr>
<tr>
<td>Problem-Focused Coping</td>
<td>-.04</td>
<td>-.13</td>
<td>-.88</td>
<td>-.10</td>
</tr>
<tr>
<td>Positive Restructuring</td>
<td>-.03</td>
<td>-.13</td>
<td>-.86</td>
<td>-.10</td>
</tr>
</tbody>
</table>

Note. *p < .05

**Is Emotion Regulation More Highly Related to Depression for Children Higher on Emotionality?**

Additional regressions were conducted testing interaction terms to determine if temporal aspect of emotion regulation, negative reactivity or emotionality, acted as potential moderators between emotion regulation processes and depressive symptoms. It was expected that emotion regulation processes might be more highly related to depressive symptoms for children high on emotionality. In a series of regression analyses, the two measures of emotionality and the seven measures of emotion regulation were entered on Step 1. Individual interaction terms, reflecting the interaction between either negative reactivity or emotionality and one of measures of emotion regulation.
processes, were entered on Step 2. Thus, a total of 14 tests of significant interactions were conducted. An examination of the $F$ change test at Step 2 demonstrated that none of the tested interactions were significant.
CHAPTER 4

DISCUSSION

This study assessed the temporal features of emotion regulation and regulation processes in relation to depressive symptoms in children. More specifically, we operationalized emotion regulation in a clear and structured way, and examined how different aspects of emotion regulation might be related to depressive symptoms. A definition of emotion regulation which examines temporal features of emotion regulation (i.e., emotionality) as well as the processes involved in regulating one’s emotion was included. This study extended the current literature in that multiple methods were utilized to capture emotion regulation, and information was gathered from multiple sources. Both mothers and children reported on different aspects of emotion regulation, and the observational coding method provided a more objective assessment of components of emotion regulation. Little research, with the exception of Davila et al. (2008), has previously been done which utilizes both observational measures as well as self and maternal-reports of emotion regulation in relation to depressive symptoms. As a result, the study was able to tease apart some of the processes specific to the presence of depressive symptoms in children, and to provide support for some theories regarding
emotion regulation processes and depression that had not been previously examined. We found that children who reported experiencing more depressive symptoms were more likely to experience difficulties in regulating their emotions in a variety of ways.

Children who experienced more depressive symptoms experienced a greater intensity of emotions. Thus, a link has been demonstrated between the more temporal features of emotion regulation and depressive symptoms. While previous research has shown that greater amounts of emotionality are linked to the experience of depression (e.g., Rydell, Berlin, & Bohlin, 2003; Zeman, Shipman, & Suveg, 2002; Silk et al., 2003), the current study is the first to include an observational method of assessing emotionality. While there has been some dispute previously about whether temporal features should be considered a part of emotion regulation (Durbin & Shafir, 2007), they are an aspect of emotion functioning related to depression in that children who experience more frequent, labile, and intense emotions are more likely to report symptoms of depression. Thus, emotionality may serve as a potential risk factor for the development of depression. It has previously been suggested that emotionality, along with emotion regulation processes, may serve as a vulnerability for depression (Durbin & Shafir, 2007). High levels of emotionality, combined with deficits in emotion regulation processes, may cumulatively put a child at more risk for experiencing depression when a stressor occurs.

Also of interest were the processes that aid in monitoring, evaluating, and modifying emotional responses (Thompson, 1994). As has been previously found (Tems et al., 1993, Epkins, 1998, McGrath & Repetti, 2002) children who reported making more cognitive distortions in emotionally-salient situations were also more likely to report
experiencing depressive symptoms. This is also consistent with Beck’s (1976) cognitive theory of depression. Thus, it seems that children experiencing depressive symptoms may not be able to evaluate their emotions in a non-biased way. The current study extended the literature by interpreting cognitive errors as an emotion regulation process in that errors were included as an aspect of evaluating one’s emotions.

Further examination of the processes involved in emotion regulation demonstrated that children who were unaware of their emotions were more likely to experience symptoms of depression. We found that the questionnaire measure of poor awareness and the observed measure of consistency between emotions and behavior were significantly related. Both measures were also related to coping, in that poorer awareness of emotions and less consistency in expression of emotions were related to less utilization of problem-focused coping. Yet, depressive symptoms were only found to be related to awareness, not consistency. Although the correlation between awareness and consistency was significant, it was not that large in magnitude and shared only 9% variance, suggesting that perhaps the observational measure of consistency did not tap the same construct of interest as our measure of awareness. In the current study, the measure of awareness refers more to clarity, in that it involves the child being able to both identify and describe his or her emotional experiences (Penza-Clyve & Zeman, 2002).

Consistency between affect and behavior may tap more into children’s ability to identify whether they feel upset or bad, rather than their ability to specifically label their emotions and distinguish between them. Thus, it may be that children who have difficulties with specifically identifying and labeling their emotions are more prone to depression.
Further deficits in emotion monitoring may in turn influence how children attempt to modify their emotions. Lane and Schwartz (1987) indicated that individuals who have less awareness of their emotions may experience difficulties in the regulation and expression of these emotions, which may act as a vulnerability for experiencing depression. Similarly, Southam-Gerow & Kendall (2002) suggested that children who are not able to specifically identify their emotions are not able to effectively cope. The current study showed, for example, that poor awareness was related to the use of more avoidant coping and less problem-focused coping. Thus, it seems that children who are less aware of their emotions do not aim to cope through problem-solving, which is often considered to be more constructive (e.g., Compas, 2001). However, children with poor awareness engage in more avoidant coping.

And finally, we examined the emotion regulation process of interest of modifying one’s emotions. Coping strategies were examined, and children reporting more depressive symptoms were less likely to engage in problem-focused coping strategies or positive restructuring strategies. This is not surprising, as coping strategies that are more problem-focused and involve engaging in the situation and attempting to either change the situation or one’s fit to the situation have been associated with better psychological adjustment in children (Compas et al., 2001). Children experiencing depressive symptoms were not, however, more likely to utilize avoidance as a coping strategy, or to be observed as disengaging from the interaction task with their mother. As noted earlier, the literature has shown mixed results for a link between avoidant coping and internalizing symptoms. Thus, it is not unprecedented or entirely surprising that we did
not find support for the link between avoidant coping and depressive symptoms in the current study. Studies that did not find support for the link between avoidant coping and internalizing symptoms often involved having children report about coping with a specific stressor over which the child had little control. For example, recurrent abdominal pain (Thomsen, Compas, Colletti, & Stanger, Boyer & Konik, 2002), and pain associated with sickle cell disease (Sharpe, Brown, Thompson & Eckam, 1994), showed that avoidant coping and depression were not related. Thus, it might be useful to obtain information about what major life events and stressors have occurred within the child’s life, and how he or she is coping with specific stressors, rather than asking about what general coping techniques the child uses. Folkman and Moskowitz (2004), for example, emphasize that it may be more adaptive to use problem-focused coping when a situation is controllable in some way, but when a situation is not controllable, it may be more adaptive to use some type of avoidant coping. As Compas et al. (2001) point out, there are not likely to be any coping strategies which are either universally beneficial or detrimental across all situations. Nonetheless, active coping, which centers around problem-solving or positive reframing to fit oneself better to the situation, was linked to fewer depressive symptoms in middle childhood. Thus, at this point we can identify more easily what it is that children experiencing depressive symptoms do not effectively do when it comes to employing coping strategies, rather than knowing a great deal about which coping strategies they do utilize.

We had hypothesized that higher levels of emotionality would moderate the relationship between emotion regulation processes and depressive symptoms. This
relationship was predicted to occur such that poorer regulation of emotion would be more strongly associated with the presence of depressive symptoms when a child also has higher levels of emotionality. Durbin and Shafir (2007) proposed that children who were higher in emotionality may have more difficulty effectively using emotion regulation processes as they have a higher baseline level of emotion. No support was found for any interaction between higher levels of emotionality in children and poorer emotion regulation skills when considering depressive symptoms in children. These results could be due to issues with our measurement or conceptualization of the emotion regulation variables. Perhaps other conceptualizations or measures of emotion regulation variables may yield positive results. Alternatively, it may be that effective emotion regulation processes act as a protective factor for all children, regardless of their level of emotionality. This would have clinical implications in that it might be beneficial for all children to receive training in utilizing effective emotion regulation mechanisms.

Although we did not find that the interaction between emotionality and emotion regulation processes was related to the presence of more depressive symptoms, we did find that emotionality and emotion regulation processes were related to each other. Children who were reported to have more negative reactivity reported a poorer awareness of emotion, exhibited less consistency between their affect and behavior, utilized more avoidant coping and disengagement, and were less likely to use problem-focused coping and positive restructuring. Additionally, observed emotionality was also related to poorer awareness of emotion, the demonstration of less consistency between affect and behavior, and the use of less problem-focused coping. It may be that children with higher levels of
emotion are not able to choose emotion regulation strategies which will be effective or that they may not be able to execute strategies successfully. While it might be beneficial for all children to receive training in employing appropriate emotion regulation mechanisms, it may be particularly beneficial to target children who have higher levels of emotionality.

More contemporary etiological models of depression in childhood have begun to incorporate processes related to emotion (Durbin & Shafir, 2007). For example, Cicchetti and Toth (1998) included a number of systems and pathways which might influence the development of depression. They proposed a model which included cognitive (e.g., information processing, attributional style), socioemotional (e.g., emotion regulation, attachment, self-esteem) representational (e.g., self-cognitions, internal representational models), and biological domains (e.g., genetics, anomalies in brain structure) which are all inter-related. They posited that these systems, when pathological in nature or when they were not properly organized, formed a depressotypic organization which may eventually cause an individual to develop a depressive disorder. Thus, according to this model, difficulties with emotion regulation would interact with biological, cognitive, and representational components in order to form a depressotypic organization which might lead to the development of depression. Brumariu and Kerns (in press) posit another example of an etiological model of depression which includes emotion regulation. They propose that depression likely results from a combination of factors. Children may develop a depressogenic inference style when experiencing attachment insecurity combined with parental rejection. In this model, expressing
emotion is thought to cause further parental rejection which may lead children to overregulate their emotions. To regulate emotions, children might utilize ineffective coping strategies (e.g., passive or ruminative coping). Furthermore, children who are previously inclined to have a depressogenic inferential style may become depressed when they experience a stressor such as personal disappointment or loss. This model includes emotion regulation processes as a core component in several different pathways to the development of depression. While our current findings offer support for these trajectories, to fully support the model, several other factors would need to be included (e.g., attachment, rejection from parents, rumination, etc.).

The results of the current study have clinical implications for case conceptualization as well as the development of treatments to utilize with children experiencing depressive symptoms. As addressing cognitive distortions and teaching children constructive coping strategies such as problem-solving are currently part of a typical protocol of treating depression in childhood (Weisz, Southam-Gerow, Gordis & Connor-Smith, 2003), our results lend further support for applied clinical treatments. For example, it is clearly important to target children’s cognitive errors, as we found a relationship between cognitive errors and depressive symptoms in the current study. Furthermore, teaching children coping skills that help them to address the problem directly, either by attempting to problem-solve or by engaging in positive reframing to maximize their fit to the situation, was supported as an important skill to work on with children experiencing depression.
Additionally, making children aware of their emotions so that they are better able to utilize emotion regulation strategies would likely be beneficial in a clinical setting. The Fast Track program, which was developed as an early intervention program for children at risk for conduct problems, includes working on emotional coping skills and deficits in social problem-solving skills. This program may also be utilized in the treatment of depression. This intervention begins early on, in the first grade, and has been shown to improve emotion skills and social-cognitive skills over time (Conduct Problems Prevention Research Group, 2004). In particular, the program included an adaptation of the PATHS (Promoting Alternative Thinking Strategies) curriculum, which was presented by classroom teachers several times a week throughout grades 1 through 5. It aims to increase both social and emotional competence by addressing concepts such as self-control and emotional awareness and understanding (Slough & McMahon, 2008). Applying this part of the program to children who are at risk for experiencing depression, or who have already experienced depressive symptoms, may help children to be more aware of their emotions and in turn decrease their risk for the development of depression.

It has been well-established that gender differences in depression begin to emerge around 12 or 13 years of age (Hankin, Mermelstein, & Roesch, 2007). Although we did not expect to find differences in our sample as the average age was 11.32 years old, exploratory analyses did reveal gender differences. Partial correlations controlling for gender demonstrated that the only significant relationship that was attenuated by controlling for gender was between depressive symptoms and cognitive errors. As this study was modest in size, further analyses to consider gender differences would likely be
underpowered. In future research, it would be beneficial to further explore any potential
gender differences which might exist in the relationship between emotion regulation and
depressive symptoms.

The current study would have benefitted from a diagnostic interview to assess
clinical levels of depression and examine its relation to emotion regulation. Beginning
around 8 or 9 years of age, children are able to provide more accurate reports of their own
emotions as they possess some insight involving what internal processes they are
experiencing (Schniering, Hudson & Rapee, 2000). Thus, the children in our current
sample likely had enough insight to accurately report their symptoms of depression, but it
would be beneficial to utilize a diagnostic interview to also provide a more objective
measure of their depression in addition to gathering diagnostic information. It should be
noted that in the current study, the CDI-S, which measured depressive symptoms,
demonstrated low internal consistency (α = .60). This may be due to the lack of
variability in depressive symptoms found within the sample, which was primarily drawn
from local schools. Thus, specifically testing these hypotheses in a sample of children
with clinical levels of depression would aid in clarifying how emotion regulation is
related to clinical depression. Furthermore, the current study included only one time
point. Future research should be conducted in which two time points are included to
determine if depression results from poor emotion regulation skills, or if depression
might occur first and then interfere with emotion regulation processes. Durbin and Shafir
(2007) discussed a predisposition model in which difficulties with emotion regulation
serve as a diathesis for depression. In this model, the processes associated with
difficulties in emotion regulation are distinct from those which give rise to depression. Klein, Wonderlich, and Shea (1993) suggest another model in which depression occurs first, and then causes difficulties with emotion regulation. Further studies should be conducted to differentiate between the different models.

In conclusion, the results of this study suggest that both the temporal features of emotion regulation (e.g., emotionality) and emotion regulation processes both play an important role in depressive symptoms in middle childhood. Awareness of one’s emotions, that is, the ability to specifically identify and label one’s emotions, arose as a particularly salient aspect of emotion regulation. Awareness was also related to other emotion regulation processes including coping and cognitive errors. It may be that monitoring one’s emotions is an important first step in regulating one’s emotions effectively. Further research should be conducted to explore the special role awareness may play in emotion regulation. Additionally, this research showed more about what children with depressive symptoms do not do to cope rather than what strategies they do utilize, in that children with depressive symptoms did not use constructive coping strategies such as problem solving and positive reframing. There is a need to further explore what maladaptive coping strategies these children might use and in what specific situations. For example, the present study did not include any measures of rumination, which has been found to be consistently related to depression, even in non-clinically depressed youth (Rood, Roelofs, Bogels, Nolen-Hoeksema, & Schouten, 2009). The current study expanded the existing literature by including a clear conceptualization of emotion regulation and utilizing multiple methods of measuring emotion regulation.
including self-report, maternal-report, and observational measures. Future research should also address additional concepts related to emotion regulation and its role in depression, such as how parents might socialize aspects of emotion regulation (e.g., shaping, promoting awareness of emotions or encouraging specific coping strategies).
APPENDIX A

THE SCHOOL-AGE TEMPERAMENT INVENTORY

Using the scale below, please circle the number that tells you how often your child’s behavior is like the behavior described in each item.

<table>
<thead>
<tr>
<th>NEVER</th>
<th>RARELY</th>
<th>HALF OF THE TIME</th>
<th>FREQUENTLY</th>
<th>ALWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Negative Reactivity Scale:

1. Gets upset when he/she can’t find something.
2. When he/she disagrees, speaks in a quiet and calm manner.
3. Gets mad even when mildly criticized.
4. Reacts strongly (cries or complains loudly) to a disappointment or failure.
5. Gets angry when teased.
6. Gets very frustrated when he/she makes a mistake.
7. When angry, yells or snaps at others.
8. Moody when corrected for misbehavior.
9. Responds intensely to disapproval (shouts, cries, etc.).
10. Makes loud noises when angry (slams doors, bangs objects, shouts).
11. Gets upset when there is a change in plans.
12. Has off days when he/she is moody or cranky.
APPENDIX B

OBSERVED EMOTIONALITY

*Note: Content should only be coded when the mother and child are on topic during the interaction task. Irrelevant, off-task content should not be included when coding.

**Emotionality:**

The more temporal feature of emotion regulation that includes how easily emotions are aroused and how intensely they are experienced. A child who is high in emotionality will experience very intense emotions and have a low threshold for the arousal of emotions. E.g., a child with high emotionality will be more likely to have emotions aroused and more likely to experience them more intensely.

5 = High on arousal and intensity of emotion  
4 = Mostly well-modulated, but some periods of high intensity or arousal  
3 = Average displays of intensity and arousal  
2 = Somewhat affectively flat  
1 = Affectively flat, very low in intensity and arousal

1.) Temporal Features of Emotion Regulation:

a. Emotionality (level of emotion exhibited by child)  
   1 (affectively flat)  2  3  4  5 (high display of emotion)
APPENDIX C

THE CHILDREN’S NEGATIVE COGNITIVE ERROR QUESTIONNAIRE

This questionnaire describes a number of situations that might happen to kids. Each situation is followed by a thought that a kid in that situation might have. This thought is in “quotation marks”. We want to know how similar that thought is to what you might think in that situation.

Please read each situation and imagine that it is happening to you, even if it never has in the past. Then read the thought which is in “quotations.” Circle the statement underneath each thought that best describes how similar that thought is to how you would think in that situation.

As an example let’s read this:

A. You are the goalie for your soccer team. The game ends in a 1-1 tie. After the game you hear one of your teammates say that your team should have won today. You think, “He/She thinks it’s my fault we didn’t win.”

This thought is:

If the thought (“He/She thinks that it’s my fault we didn’t win.”) was somewhat like the way you would think in that situation, you would circle:

somewhat like I would think
B. You see two of your friends talking together at recess. As you walk towards them, they go over to the softball field and start playing catch. You think, “Maybe they’re mad at me about something.”

This thought is:

almost exactly  a lot  somewhat  only a little  not at all
like I would think  like I would think  like I would think  like I would think  like I would think

If the thought (“Maybe they’re mad at me about something.”) was a lot like the way you would think in that situation, you would circle:

a lot
like I would think

1) You invite one of your friends to stay overnight at your house. Another one of your friends finds out about it. You think, “He/She will be real mad at me for not asking them and never want to be friends again.”

This thought is:

almost exactly  a lot  somewhat  only a little  not at all
like I would think  like I would think  like I would think  like I would think  like I would think

2) Your class is having 4-person relay races in gym class. Your team loses. You think, “If I had just been faster we would not have lost.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all
like I would think  like I would think  like I would think  like I would think  like I would think

3) You are trying out for the school softball team. You get up four times and get two hits and make two outs. You think, “What a lousy practice I had.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all
like I would think  like I would think  like I would think  like I would think  like I would think

4) Your team loses a spelling contest. The other team won easily. You think, “If I were smarter, we wouldn’t have lost.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all
like I would think  like I would think  like I would think  like I would think  like I would think
5) Some of your friends have asked you if you’re going to try out for the school soccer team. You tried out last year but did not make it. You think, “What’s the use of trying out, I couldn’t make it last year.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all  
like I would think  like I would think  like I would think  like I would think  like I would think

6) You call one of the kids in your class to talk about your math homework. He/She says, “I can’t talk to you now, my father needs to use the phone.” You think, “They didn’t want to talk to me.”

This thought is:

almost exactly  a lot  somewhat  only a little  not at all  
like I would think  like I would think  like I would think  like I would think  like I would think

7) You and three other students completed a group science project. Your teacher did not think it was very good and gave your group a poor grade. You think, “If I hadn’t done such a lousy job, we would have gotten a good grade.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all  
like I would think  like I would think  like I would think  like I would think  like I would think

8) Whenever it is someone’s birthday in your class, the teacher lets that student have a half hour of free time to play a game with another student. Last week it was one of your friend’s birthday and they picked someone else. Now another of your friends is going to choose someone. You think, “They probably won’t pick me either.”

This thought is:

almost exactly  a lot  somewhat  only a little  not at all  
like I would think  like I would think  like I would think  like I would think  like I would think

9) Your softball team is having practice. The coach tells you he would like to talk to you after practice. You think, “He’s not happy with how I’m doing and doesn’t want me on the team anymore.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all  
like I would think  like I would think  like I would think  like I would think  like I would think
10) You went to a party with one of your friends. When you first got there your friend hung around with some other kids instead of you. Later you and your friend decide to stop at his/her house for a snack before you go home. Later that night you think, “My friend didn’t seem to want to hang around with me tonight.” This thought is:

almost exactly a lot somewhat only a little not at all
like I would think like I would think like I would think like I would think like I would think

11) You forgot to do your spelling homework. Your teacher tells the class to hand them in. You think, “The teacher is going to think I don’t care and I won’t pass.” This thought is:

almost exactly a lot somewhat only a little not at all
like I would think like I would think like I would think like I would think like I would think

12) You were having a good day in school up until the last period when you had a math quiz. You did poorly on the quiz. You think, “School is a drag, what a waste of time.” This thought is:

almost exactly a lot somewhat only a little not at all
like I would think like I would think like I would think like I would think like I would think

13) You play basketball and score 5 baskets but missed two real easy shots. After the game you think, “I’ll played poorly.” This thought is:

almost exactly a lot somewhat only a little not at all
like I would think like I would think like I would think like I would think like I would think

14) Last week you had a history test and forgot some of the things you had read. Today you are having a math test and the teacher is passing out the test. You think, “I’ll probably forget what I studied just like last week.” This thought is:

almost exactly a lot somewhat only a little not at all
like I would think like I would think like I would think like I would think like I would think
15) You spent the day at your friend’s house. The last hour before leaving you were really bored. You think, “Today was no fun.” This thought is:

almost exactly a lot somewhat only a little not at all
like I would think like I would think like I would think like I would think like I would think

16) You are taking skiing lessons. The instructor tells the class that he does not think people are ready for the steep trails yet. You think, “If I could only learn to ski faster, I wouldn’t be holding everyone up.” This thought is:

almost exactly a lot somewhat only a little not at all
like I would think like I would think like I would think like I would think like I would think

17) Your class is starting a new unit in math. The last one was really hard. When it’s time for math class you think, “That last stuff was so hard I just know I’m going to have trouble with this too.” This thought is:

almost exactly a lot somewhat only a little not at all
like I would think like I would think like I would think like I would think like I would think

18) You just started a part-time job helping one of your neighbors. Twice this week you were not able to go skating with your friends because of having to work. As you see your friends leaving to go skating, you think, “Pretty soon they won’t ever want to do anything with me.” This thought is:

almost exactly a lot somewhat only a little not at all
like I would think like I would think like I would think like I would think like I would think

19) Last week one of the kids in your class had a party and you weren’t invited. This past week you heard another student in your class telling someone he was thinking of getting some kids together to go to a movie. You think, “It’ll be just like last week, I won’t be asked to go.” This thought is:

almost exactly a lot somewhat only a little not at all
like I would think like I would think like I would think like I would think like I would think
20) You did an extra credit assignment. Your teacher tells you that he would like to talk to you about it. You think, “He thinks I did a lousy job on my assignment and is going to give me a bad grade.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all  
like I would think  like I would think  like I would think  like I would think  like I would think

21) You’re with two of your friends. You ask if they would like to go to a movie this weekend. They both say they can’t. You think, “They probably just don’t want to go with me.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all  
like I would think  like I would think  like I would think  like I would think  like I would think

22) Your cousin calls you to ask if you’d like to go on a long bike ride. You think, “I probably won’t be able to keep up and people will make fun of me.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all  
like I would think  like I would think  like I would think  like I would think  like I would think

23) Your team has just lost in a spelling contest. You were the last one up for your team and had spelled four words right. The last word was “excellent” and you got it wrong. When you sit down you think, “I’m no good at spelling.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all  
like I would think  like I would think  like I would think  like I would think  like I would think

24) Last week you played softball and struck out twice. Today some kids from your class ask you to play soccer. You think, “There’s no sense playing, I’m no good at sports.” This thought is:

almost exactly  a lot  somewhat  only a little  not at all  
like I would think  like I would think  like I would think  like I would think  like I would think
APPENDIX D

AWARENESS OF EMOTIONS

Child Version

*Please, indicate how well each item describes your experience.*

<p>| | | | | | |</p>
<table>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Not at all true</td>
<td>A little true</td>
<td>Somewhat true</td>
<td>Very true</td>
<td>Extremely true</td>
<td></td>
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</tbody>
</table>

Poor Awareness Scale:

3. When something bad happens, I feel like exploding.  
5. I have feelings that I can't figure out.  
8. When I feel upset, I do not know how to talk about it.  
9. I often do not know how I am feeling.  
10. People tell me I should talk about my feelings more often.  
11. Sometimes I just don't have words to describe how I feel.  
14. I know I should show my feelings, but it is too hard.  
15. I often do not know why I am angry.
Mother Version

*Please, indicate how well each item describes your child’s experience.*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all true</td>
<td>A little true</td>
<td>Somewhat true</td>
<td>Very true</td>
<td>Extremely true</td>
</tr>
</tbody>
</table>

My child…

**Poor Awareness Scale:**

3. When something bad happens, feels like exploding.  
5. Has feelings that s/he can't figure out.  
8. When feels upset, does not know how to talk about it.  
9. Often does not know how s/he is feeling.  
10. Is told by others that s/he should talk about her/his feelings more often.  
11. Sometimes just doesn't have words to describe how s/he feels.  
14. Knows s/he should show her/his feelings, but it is too hard.  
15. Often does not know why s/he is angry.
APPENDIX E

OBSERVED CONSISTENCY

*Note: Content should only be coded when the mother and child are on topic during the interaction task. Irrelevant, off-task content should not be included when coding.

**Consistent/Coherent:**
This is meant to capture the amount of consistency between the child’s emotions and his or her behavior. Are the child’s emotions and affect conveying the same message? Do his/her emotions match what he/she is saying? (E.g., a child may be talking about feeling angry or sad but laughing as she does so—this would be inconsistent).

5 = Consistent, coherent, genuine
4 = Mostly consistent—brief inconsistencies
3 = At least one instance of inconsistency or incoherency
2 = Several instances of more enduring inconsistency or incoherency
1 = A prevailing and enduring theme of affect and behavior that is inconsistent or incoherent

2.) Emotion Regulation Processes:

a. Are the child’s affect/behavior and comments consistent/coherent?
   *consistent/coherent = matching, conveying the same message
   Do their emotions match what they are saying?

   1 (very incongruent)    2    3    4    5 (very congruent)
When upset or faced with a problem, children do different things to make themselves feel better or to solve the problem. Below is a list of things children may do when faced with a problem or when they are upset. For each item listed, please circle the number on the right that best reflects how often your child generally does the behavior when upset or troubled. Using the scale below, please circle your response to the right of each item. It is important that your answers are as accurate as possible; your answers are strictly confidential.

**RESPONSE SCALE**

1-----------------------2-----------------------3-----------------------4-----------------------5
Never Seldom Sometimes Often Very Often

WHEN MY CHILD IS UPSET OR HAS A PROBLEM, HE/SHE…

Avoidance Subscale:
1. tries not to think about the problem. 1 2 3 4 5
2. tries to stay away from the problem. 1 2 3 4 5
10. tries to put things out of his/her mind. 1 2 3 4 5
11. avoids things by going to his/her room to be alone. 1 2 3 4 5
16. tries to think about things unrelated to the problem. 1 2 3 4 5
19. tries to stay away from things that make him/her feel bad. 1 2 3 4 5
32. avoids people who make him/her feel bad. 1 2 3 4 5
35. thinks about things that help him/her forget the problem. 1 2 3 4 5
40. avoids thinking about a problem or attempts to ignore it. 1 2 3 4 5
41. leaves or avoids a problem situation. 1 2 3 4 5
42. avoids thinking about the problem by distracting him/herself. 1 2 3 4 5
Problem-Focused Coping Subscale:

4. thinks about what he/she would do before doing something. 1 2 3 4 5
6. takes action to get the problem solved. 1 2 3 4 5
17. tries to make things better by changing what makes him/her feel bad. 1 2 3 4 5
18. thinks about what would happen before he/she does something. 1 2 3 4 5
23. does something to solve the problem. 1 2 3 4 5
25. tries to understand the problem better by thinking about it. 1 2 3 4 5
28. finds a way to do something so that things get better. 1 2 3 4 5
30. thinks about which things are best to do to handle the problem. 1 2 3 4 5
37. takes some constructive action to improve a problem situation. 1 2 3 4 5

Positive Restructuring Subscale:

7. tries to notice or think about only the good things in life. 1 2 3 4 5
13. tells him/herself it’s not worth getting upset about. 1 2 3 4 5
22. reminds her/himself that things could be worse. 1 2 3 4 5
33. tells him/herself that things will get better soon. 1 2 3 4 5
46. tries to think about the situation in a positive way. 1 2 3 4 5
APPENDIX G

OBSERVED ENGAGEMENT

*Note: Content should only be coded when the mother and child are on topic during the interaction task. Irrelevant, off-task content should not be included when coding.

**Engagement:**

5. High and Genuine Interest: Engaged and Enthusiastic.

The child is focused on the mother, showing high interest and curiosity in what she says and does throughout the discussion. The child is very attentive and responsive to what the mother says and does, and follows her ideas and thoughts. The child is responsive to the mother's initiations and invitations for cooperation in the task. Assigning this score to the child implies that there were no signs of boredom or disengagement in the child’s interaction with the mother. Also note that if there is one instance in which the child flattens an idea proposed by the mother, his/her score should be lowered to 4.

4. Interest: Engaged.

Generally, the child is focused and concentrated on the mother, attentive to what she has to say, and responsive to questions. However the intensity of the interest and curiosity he/she displays to the mother's contributions to the conversation and the positive/enthusiastic quality are lower compared to the score of 5. Although the child is engaged and interested in the mother, and responsive to the mother, the child might flatten a little from time to time an idea raised by the mother.

3. Flat Interest: Attentive.

Child is attentive to the mother and displays some interest in the mother, but the positive quality is clearly lacking here. The child does not show an authentic interest in the mother’s contributions to the discussion or in responding to the mother’s questions. Nevertheless, the child is not altogether indifferent, or detached, or bored, or non-attentive to the mother's contributions and questions. Some children may show low to moderate levels of rejection, or anger, or dissatisfaction.
2. Low Interest: Distracted.

Child is not really following the mother's ideas, and there may be long periods of time, or many incidents of shorter duration, in which the child seems detached from the situation OR occupied/busy with other things (checking the time, fidgeting, etc.), OR bored, OR indifferent, OR asking the mother questions as if in order to fulfill his/her obligation. When the mother replies or asks questions of the child, the child does not pay attention to her or respond appropriately.

1. Lack of Interest: Disengaged.

The child is not interested in the mother and in what she has to say. The child is withdrawn and looks detached and disengaged from the mother. The child hardly ever responds to questions that the mother asks. Generally, his/her lack of interest in the mother is clear. The child may seem withdrawn, distracted, disengaged, detached and bored.

2.) Emotion Regulation Processes:

   a. Level of engagement (see rating scale)

      1 (disengaged)   2   3   4   5 (engaged and enthusiastic)
REFERENCES


Program for Prevention Research. (1992, October). *Divorce Adjustment Project Documentation.* (Available from the Program for Prevention Research, Arizona State University, Tempe, AZ).


