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The Role of Social Cognitions on Children's Emotion Regulation Decisions: Links to Internalizing and Externalizing Symptomatology

Gina Marie Veits

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The Role of Social Cognitions on Children’s Emotion Regulation Decisions:
Links to Internalizing and Externalizing Symptomatology

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B.A., University of Maine, 2005

A Thesis presented to the Graduate Faculty
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Master of Arts

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ABSTRACT PAGE

This study examined six social cognitions that may mediate the relation between emotion regulation decisions and psychopathology symptomatology. Participants were 310 children (161 boys, 96% Caucasian) in 4th and 5th grades recruited from public elementary schools. Through the use of anger- and sadness-inducing vignettes, the Affect Regulation Interview (ARI) was utilized to examine the social cognitions of self-efficacy, prosocial motivations, positive interpersonal consequences, negative interpersonal consequences, negative instrumental consequences, and norm maintenance. Internalizing symptoms were assessed by the Child Depression Inventory (CDI) and the State-Trait Inventory for Children (STAIC). Externalizing behaviors were evaluated through peer-ratings of aggressive behaviors. Correlational, regression, and mediational analyses were conducted by gender and emotion type. For boys only, anger regulation decisions predicted depression symptoms and were partially mediated by anger and sadness self-efficacy beliefs. Additionally, boys’ sadness social cognitions of positive interpersonal consequences predicted to depressive symptoms. No significant relations were found for anxiety symptomatology. Anger social cognitions of positive and negative interpersonal consequences predicted to aggression for girls.
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The Role of Social Cognitions on Children’s Emotion Regulation Decisions: Links to Internalizing and Externalizing Symptomatology

Emotion expression is instrumental to the success of social interactions and to overall psychosocial functioning (Denham, 1998). For instance, a child may need to express happiness when given a new toy, even if it is not the toy they wanted in order to achieve the goal of a positive interaction with the gift-giver. Dysregulated or socially inappropriate expressions of sadness or anger (e.g., crying, pouting) in this situation, however, may lead to a negative interaction. As children develop, they learn how to appropriately regulate their emotions during specific social situations. Emotion regulation is defined by Thompson (1994) as, “consisting of the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reaction, especially their intensive and temporal features, to accomplish one’s goals” (pp. 27-28). Four specific characteristics bring better meaning to this definition. First, emotion regulation serves a purpose in positive and negative emotion situations as this ability to regulate helps the person cope with the emotion (Thompson, 1994). For example, emotion management skills are utilized when faced with a bully on the playground. Second, emotion regulation can help with internal management with external processes in a social context (Thompson, 1994). In childhood, for example, parents can help with emotion management skills to foster emotional well-being as well as indirectly and directly socialize their child’s emotion regulation skills. Third, Thompson (1994) argues that emotion regulation can
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affect each situation in different ways. For example, a child may feel guilt or shame instead of anger when unfairly accused of taking another child’s toy while playing. Last, a characteristic specific to emotion regulation concerns goal attainment. These goals include, but are not limited to, maintaining a positive disposition in a social situation (Thompson, 1994). For instance, if the goal is to be supportive of a friend after they have fallen, laughing would be an inappropriate means of expressing empathy.

The functionalist approach posits that emotions are organized around the functions they serve, not the facial expression or the physiological patterns that are observed (Witherington & Crichton, 2007). Therefore, it is the specific goal associated with the action instead of the outward manifestation of the way in which the action is completed that is important in distinguishing the appropriate emotion. Anger, for instance, arises when there is a perceived obstacle to the specific goal and resources are not there to overcome this obstacle. From a functionalist perspective, sadness can be differentiated from anger by understanding the goal behind the emotion. Sadness is more likely to arise when an event or action compromises receiving perceived social support. For instance, children may feel sad when their parents leave them to go to work for the day. In turn, children can learn that crying when feeling sad is socially acceptable and helps them to achieve their goal of spending more time with their parents before they go to work or getting social support from other non-parental sources. However, crying may be less socially acceptable when children feel anger and
does not help to fulfill their goal of removing the obstacle they are trying to overcome. Importantly, children learn how and when to display or control emotional displays through their interactions with others and the feedback they receive when managing emotional behaviors.

The goal of the current study was to examine in more detail how specific aspects of emotion regulation are related to middle-childhood-age children's report of their internalizing and externalizing behaviors. Specifically, we were interested in exploring whether children's social cognitions about emotion processes (i.e., self-efficacy, prosocial motivations, positive interpersonal consequences, negative interpersonal consequences, negative instrumental consequences, and adherence to norms) may be related to and potentially mediate the relations between emotion regulation decisions and symptomatology. The emotions of anger and sadness were chosen for examination due to previous research indicating their central role in internalizing and externalizing disorders (Suveg & Zeman, 2004; Zeman, Shipman, & Suveg, 2002). Further, we were interested in how gender may influence these relations. To provide the reader with a foundation from which to understand the findings, a review of internalizing (i.e., depression, anxiety) and externalizing behaviors (i.e., aggression) and the gender differences within each construct are first presented. Then, a review of the scant literature on social cognitions is discussed with particular emphasis on those social cognitions related to emotion regulation. Finally, the goals and hypotheses of the current study are presented.
Internalizing Disorders

Internalizing symptomatology can be defined as “conditions whose central feature is disordered mood or emotion” (Kovacs & Devlin, 1998, pp. 47). That is, children diagnosed with internalizing disorders are more likely to have episodes of anxiety and depression than normally developing children. Once diagnosed with a form of depression or anxiety during childhood, the client is much more likely to have another episode later in life. There are two broad band categories of internalizing disorders including depression and anxiety. The current study focuses on symptoms of these two disorders in child populations.

Depression. Major depression is a psychiatric disorder that is associated with difficulties in motivation and concentration and can lead to deficits in school performance, impaired social functioning, and poor self-esteem in children (Jackson & Lurie, 2006; Ma, Lee, & Stafford, 2005; Richardson & Katzenellenbogen, 2005). The Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV; American Psychological Association, 1994) defines a major depressive episode as a syndrome in which at least five of the qualifying criteria are present during the same 2-week period. One of those five symptoms is the required element of a depressed or irritable mood. It is noteworthy that the presence of irritation is a defining feature of childhood depression that is not used to diagnose adults. In addition, at least one of the symptoms must include lessened interest and pleasure, also known as anhedonia. In the United States, depression affects about 2 to 8% of all children and
adolescents (Ma et al., 2005). Depression is uncommon in preschoolers (about 1%) and school-aged children (about 2%; Mash & Wolfe, 2005). By middle to late adolescence, frequency of depressive symptoms approaches levels found in adult populations (Bailey, Zauszniewski, Heinzer, & Hemstrom-Krainess, 2007). Rates of depression in youth are increasing at alarming rates. In 1995, the incidence in which children and adolescents visited a clinician for depression was about 1.44 million. By 2002, the incidences had nearly doubled to about 3.22 million.

As children develop, gender differences in depression emerge. Before puberty, few gender differences have been found for depression in children (Coghill & Usala, 2006). However, after puberty, depression has been found to be more common in girls. This may be due to girls entering puberty sooner than boys and therefore facing more biological and psychosocial challenges at younger ages. Patton et al. (2008) investigated depression levels of children across puberty. They found that advancing puberty stage predicted higher levels of depressive symptoms with the clearest effect in girls at late stage puberty. In addition, the researchers found that advancing pubertal stage influenced the course of depressive symptoms in girls by more than doubling the risk for depressive symptoms in mid- to late- puberty. Lastly, they found that the advancing pubertal stage increased the risks for depression rather than depression accelerating pubertal development. Patton and colleagues (2008) concluded that
interventions for girls during early pubertal stages could be helpful in preventing
depressive symptomatology that could emerge later in life.

Although gender differences have been found during different pubertal
stages in boys and girls, other gender differences have been found that are
possibly unrelated to this stage in life. For instance, girls report more
interpersonal life events and respond to sad moods in a more ruminative style than
boys (Coghill & Usala, 2006). Additionally, girls aged 10-12 years old have a
stronger need to affiliate with friends rather than family (Sullivan, 1953). That is,
when girls this age are not spending as much time with their families, this may
lead to conflict within the family and higher levels of depressive symptoms
(Bailey et al., 2007). Bailey and colleagues (2007) did not find any significant
gender differences in 10-12 year old children’s overall depressive scores or on
any individual subscale, but several trends did emerge including girls reporting
more severe depressive symptoms and more negative self-esteem than boys. Girls
cited more pessimism, self-hate, and negative body image than boys, whereas
boys reported more self-blame, reduced social interest, and disobedience than
girls. The researchers concluded that when assessing children for depressive
symptomatology, it is important to consider developmental changes and gender
and their effect on children’s depressive symptomatology. Additionally, they
concluded that it is important to consider individual depressive symptoms rather
than an overall depression score.
Anxiety. Anxiety, like depression, is a disorder that can affect children’s mood. Anxiety disorders are one of the most common emotional or behavioral problems to occur during childhood and adolescence. According to the U.S. Department of Health and Human Services (1999), about 1.3% of children and adolescents ages 9 to 17 experience some form of an anxiety disorder. Additionally, girls are more frequently affected by this disorder than boys. As early as age 6, gender differences have emerged within anxiety disorders (Mash & Wolfe, 2007). For instance, by this stage in development girls report twice as many anxiety symptoms than boys. Separation anxiety is one of the most common forms of anxiety, found in about 10% of children (Mash & Wolfe, 2005). Common symptoms of this type of anxiety include disabling, age-inappropriate anxiety about being physically separated from a loved-one. This type of anxiety often presents with generalized anxiety disorder (GAD) which is found in about 3 to 6% of all children. This disorder has several important features such as chronic or exaggerated worry. The worry can present in somatic forms such as muscle tension, headaches, nausea. Additionally, the child may have a constant anticipation of disaster that is without a realistic base. A more specific form of anxiety is social anxiety disorder (SAD). This type of anxiety is associated with significant impairment in many social situations (Van Roy, Kristensen, Groholt, & Clench-Aas, 2009). For instance, children with this disorder have a persistent fear of one or more social performance situations in which they could be scrutinized by others. Other criteria include provoked
anxiety from exposure to a feared situation which may take the form of tantrums, crying, or freezing. Additionally, feared social situations are avoided and this avoidance significantly interferes with their academic functioning or social activities. SAD usually has an age of onset during early adolescence, however it has been diagnosed as early as age eight. Estimated prevalence rates of SAD in ages 8 to 13 are 0.2% - 0.8%, although there is a paucity of research in social anxiety in the elementary school-age population.

Because fear is a common indicator of anxiety disorders and gender differences have been found within anxiety, Ginsburg and Silverman (2000) examined the relation between gender role orientation and fearfulness in children ages 6 to 11 with anxiety disorders. Overall, they found that children who reported higher levels of masculinity also reported experiencing less fearfulness, when compared to less masculine peers. The researchers found this result to be consistent with literature that links masculine traits to indicators of emotional well-being (i.e., social acceptance, self worth). Unexpectedly, Ginsburg and Silverman (2000) found levels of femininity were unrelated to fearfulness in children with anxiety disorders. They posit that stereotypical feminine traits are less characteristic of girls in this population. As such, there may be few gender differences in school-age children who have anxiety but gender differences may become more evident as children develop (Cohen et al., 1993). However, gender differences have emerged in children with anxiety disorder when considering the effect of anxiety on children’s peer relationships. Erath, Flanagan, and Bierman
(2007) investigated the relations between social anxiety and peer relationships in middle school children attending grades six and seven. They found that social anxiety was associated with negative social performance expectations that then disrupted behavioral adaptation when interacting with peers. That is, negative expectations may lead to negative affect which, in turn, can contribute to less prosocial displays of emotion and consequently reduces social effectiveness.

**Externalizing Behaviors**

*Aggression.* Unlike internalizing disorders, externalizing disorders represent the under-control of emotion expression that can include impulsivity, hyperactivity, aggression, and delinquent behaviors (Connor & Barkely, 2004). Although these are common correlates of aggression in children, in more than 250 empirical articles, the definition of aggression has been refined with several different types of aggression delineated (Galen & Underwood, 1997). Across all studies, there are two general features of aggression that are widely accepted. First, the aggressive behavior must be intentional. Second, the aggressive behavior must be perceived negatively by the victim. Within the construct of aggression, many different subtypes have emerged. Overt aggression refers to “both physical and verbal aggression that are experienced directly by the participant” (Tomada & Schneider, 1997, pp. 601). Covert aggression, however is a more subtle form of aggression that includes gossiping, refusal of friendship, and ostracism (Verona, Reed, Curtin, & Pole, 2007). It has been theorized that covert aggression is recognized more in female than male populations due to
social norms discouraging overt aggression by females. Similarly, indirect aggression can be defined as consisting of verbal acts, such as spreading rumors, or/and physical acts, such as setting fire to another’s home (Lagerspetz, Bjorkqvist, & Peltonen, 1988). Further, indirect aggressors usually remain unidentified and deny being aggressive. Physical aggression is defined by its physical and verbal threats of abuse to another person or object (Galen & Underwood, 1997).

Relational aggression consists of such behaviors as “spreading rumors about the target child so that peers will reject him or her, withholding friendship to inflict harm, or excluding a child from a small group of friends” (Crick & Grotpeter, 1995; Galen & Underwood, 1997; Tomada & Schneider, 1997, pp. 601). Galen and Underwood (1997) attempted to re-define relational aggression to include other forms of aggression that children display. They defined “social aggression” as actions consisting of or directed at “damaging another’s self-esteem, social status, or both, and includes behaviors such as facial expressions or disdain, cruel gossiping, and the manipulation of friendship patterns” (Galen & Underwood, 1997, pp. 589).

Children who are physically or relationally aggressive are at risk for adjustment difficulties in addition to internalizing and externalizing problems (Crick, Ostrov, & Werner, 2006). Crick et al. (2006) investigated relational and physical aggression in girls attending 3rd grade and then again one year later. They found that relational aggression, much like physical aggression, provided
significant and unique information about children’s risk status for adjustment problems. That is, children who are relationally aggressive are at risk for internalizing and externalizing difficulties in the future as much as are physically aggressive children. For instance, relationally aggressive children tended to be more withdrawn than their non-relationally aggressive counterparts. This over-control of emotion may lead to internalizing symptomatology in the future. Crick and colleagues (2006) also found that similar to boys, due to relational aggression, girls do experience adjustment difficulties in childhood and these difficulties may have been overlooked in past research due to operational definitions that have been used to describe aggression. Additionally, they found that children who are both relationally and physically aggressive may have a higher risk of adjustment problems when compared to peers that only exhibit one type of aggression.

The literature is replete with evidence pointing to gender differences in the incidences of both physical and relational aggression (Conway, 2005). For instance, boys’ early physical aggressive behavior has been found to predict additional antisocial outcomes such as fighting and stealing, whereas girls’ physically aggressive behavior has been found to predict later internalizing symptomatology such as depression and anxiety (Conway, 2005). Naturalistic observation has been another method that has been utilized in research to investigate gender differences. For instance, Archer, Pearson, and Westerman (1988) observed elementary school children in their classrooms. They found that boys used physical aggression more often than girls and girls demonstrated more
verbal forms of aggression than boys. Lagerspetz et al. (1988) examined indirect and direct aggressive behaviors in 11- and 12-year-old children. They found that boys were more likely to use direct means of aggression such as hitting, kicking, and tripping a peer. However, the girls reported more indirect means of aggression such as ignoring and lying about another peer’s actions to other peers to enact revenge.

Galen and Underwood (1997) examined children attending 4th, 7th, and 10th grades to describe the developmental progression of aggression in girls. They found that girls report physical and relational aggression to be equally hurtful and reported a greater degree of hurtfulness in the social aggression vignette than did boys. Additionally, they reported that girls use subtle means of expressing anger and concluded that these types of expression deserve a label of aggression, namely social aggression. The researchers concluded that this finding lends support to the notion that social aggression may be more salient to girls than to boys in addition to confirming previous findings that indicated that girls use more indirect forms of aggression than boys. Additionally, indirect aggression may have a greater impact on girls’ than boys’ same-sex friendships. Conway (2005) posited that the development of relationally aggressive behaviors in girls may combine with internalizing behaviors and lead to increased risk of depression and anxiety in early adolescence.
Emotion Regulation and Internalizing Disorders

Researchers believe that emotion regulation is a key contributor to the development, maintenance, and/or exacerbation of internalizing disorders (Bradley, 2000) with findings that indicate that children diagnosed with internalizing disorders are unable to regulate their emotions as well as children with no psychiatric diagnoses (Cicchetti, Ackerman, & Izard, 1995; Sim & Zeman, 2005; Suveg & Zeman, 2004). Cicchetti and colleagues (1995) reviewed the linkages of emotion regulation and developmental psychopathology found by Aristotle and into the twentieth century. Aristotle was the first to hypothesize that effective treatment for mental illness included the release of repressed emotions. Cicchetti and colleagues (1995) posit that the prominent function of the emotion system is to organize and motivate behavior. Additionally, a central aspect of emotion regulation is to coordinate the emotion and cognitive systems. Therefore, if regulation fails, communication between systems dissipates and dysregulation of emotion occurs which is a maladaptive form of emotional expression. Most instances of behavior problems and psychopathology in children involve some aspect of emotion dysregulation (Bradley, 2000).

Garber, Braafladt, and Zeman (1991) interviewed depressed and non-depressed youth ages 8- to 17-years-old about their emotion regulation strategies. They found that depressed children were more likely than non-depressed children to avoid emotions or use active behaviors such as aggression to cope with their emotions. They also found that non-depressed youth were more likely than
depressed youth to use active distraction strategies such as walking away or working on another project until they were able to calm down. Suveg, Hoffman, Zeman, and Thomassin (2009) investigated emotion-related predictors of anxious and depressive symptoms in 4th grade children. They found that emotion-related deficits in anxious and depressed youth contribute to their symptomatology. That is, depressed children’s lack of effective emotion regulation abilities may be exacerbated by their lack of positive affect. Specifically, low frequency of positive affect such as happiness was more strongly related to depression than anxiety. Additionally, the overall frequency of negative emotion experience and experiencing somatic responses when emotional aroused was related more to anxiety than depression. Feng et al. (2009) examined the relation between depressive symptoms and girls emotion regulation decisions. They found that emotion regulation deficits precede depression symptomatology. That is girls who inhibit or dysregulate their anger or sadness do so before the onset of depression symptoms. Additionally, they found that the lack of positive emotion was a risk factor for depressive symptoms whereas the abundance of positive emotion in girls was found to be protective.

Similar to depressive symptomatology, emotion regulation deficits have also been noted in children with anxiety disorders. Suveg and Zeman (2004) examined emotion regulation in children with and without anxiety disorders. They found that children diagnosed with anxiety disorders reported more dysregulated expression of worry, anger, and sadness when compared to the non-
Role of Social Cognitions

anxious controls. Additionally, Suveg and Zeman (2004) found that children with an anxiety disorder reported coping less adaptively with worry, anger, and sadness than the children without an anxiety disorder. Interestingly, their results also indicated that girls with and without anxiety disorders reported less adaptive emotion coping than boys overall. The researchers concluded that deficits in emotion regulation should be considered when children are experiencing symptoms of anxiety disorders.

Emotion Regulation and Externalizing Behaviors

Although it is important to examine deficits in emotion regulation when children are experiencing internalizing symptomatology, it is also important to understand the relation between emotion regulation and externalizing symptomatology. Zeman et al. (2002) investigated the relation between anger and sadness regulation and internalizing and externalizing disorders. They found that children reported different emotion management patterns for internalizing and externalizing symptoms. That is, children with internalizing symptomatology inhibit, or over-control their negative emotions. In addition, they express their anger and sadness in non-constructive ways such as crying and carrying on. Conversely, children with externalizing symptomatology reported an under-control of their negative emotions such as slamming doors and saying mean things to others. Further, poor emotional awareness and anger inhibition predicted internalizing symptoms in 4th and 5th grade children. The findings supported the notion that sadness is not the only emotion that is indicative of
internalizing symptomatology but also that non-constructive expressions of anger are important to consider.

Emotion regulation deficits have also been linked to aggression in children (Miller et al., 2006; Teisl & Cicchetti, 2008). Children who display intense negative emotions and have poor emotion regulation abilities are more likely to express anger and aggression in addition to having less social competence with peers than children who are able to appropriately regulate their emotions (Conway, 2005). Teisl and Cicchetti (2008) investigated children ages 6 to 12 with and without a history of maltreatment including physical abuse and neglect, sexual abuse, and emotional maltreatment. They found that the maltreated children who had not been physically abused had poor emotion regulation abilities and that this was the only variable that accounted for aggression and disruptive behavior in children. Miller and colleagues (2006) also found a relation between aggression and emotion regulation in children. They investigated low-income preschool children's emotional competence including emotion regulation abilities and their relation to school adjustment. Miller et al. (2006) found that teachers rated children who expressed more negative emotions as more emotionally dysregulated than children who were rated as emotionally regulated. They also found that positive and negative aspects of emotion regulation predicted anxiety and aggression when controlling for other covariates such as age, gender, and emotion knowledge. That is, children who were better
able to regulate their emotions were less likely to be anxious and aggressive than children who often dysregulated their emotions.

Although past research has examined children's self-report of emotion regulation cross-sectionally, Cole, Teti, and Zahn-Waxler (2003) investigated the stability of emotion regulation decisions using longitudinal methodology in preschool and early elementary school aged children with and without a conduct disorder. Cole and colleagues (2003) found that the externalizing symptoms did not change from preschool to early school age for the majority of children regardless of well-educated and financially secure families. Additionally, they found that the presence of a conduct disorder affected child-initiated positive emotion, but not child-initiated anger. As part of the experimental paradigm, children were given a period of time to wait in order to elicit frustration. During this wait-time, the children's coping abilities were observed. They found that children without a conduct disorder initiated more positive emotions during an interaction task with their mother than children with a conduct disorder. That is, children with a conduct disorder had more difficulty initiating positive emotions while feeling frustrated than did children without conduct disorder.

*The Role of Social Cognitive Biases in Psychopathology*

Successful social interactions require the ability to observe and understand others' actions and perceptions and then respond accordingly. Social cognitions can be defined as understanding the thoughts of others in order to gain insight into a social interaction (Dodge, 1980). Although the link between social cognitions
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and internalizing disorders have been studied in adults, less is known about children and under what conditions potential maladaptive social cognitions start to develop. Children with internalizing symptomatology may not have the same developmental trajectory as normally-developing children when learning coping strategies that require both cognitive and social competencies. Saarni (1997) examined coping strategies in 6- to 8-year-olds and 10- to 12-year-olds who were recruited from a public school or a sexual abuse treatment agency to assess whether their exhibited coping strategies were equivalent to socially appropriate strategies provided in hypothetical vignettes. The children recruited from the sexual abuse agency had clinical or sub-clinical levels of depression or anxiety. The results indicated no gender or age effects, implying that children as young as six already have an understanding of culturally appropriate scripts for effectively responding to negative emotions in different social contexts. However, they did find that children who were sexually abused had a more difficult time than controls finding words to describe the emotions they would have experienced if they were trying to cope with the given situation. This study implies that children, even at the age of six, are able to be cognitively aware of others’ emotions in addition to their own in various social interactions. Children with sub-clinical levels of anxiety and depression are more likely than children without these tendencies to have deficits in their emotion coping abilities that may be an outcome of their disorder or a precipitating factor that lead to developing internalizing symptoms.
Past research on children and adolescents has found correlations between social anxiety and negative social expectancies, low social competence, dysphoric mood, low self-esteem, and negative peer status (Banerjee & Henderson, 2001). When children are socially anxious, they are more likely to want to make a positive impression on peers but also more likely to feel that they cannot reach that goal. They may often feel embarrassed or ashamed in social situations, eliciting additional negative cognitions throughout the current interactions that then may affect future interactions. Due to these negative thoughts, social situations are often avoided and there is a low frequency of successful social interactions for socially anxious individuals. Banerjee and Henderson (2001) tested the hypothesis that socially anxious children with high levels of shy negative affect have difficulty understanding other people’s cognitions during social interactions. The results indicated that shyness is associated with social anxiety and social cognitions. Specifically, social anxiety is linked with relatively poorer insight into the ways in which self-presentational motives can help with and allow for effective emotion displays and a poorer appreciation of the unintentional emotional consequences of a faux pas. As such, there do not appear to be fundamental cognitive deficits in socially anxious children, however, their social maladjustment may be associated with impairment in higher-order cognitive processing. Furthermore, this maladjustment may be most apparent in tasks that require insight into emotions, intentions, or beliefs of others during interpersonal interactions.
Social cognitions may also be linked to internalizing and externalizing disorders through social-cognitive biases (Dodge, 1980). Interestingly, research suggests that cognitive biases in anxious children could be a mechanism by which they become aggressive (Marsee, Weems, & Taylor, 2008). Marsee et al. (2008) investigated the relationship between aggressive behavior, internalizing disorders, and social cognition in an ethnically diverse sample of 83 youth. They hypothesized that boys would have higher levels of relational aggression in the context of high anxiety symptoms and that socially based negative cognitive errors would mediate the relationship between aggression and anxiety. They found significant differences in use of relational aggression in which boys with high anxiety exhibited more relational aggression than boys with low anxiety. This finding suggests that anxiety provokes the use of social manipulation in boys to hurt or harm others when feeling threatened. In addition, they found that social cognitions mediated the relationship between anxiety and aggression. This implies that when children are anxious, they are more likely than not to use aggression when feeling socially threatened by a peer. Children high in anxiety are more likely than children with low anxiety to have biased interpretations of social situations, in particular situations that challenge their feelings of acceptance within a peer group. Overall, the results from this study indicate that reactively aggressive children often exhibit cognitive biases in social situations that lead them to misinterpret intentions of peers as hostile.
Little research has examined how social cognitions may be related to children's emotion regulation processes. An exception is research conducted by Zeman and Garber (1996) who investigated emotion display rule use in children in 1st, 3rd, and 5th grades. They categorized open-ended responses to questions about why children would display or control emotional expressions to parents and peers into different categories concerning their expectations of outcomes. The categories were found to be important in understanding children's emotion management decisions. The categories included self-efficacy, prosocial motivations, positive interpersonal consequences, negative interpersonal consequences, negative instrumental consequences, and norm maintenance (i.e., cultural rules of emotion management). These social cognitions are examined in more detail below and comprise the social cognitions examined in the current study.

*Self-efficacy.* One type of social cognition that has received empirical attention and is examined in the current study is self-efficacy which is defined as, “people’s belief in their efficacy to regulate their own functioning and to exercise control over events that affect their lives” (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999, p. 258). Bandura et al. (1999) posit that a sense of personal efficacy is the foundation of human agency. That is, if a person does not believe that they can produce desired effects by their actions, there will be little perseverance if faced with difficulty. Bandura (1997) found that self-efficacy
beliefs regulate emotional well-being through cognitive, motivational, affective, and selective processes. To further investigate this notion, Bandura and colleagues (1999) investigated the relation between self-efficacy and depression in 11-year-old children. The researchers found that perceived lack of social efficacy contributed to depression more in girls than in boys two years later. Additionally, they found that children with high self-efficacy were more prosocially-oriented and had fewer problem behaviors than children with low self-efficacy. Bandura and colleagues (1999) posit that affect regulation may account for additional variance in the pathway from self-efficacy to depression due to affect regulation being an important aspect of a person’s emotional life.

Lopez and Little (1996) investigated the relation between self-efficacy and anxiety in children attending 2nd and 5th grades. They hypothesized that prosocial coping mechanisms would mediate the relations due to past research indicating that prosocial coping was related to lower levels of distress. Lopez and Little (1996) defined prosocial coping as “strategies aimed at seeking out and engaging the assistance of others whereas antisocial coping strategies are aimed at aggressively working against others” (pp. 300). Unexpectedly, they found little support for prosocial coping mediating the relation between self-efficacy and anxiety.

*Prosocial motivations.* Prosocial cognitions and behaviors are acts that are intended to benefit others (Eisenberg, 1986). Knowledge of prosocial social cognitions has been assessed through children’s knowledge of display rules.
McDowell, O’Neil, and Parke (2000) define display rules as, “the expression of culturally appropriate emotional responses to a given social situation, regardless of the emotion being felt” (pp. 307). Assessment of display rules can occur through children’s report of how they believe they would respond to a hypothetical situation (Saarni, 1979; Underwood, Coie, & Herbsman, 1992; Zeman & Garber, 1996) or by observation in a lab setting (McDowell et al., 2000; Saarni, 1984). Zeman and Garber (1996) found that children reported prosocial motivations as the second most frequent reason for not expressing their anger or sadness. That is, children did not want to express their anger and sadness so that they wouldn’t hurt someone’s feelings. Self-report methodology is helpful in determining whether the child’s report of prosocial displays is different in different social contexts such as when the child is alone or with teachers, parents, or peers. Underwood et al. (1992) presented videotaped vignettes to children in 3rd, 5th, and 7th grades. The vignettes were designed to create anger-inducing specific situations that occurred in the presence of a peer or a teacher. The children were asked to point to a face that most described how their face would look if they had been in the situation. Underwood et al. (1992) found that children report more prosocial displays of emotion when the situation involved a teacher versus a peer. As children developed, they reported more frequent use of masked facial expressions with teachers. Additionally, girls reported masking their anger more frequently than boys. Findings of display rule usage through self-report are
a useful way to better understand how and when children start to be able to regulate their emotions for prosocial reasons.

Positive interpersonal consequences. Children develop expectancies about how others will respond to their emotional displays and base their decisions to express or control emotional expressions based on these expectancies (Zeman & Garber, 1996). One such expectancy concerns the prediction that others will respond with sympathy and understanding to emotional displays. Zeman and Shipman (1997) investigated the influence of emotion type, audience type, gender, and age on children's emotion regulation decisions. They found that elementary-school-age children expected greater understanding from others after expressing anger than sadness. Additionally, compared to boys, girls reported that they would anticipate a more understanding response to their emotional expressivity from parents and peers.

Children can use this understanding to predict future mental states in addition to creating an explanation for current mental states, and assess another person's mental state. Past research has indicated that social cognitive understanding begins to appear between 6- and 7-years of age (Chandler, 1988; Chandler & Boyes, 1982; Pillow, 1988). For instance, young children often fail to detect cues of certainty or uncertainty in others (Pillow, 2002). That is, young children may have difficulty in understanding that a peer does not want to play with them on the playground and therefore they insist they play and make their peer feel uncomfortable. However, during the elementary school years, this type
of monitoring improves. As social cognitive understanding improves, the
comprehension of other social-cognitive processes may also improve.

*Negative interpersonal consequences.* Negative interpersonal
consequences entail a child’s “decision to regulate emotions based on the
perception that a negative interaction will result as a function of displaying
emotion” (Zeman & Garber, 1996, pp. 971). Thus, negative interpersonal
consequences for displaying emotions may include peers and parents teasing or
ignoring the child following a display of negative emotion. Zeman and Garber
(1996) found the main reason that children reported for not expressing their anger
and sadness was negative interpersonal consequences. That is, children did not
express anger or sadness because they believed that by doing so, they would be
ridiculed or teased. Zeman and Shipman (1997) investigated reasons and methods
for affect regulation in children. They found that children reported expecting a
negative response to emotion expression more from a friend than their parents,
and boys reported that they expected more teasing for expressing emotions than
did girls.

*Negative instrumental consequences.* Negative instrumental consequences
are described as a decision made by a child to express or not express emotion in
order to avoid negative, non-interpersonally based consequences (Zeman &
Garber, 1996). For instance, if a child were afraid to visit the family doctor, he or
she would not express a somatic complaint to a parental figure to reach the goal of
not visiting the doctor. Zeman and Garber (1996) found that elementary school
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children expect more negative instrumental consequences from peers than parents for expressing negative emotions. Additionally, children reported negative instrumental consequences as a reason for not expressing anger. That is, children believed that they may lose a privilege if they chose to express their anger.

Zeman and Shipman (1997) found that children reported that they would expect fewer negative instrumental consequences from fathers than both mothers and friends. Specifically, children reported that they would expect fewer consequences for expressing anger to fathers than mothers or friends, whereas no differences were found for sadness.

Norm maintenance. Norm maintenance can be defined as cultural rules regarding emotion management (Zeman & Shipman, 1997). For instance, if children follow norm maintenance rules, they would not necessarily understand why it may be impolite to express their negative emotions when receiving an unwanted gift but would follow this emotion display rule (i.e., don’t show your disappointment) because it is a clearly stated norm. For example, a stated emotion norm is that “nice girls don’t get angry” so when adhering to this norm, girls would indicate that they do not express anger for this reason. Zeman and Shipman (1997) examined norm maintenance in children attending 5th, 8th, and 11th grades. They found that children reported that, as a rule, they should not express sadness more than anger. They also found that boys reported having more rules about not expressing emotion than did girls. Saarni (1979) examined reasons for display rule use in school-aged children. She found that 10-year-old
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children had a greater complexity of reasoning and use of norm maintenance as a reason for using display rules than the 6- and 8-year-old participants. Therefore, norm maintenance may be a social cognitive process that develops with age.

Current Study

There is a growing body of research that has investigated emotion regulation and its link to internalizing and externalizing symptomatology in children (Cicchetti et al., 1995; Lopez & Little, 1996; Suveg et al., 2009; Zeman & Shipman, 1996; Zeman et al., 2002). Previous research has also included an investigation of individual social cognitive processes such as self-efficacy and prosocial cognitions (Bandura et al., 1999; Zeman & Garber, 1996; Zeman & Shipman, 1997). However, there is a paucity of research that examines the constructs in these two bodies of literature and the importance of social cognitions in understanding the relations between emotion regulation and internalizing and externalizing symptomatology. Ample research has demonstrated the importance of cognitions on the development of depression and anxiety (Beck, Brown, Steer, Eidelson, & Riskind, 1987) but little research has examined cognitions about emotions and their potentially mediating role between emotion regulation decisions and psychological adjustment. Further, the literature has not examined children's use of specific social cognitions, or thoughts about expressing emotion within peer social contexts and how this may differ based on child gender. The overarching goal of this study was to examine the relations among children's social cognitions, their emotion regulation decisions for anger and sadness, and
internalizing and externalizing behaviors. Further, given the consistent findings concerning gender differences in emotional expressivity, the role of child gender was also examined. These research questions were investigated using a sample of boys and girls in 4th and 5th grades. This age group was chosen because children typically have well-developed regulation skills by this age and are able to reflect on and verbalize their motivations for expressing or controlling emotional displays (Saarni, 1999). A multi-informant approach was used with self-report and peer ratings of aggression employed.

Based on prior research findings, specific hypotheses were generated that differed based on child gender. Based on prevalence statistics, boys were expected to exhibit more externalizing symptomatology than girls. In regards to boys' report of their social cognitions, emotion regulation decisions, and symptomatology, it was expected that a) sadness suppression would be related to higher levels of depression for boys who hold strong expectancies of negative interpersonal consequences following emotional displays, b) reports of anger expression would be higher in boys who endorse a belief that one should not express anger because it may lead to more peer-rated aggressive behavior, and c) for those boys who hold strong emotion self-efficacy beliefs, sadness and anger may be exhibited less frequently and be associated with less depressive, anxious, and aggressive symptomatology.

For girls, the following hypotheses were generated. It was expected that girls would be more likely than boys to report internalizing symptoms. Regarding
specific the relations among the dependent variables, it was anticipated that girls
a) would report showing their sadness more frequently if they believe it will be
received with positive interpersonal consequences and this would be related to
less depressive and anxious symptomatology, b) would exhibit less anger if they
endorsed norm maintenance rules for “not supposed to show anger” but this
decision may be associated with greater anxious and aggressive symptomatology,
c) would report expressing anger less frequently the more the girl believes that
there will be negative instrumental consequences for the anger expression and this
may be associated with depressive and aggressive symptomatology.

Method

Participants

Participants were 310 children, 161 boys and 149 girls, in the fourth and
fifth grades recruited from public elementary schools. Children in the fourth
grade \( (n = 117) \) comprised of 58 boys \( (M = 10 \text{ years}, 2 \text{ months}, SD = 6.95 \) months) and 59 girls \( (M = 9 \text{ years}, 11 \text{ months}, SD = 6.28 \) months). The fifth
grade children \( (n = 193) \) were comprised of 103 boys \( (M = 11 \text{ years}, 2 \text{ months}, SD = 8.38 \) months) and 90 girls \( (M = 11 \text{ years}, 1 \text{ month}, SD = 6.41 \) months). Regarding family constellation, children lived with both parents (58.4%), mother
only (19.4%), father only (1.6%), mother and step-father (9.4%), grandparents
(1.3%), and father and step-mother (0.6%). The remaining children lived with
another combination of guardianship type. The majority of this sample was of
working class, blue-collar status and lived in a small urban area. Concerning racial composition, the sample was 96% Caucasian.

Measures

Emotion Measures

The Affect Regulation Interview for anger and sadness (ARI; Zeman, Shipman, & Penza-Clyve, 2001) was used to assess emotion regulation decisions and social cognitions. The ARI consists of six vignettes, written in third-person narrative, that are intended to evoke either sadness or anger in the protagonist who is in the presence of their best friend. Children are asked to imagine that they are the same-sex protagonist in the story. Three social contexts are used as the background to the emotionally-evocative events: participating in a sporting event, receiving a present, and attending a party (see Appendix for the vignettes). For instance, the anger evoking sporting vignette depicts the following scenario, “It’s the day of the big soccer game. Chris goes to the park to meet the rest of his team. His team doesn’t get to play because not enough kids showed up for the game. Later, when Chris is with his friend, he finds out that his friend didn’t show up because he forgot about the important soccer game and went to the movies instead. It makes Chris MAD.” Following the reading of the vignette, to assess emotion regulation decisions, children were asked about their likelihood of showing or not showing their sadness or anger to their friend (e.g., “Would Nancy show or not show how mad she feels to her friend?”) using a four-point scale (1 =
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definitely would; 2 = probably would; 3 = probably would not; 4 = definitely would not).

Pilot testing of vignettes. Pilot testing was conducted for each series of vignettes to determine which vignettes elicited the desired emotional response in the children. A total of 42 children (22 boys, 20 girls) in grades 3-8 (Mage = 13 years, 6 months, SD = 30.52 months) participated. Pilot testing was initially conducted on six vignettes (e.g., present story, sports vignette, child's jacket being stolen from a party, a grandmother not appreciating a present, a damaged toy, and a lost toy) but the last four vignettes were deleted from use due to difficulties with eliciting the intended emotion. One vignette was used in the study that did not receive pilot testing (see Appendix for Party-Sad and Party-Mad vignettes).

Children were asked one open-ended question per vignette, “How would you feel if this happened to you?” Their answers were recorded verbatim. Next, children were asked a series of forced-choice questions including “Would you feel (emotion type) if this happened to you?” using a 4-point scale (1 = no; 2 = a little; 3 = some; 4 = a lot). The types of emotions listed for the forced choice format included mad, sad, scared, just okay, and happy. The majority of the forced-answer questions elicited the intended emotion (anger or sadness) for the sports and present vignettes. That is, for the anger sports scenario, 85.7% reported that they would feel mad. For the sadness sports scenario, 88.1% reported that they would feel sad. For the anger present scenario, 66.7% reported that they
would feel mad. In the present sad scenario, 73.7% of participants reported that they would feel sad (see Tables 1 – 5 for ratings by vignette).

**Social cognition questions.** To assess children’s social cognitions or expectancies of outcomes when deciding to express or not express emotion, children were asked to report on six reasons for regulation after they were read the vignette. Questions were presented in random order to guard against possible order effects. Each reason examined a different social cognition found to be important in children’s emotion regulation decisions (Zeman & Garber, 1996). Questions were answered using a four-point scale (e.g., 1 = definitely would; 2 = probably would; 3 = probably would not; 4 = definitely would not). First, the self-efficacy reason reflected children’s understanding of self and their ability to control their emotions (e.g., “How much do you think Nancy could control her mad feelings if she wanted to?”). Self-efficacy questions were answered on a 4-point scale (e.g., 1 = definitely could control; 2 = probably could control; 3 = probably could not control; 4 = definitely could not control). Second, the prosocial motivation reason concerned whether children decided to not display emotion in an effort to spare their friend’s feelings (e.g., “Would Nancy showing her feelings upset her friend?”). Third, the positive interpersonal consequences reason reflected children’s expectations that their best friend would respond positively and with support to their expression of emotion (e.g., “Would Nancy’s friend understand how she feels?”). Fourth, the negative interpersonal consequences question asked how much children anticipated that their best friend
would respond to their negative emotions with teasing and belittling behaviors (e.g., "Would Nancy’s friend make fun/tease her if she showed how mad she feels?"). Fifth, the negative instrumental consequences reason asked children if they would experience non-interpersonal, negative instrumental consequences for displaying a negative emotion (e.g., "Would there be negative consequences for Nancy showing how sad she feels?"). Lastly, the norm maintenance reason concerned children’s knowledge of social norms regarding emotion expression (e.g., "Does Nancy believe she is supposed to show her mad feelings to her friend?"). Norm maintenance questions were answered on a 4-point scale (e.g., 1 = definitely believes; 2 = probably believes; 3 = probably does not believe; 4 = definitely does not believe). All corresponding questions within the anger and sadness vignettes were summed to create a score that could range from 3 to 12 for each of the social cognitions.

There were significant sex differences regarding the positive interpersonal consequences reason in which boys ($M = 6.69$, $SD = 1.84$) cited this reason more than girls ($M = 6.15$, $SD = 1.43$) as a reason for regulating their mad feelings, $t(299) = 2.84, p < .01$. In addition, gender differences were found for the norm maintenance subscale for anger in which boys ($M = 7.72$, $SD = 2.09$) reported using norm maintenance more than girls ($M = 6.74$, $SD = 1.94$) as reason for regulating their mad feelings, $t(299) = 4.22, p < .001$ (see Table 6 for gender differences for all social cognitions for the anger vignettes). There were no significant gender differences on the other social cognitions.
In regards to sadness vignettes, gender differences emerged for the norm maintenance reason in which boys ($M = 7.46, SD = 2.31$) reported this more frequently than girls ($M = 6.49, SD = 7.46$) as a reason for regulating their sad feelings, $t(300) = 3.92, p < .001$. No other gender differences emerged for the sadness social cognitions (See Table 7 for means and standard deviations by gender for sad cognitions).

Construct validity for the ARI has also been established in relation to self- and other-report measures of anger and sadness regulation (Zeman et al., 2002) with children 9-18 years of age. For this study, internal consistency for each social cognition across the three vignettes was weak to moderate with alphas ranging from .37-.74 (see Table 8 for internal consistencies by subscale).

**Internalizing Symptoms**

The *Child Depression Inventory* (CDI; Kovacs, 1985) was used to measure depression symptomatology over the prior two weeks. This 27-item inventory is based on the Beck Depression Inventory and has been found to be highly correlated with negative cognitive attributions and poor self-esteem (Kazdin, 1990). Items were scored on a 3-point scale with higher scores indicating more severity. The CDI contains five subscales: negative mood, interpersonal problems, ineffectiveness, anhedonia, and negative self-esteem.

The CDI has been shown to discriminate between clinical and non-clinical populations (Saylor, Finch, Spirito, & Bennett, 1984). Cary, Faulstich, Gresham, Ruggiero, and Enyart (1987) evaluated the construct and discriminant validity of
the CDI in clinical and nonclinical populations. They found two factors (depressive affect and oppositional behavior) that characterized only the clinical participants indicating that the CDI can successfully discriminate between clinical and nonclinical populations. The CDI has been found to be useful in tracking treatment effectiveness and identifying symptoms (Stavrakaki, Williams, Walker, Roberts, & Kotsopoulos, 1991). Based on past literature, reliability and validity have thus been established (Kovacs, 1985). For this study, internal consistency of the total score was .89. There was a significant gender main effect in which boys ($M = 8.71$, $SD = 8.78$) had higher raw scores than girls ($M = 6.78$, $SD = 6.49$), $t(294) = 2.14$, $p < .05$. The majority of the children fell within a non-clinical range with raw scores ranging from 0 to 11 (75.2%) (Kamphaus & Frick, 2005). However, 24.8% of the children’s raw scores fell within a clinically relevant range with raw scores ranging from 12 to 51 (48 boys, 27 girls).

The State-Trait Anxiety Inventory for Children (STAIC; Spielberger, 1973) is a 20- item inventory that assesses children’s tendency to experience anxiety-related states. For instance, “I worry about making mistakes”, and “Unimportant thoughts run through my mind and bother me.” Items were rated on a three-point Likert scale (e.g., hardly ever, sometimes, often). One subscale was utilized within the STAIC that measured general symptoms of anxiety. The subscale, the A-Trait, measures chronic, pervasive anxiety that is stable across situations. Finch, Montgomery, and Deardorff (1974) used the STAIC to assess anxiety in emotionally disturbed children and found strong evidence of test-retest
reliability and internal consistency. Reliability and validity have been further demonstrated for children in kindergarten through adolescence with the majority of studies reporting internal consistencies above .70 (Joiner et al., 2002; Spielberger, 1973). For this study, internal consistency was .87. There were no significant gender main effects for the total STAIC score. The majority of children fell within the non-clinical range (69%) however, scores that reached 35 or higher were considered to be clinically relevant (Emerson, Mollet, & Harrison, 2005) and characterized 31% (45 boys, 55 girls) of the sample.

Externalizing Symptoms

Although some research suggests that children are the most reliable reporters when self-reporting internalizing symptoms (Achenbach, McConaughy, & Howell, 1987), when reporting externalizing symptoms particularly aggression, research indicates that peers are the best reporters (Crick & Grotpeter, 1995). Thus, aggressive behaviors were reported on by all participating children's peers. Rated behaviors were based on a scale developed by Cassidy and Asher (1992). The frequency of four different behaviors (is mean, gets mad easily, starts fights, and hits, pushes, or kicks) were rated for each participant. All students rated each other on a 5-point Likert scale from 1 (not at all) to 5 (a whole lot). Total standardized aggression scores were calculated by summing the average scores for each of the four behaviors for each child divided by the total number of children in each grade completing the measure. A significant gender main effect
emerged in which boys ($M = 7.24$, $SD = 1.99$) had higher total peer-rated aggression raw scores than girls ($M = 6.07$, $SD = 1.71$), $t(142) = 43.56$, $p < .001$.

**Procedure**

Children with parental permission to participate were administered the questionnaires in small groups within their classrooms. In the first session, children were asked to complete the ARI in small groups. Two weeks later, researchers administered the CDI, the STAIC, and the peer aggression rating questionnaire in the second session.

**Results**

**Design**

Given the significant gender differences found in the independent variables, regression analyses were conducted separately for boys and girls. Also, given that sadness and anger serve different functions, regressions were also conducted separately by emotion type. To address whether anger and sadness social cognitions predicted to anger and sadness regulation decisions, respectively, four regressions were performed, two for boys and two for girls. Then, in order to understand whether these anger and sadness social cognitions predicted to internalizing (i.e., STAIC anxiety, CDI depressive symptoms) and externalizing symptomatology (i.e., aggression sociometrics), 12 regressions were conducted. Further, correlations between regulation decisions and symptomatology were also calculated.
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Social cognition predicting emotion regulation decisions

Anger social cognitions predicting to anger regulation decisions. For boys, the model predicting social cognitions to regulation decisions emerged, $F(6, 151) = 6.56, p < .001$. Two social cognitions predicted to management of anger including norm maintenance and self-efficacy. Specifically, boys who endorsed the belief that they should not show their anger were predictively associated with the decision to not express anger, $t(151) = 3.67, p < .001, \beta = .25$. Additionally, boys who reported that they thought that they could control their anger expressions were negatively associated with their anger regulation decisions indicating that they would not show their anger, $t(151) = -3.31, p < .001, \beta = -.22$.

For girls, the model for anger social cognitions predicting to anger regulation decisions was significant, $F(6, 137) = 8.91, p < .001$. Two social cognitions were associated with anger regulation decisions including norm maintenance and negative instrumental consequences. Specifically, girls who believed that they should not show their anger were predictively associated with decisions to not show anger, $t(137) = 6.39, p < .001, \beta = .43$. In addition, girls who believed that there would be negative instrumental consequences for showing their anger were associated with their decisions to not express their anger, $t(137) = 2.13, p < .05, \beta = .19$.

Sad social cognitions predicting to sadness regulation decisions. For boys, the model for sadness social cognitions predicting to sadness regulation was significant, $F(6, 148) = 7.00, p < .001$. Two social cognitions were associated
with boys’ decisions to suppress sadness displays including norm maintenance and negative interpersonal consequences. Boys who believed that they should not show their sadness were associated with their deciding to not show their sadness, $t(148) = 4.30, p < .001, \beta = .30$. In addition, boys who reported that there would be negative interpersonal consequences for showing their sadness were predictively associated with their not expressing sadness, $t(148) = 2.04, p < .05, \beta = .15$.

In regards to girls, the model for sadness social cognitions predicting to sadness regulation was significant, $F(6, 137) = 5.93, p < .001$. Two social cognitions emerged as predictors of sadness regulation decisions including norm maintenance and positive interpersonal support. Specifically, girls who believed that they should not show their sadness were associated with not expressing sadness, $t(137) = 3.93, p < .001, \beta = .29$. Additionally, girls who reported that they believed that their friends would understand if they expressed their sadness predicted to decisions to express sadness, $t(137) = 2.75, p < .01, \beta = .27$.

**Associations among Regulation Decisions, Social Cognitions, and Internalizing Symptoms**

**Depressive symptoms**

**Correlations between anger regulation decisions and depressive symptoms.** For boys, a significant negative correlation was found between anger regulation decisions and depressive symptoms. That is, boys who reported that they would be more likely to show their anger, also reported higher levels of
Correlations between sadness regulation decisions and depressive symptoms. For boys, a significant negative association between sadness regulation decisions and depressive symptoms emerged. Specifically, boys who reported that they would show their sadness reported higher levels of depressive symptomatology, $r = -.20, p < .05$. No significant correlation was found for girls, $r = -.05, ns$.

Anger social cognitions predicting depressive symptoms. For boys, a significant model was found for anger cognitions predicting to depression symptomatology, $F(6, 145) = 4.02, p < .001$. The social cognition of anger self-efficacy was significant. Specifically, boys who reported that they did not believe that they could control their anger were associated with higher levels of depression symptomatology, $t(145) = 3.28, p < .001, \beta = .28$. The model for anger social cognitions predicting to depression symptomatology for girls was not significant.

Sadness social cognitions predicting depressive symptoms. For boys, a significant model emerged for sadness social cognitions predicting to depression symptomatology, $F(6, 143) = 3.88, p < .001$. The social cognitions of positive interpersonal consequences and self-efficacy were significant. Boys who reported that their friends would not understand their sadness were associated with higher levels of depression symptomatology, $t(143) = 2.19, p < .05, \beta = .21$. In addition,
boys who reported that they could not control their sadness predicted to higher levels of depression symptomatology, \( t(143) = 2.78, p < .01, \beta = .22 \). For girls, the model for sadness social cognitions predicting to depression symptomatology was not significant.

### Anxiety symptoms

**Correlations between anger regulation decisions and anxiety symptoms.**
The associations between anger regulation decisions and anxiety symptomatology were not significant for either boys \((r = -.09, ns)\) or girls \((r = .07, ns)\).

**Correlations between sadness regulation decisions and anxiety symptoms.**
For boys, a significant negative association between sadness regulation decisions and anxiety symptomatology emerged. Specifically, boys who reported that they would show their sadness, also reported higher levels of anxiety symptoms, \( r = -.24, p < .01 \). No significant correlation was found for girls \((r = .01, ns)\).

**Anger social cognitions predicting anxiety symptoms.** The models for anger social cognitions predicting to anxiety symptomatology were not significant for either boys or girls.

**Sadness social cognitions predicting anxiety symptoms.** The models for sadness social cognitions predicting to anxiety symptomatology were not significant for either boys or girls.
Associations among Regulation Decisions, Social Cognitions, and Externalizing Symptoms

Correlations between anger regulation decisions and peer-rated aggression. For boys, a significant association between anger regulation decisions and peer-rated aggression was found. Specifically, boys who reported not showing their anger were rated lower on aggression by other boys, $r = -.18, p < .05$. The association between boys’ anger regulation decisions and their aggression as rated by girls was not significant, $r = -.10, ns$. With respect to girls, the correlation between girls’ anger regulation decision and same-sex aggression ratings was not significant, $r = -.05, ns$. The association between girls’ anger regulation decisions and boys’ rating of girls’ aggressive behavior was non-significant, $r = -.14, ns$.

Correlations between sadness regulation decisions and peer-rated aggression. For boys, the correlation between sadness regulation decisions and same-sex peer-rated aggression was not significant, $r = -.14, ns$. In regards to associations between boys’ sadness regulation decisions and girl-rated aggression, no significant correlations were found, $r = -.10, ns$. For girls, the correlation between girls’ sadness regulation decisions and same-sex peer-rated aggression was not significant, $r = -.04, ns$. In addition, the correlation between girls’ sadness regulation decisions and ratings of girls’ aggression by boys was not significant, $r = -.11, ns$. 
Anger social cognitions predicting to aggression. In regards to boys, no significant model was found using same-sex or opposite-sex sociometric ratings. However, for girls, a significant model emerged for anger social cognitions predicting to same-sex, peer-rated aggression, $F(6, 119) = 3.07, p < .01$. The anger social cognitions of positive interpersonal consequences and negative instrumental consequences were found to be significant. Specifically, girls who reported that their friends would be understanding of their anger expression, were perceived as less aggressive by other girls, $t(119) = 3.50, p < .001, \beta = .36$. In addition, girls who reported that there would be negative instrumental consequences for showing their anger were rated as less aggressive by other girls, $t(119) = 2.27, p < .05$. No significant models were found for anger social cognitions predicting to girls’ aggression as rated by boys.

Sadness social cognitions predicting to aggression. The models for sadness social cognitions predicting to aggression were not significant for same- or opposite-sex ratings of aggression for either boys or girls.

Mediational Analyses

The mediational effect of social cognitions on the relationship between anger regulation and depression was assessed according to the procedures of Baron and Kenny (1986). First, there must be significant correlations between the independent variable (anger regulation) and the mediator (anger self-efficacy). Second, the mediator (anger self-efficacy) must be significantly correlated with the dependent variable (CDI depression symptoms). Third, to establish
mediation, the effect of the independent variable (anger regulation) on the
dependent variable (depressive symptoms) must be completely or significantly
reduced by controlling for the mediating variable (self-efficacy). Mediational
analyses were only conducted for boys given that the necessary inter-correlations
were not present for girls.

In step one, the regression equation examining the relation between anger
regulation scores and anger self-efficacy was significant, $F(1, 156) = 18.60, p <
.001$. The unstandardized regression coefficient was -1.33 and the standard error
was .39. The second regression examining the relations between anger self-
efficacy and CDI scores was also significant, $F(1, 151) = 18.35, p < .001$. The
unstandardized regression coefficient was -.90 and the standard error was .40.

In the final mediation step, a stepwise multiple regression was conducted
to test the effects of mediation on the relationship between anger regulation and
CDI scores as mediated by anger self-efficacy. At step 1, anger regulation
contributed to 7% of the variance, $F(1, 151) = 11.74, p < .001$. At step 2, anger
self-efficacy predicted an additional 7% of the variance in the CDI score, $F(2,
151) = 12.02, p < .001$. The relationship between anger regulation and the
inclusion of self-efficacy into the equation showed a significant increment to
multiple $R^2$ from .07 to .14. Comparison of standardized regression coefficients
for anger regulation (-.27) indicated that controlling for self-efficacy as a mediator
reduced the regression coefficient for anger regulation (-.18) by 33%. Therefore,
prediction of CDI scores was significantly improved with the addition of self-
efficacy scores to the equation. As anger regulation remained significant, the Sobel's test of indirect effects was conducted to examine whether self-efficacy operated as a partial mediator (Sobel, 1982). The test provides, "an approximate significance test for the indirect effect of the independent variable on the dependent variable via the mediator" (Baron & Kenny, 1986, p. 1177). The results of the Sobel Test indicated that the pathway was significantly reduced, thus suggesting that self-efficacy is a partial mediator of the relationship between anger regulation and CDI scores, $z = -2.41, p < .05$. The results of this regression analysis are presented in Table 9.

The mediational analyses were conducted for boys only to examine the mediating effect of sadness self-efficacy on the association between sadness regulation and CDI scores. In step one, the regression equation examining the relation between anger regulation scores and sadness self-efficacy was significant, $F(1, 151) = 5.73, p < .05$. The unstandardized regression coefficient was -.88 and the standard error was .37. The second regression examining the relations between sadness self-efficacy and CDI scores was also significant, $F(2, 151) = 8.34, p < .001$. The unstandardized regression coefficient was 1.11 and the standard error was .34.

To establish mediation, the effect of sadness regulation on depressive symptoms must be completely or significantly reduced by controlling for sadness self-efficacy. In the stepwise regression, at step 1, sadness regulation contributed to 4% of the variance, $F(1, 151) = 5.73, p < .05$. At step 2, sadness self-
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regulation contributed 10% of the variance in the CDI scores, \( F(2, 151) = 8.34, p < .001 \). Comparisons of beta weights for sadness regulation (-.19) indicated that controlling for sadness self-efficacy as a mediator reduced the regression coefficient for sadness regulation (-.14) by 26%. Because sadness regulation remained significant, the Sobel Test was used to compare whether the reduction in beta weights obtained in the first and second steps of the equation was significant (Sobel, 1982). The results of the Sobel Test indicated that the pathway was significantly reduced, supporting the partial meditational pathway for sadness self-efficacy, \( z = -2.10, p < .05 \). That is, self-efficacy functioned as a partial mediator of the relationship between sadness regulation and depression. The results of this regression analysis are presented in Table 10.

Discussion

The goal of this study was to examine the relations among children’s emotion regulation decisions, social cognitions, and internalizing and externalizing symptomatology. Specifically, we sought to examine whether social cognitions within emotion regulatory processes were related to internalizing and externalizing symptomatology. Overall, gender differences were found for self-reported depressive symptoms and peer-reported externalizing behaviors. Further, for boys only, anger and sadness self-efficacy partially mediated the relationship between anger and sadness emotion regulatory processes and depression symptoms. This meditational relation did not hold for girls and was not found for symptoms of anxiety or aggression. In regard to
anxiety symptoms, anger and sadness social cognitions did not predict this type of symptomatology for either boys or girls. However, anger social cognitions (i.e., positive interpersonal consequences, negative instrumental consequences) were found to predict to aggression for girls, but not for boys. Specifically, girls who reported that peers would be more understanding of anger expression were perceived as less aggressive by peers. Additionally, girls who reported that there would be negative instrumental consequences for showing their anger were rated as less aggressive by their peers. Unlike anger cognitions, sadness cognitions did not predict to aggression for boys or girls. The results will be discussed by symptomatology type.

**Depression**

Contrary to the majority of findings concerning gender differences in depression (Feng et al, 2009; Jackson & Lurie, 2006; Kazdin, 1990), boys in this study reported significantly more depressive symptoms than did girls. It is not clear why this gender finding emerged but it should be kept in mind when exploring the meaning of the following findings. For boys, several interesting relations were found between anger and sadness regulation decisions and social cognitions predicting to depression symptomatology. Specifically, boys who reported that they would express anger and sadness to peers also had higher depression scores. The implications from this finding are interesting but do not conclusively provide evidence for the directionality of these results given the cross-sectional nature of the data. That is, it may be that boys' expression of
emotions go against social norms for males and this then could lead to peer rejection and subsequent depression. It could also be that these boys had higher levels of depression, a non-normative male experience, that then resulted in dysregulated expressions of anger and sadness to peers. Past research findings investigating these relations are scarce. However, Pederson, Vitaro, Barker, and Borge (2007) investigated peer rejection and internalizing symptomatology in children longitudinally from ages six to 13 using two predictor models. First, they used early anxiety and social withdrawal symptoms to predict to peer rejection. Next, peer rejection at age 10 was used to predict adolescent outcomes such as depressive symptoms. They found that anxiety and social withdrawal were not directly related to peer rejection in early childhood, however disruptiveness was related to rejection. Additionally, they found that peer rejection was directly related to loneliness, but not to depression. They posit that although the two constructs of loneliness and depression are highly correlated, this result may be due to the depression measure being associated with overall poor well-being instead of constructs that were school- and peer-related. Based on this past research, the current study’s findings seem to be more likely due to negative expressivity leading to depression rather than depression leading to negative expressivity and peer rejection.

The analyses of social cognitions predicting to depression also revealed some interesting findings. That is, boys who reported that they believed that they could not control their anger and sadness, the self-efficacy social cognition, also
reported greater depression symptomatology. Further, the results of mediational analyses indicated that the relation between anger and sadness regulation and depression was partially mediated by anger and sadness self-efficacy. As has been indicated in other research, emotion dysregulation or poor control over emotions characterizes many forms of psychopathology (Bradley, 2000). It is interesting that this relation only held for boys and suggests the importance of having self-confidence to exert intentional control over one's emotional expressivity.

Bandura and colleagues (1999) indicated that there are three pathways from self-efficacy to depression. The first is through unfulfilled aspirations. That is, children are most satisfied when their standards align with their evaluation of accomplishment. The second pathway from self-efficacy to depression is through low self-efficacy in attaining successful social relationships. That is, children may not believe that they can gain friendships, which in turn leads to low success in forming friendships. The last pathway relates self-efficacy to depressing thoughts. That is, when children do not believe they have control over their depressing thoughts, they have higher levels of depression.

The findings from the current study appear to dovetail with the second pathway in which children's self-efficacy and depression are related to peer relationships and possibly the last pathway indicating lack of control over depressive thoughts leads to depression. Interestingly, past research has only investigated rumination of depressive thoughts in girls, but not boys (Rose & Rudolph, 2006). Our findings may imply that boys, like girls, may ruminate on
their depressive thoughts that, in turn, exacerbate their depressive symptomatology. This negative thought process may be related to the inability to attain successful social relationships. Bandura and colleagues (1999) posit that children who are at risk for depression due to this cognitive ruminative style need to try to change their way of thinking about their capabilities and increase their ability to read social situations. For instance, if children work with a psychologist to increase their self-efficacy, their depressive symptomatology should decrease and the number of successful social interactions should increase.

Although the mediational result is consistent with Bandura (1997) who found that self-efficacy beliefs regulate emotional well-being, the current study’s findings only apply to boys. This finding is inconsistent with past research that has indicated that perceived inefficacy to manage negative emotions leads to depression for females, but not males (Bandura et al., 1999). Additionally, Bandura and colleagues (1999) indicated that a strong sense of self-efficacy in social situations is associated with high levels of prosocial behavior equally in boys and girls. However, a low sense of self-efficacy to manage negative emotions was found to be linked to depression for girls, but not boys partly due to girls’ tendency to ruminate. In the Bandura et al. (1999) study, participants were children with a mean age of 11.5 years old. In the current study, the mean age of all of the participants was 10.7 years old. Although there is only a one year difference in mean age between our sample and Bandura and colleagues (1999) sample, our findings could be influenced by developmental differences.
Interestingly, the boys who reported that they would not receive positive interpersonal outcomes for expressing sadness had higher levels of depressive symptoms. That is, these boys did not believe that their friends would be supportive if they expressed sadness indicating perhaps a low-quality friendship, a factor that may be part of their depressive symptomatology. It also may be that the gender norm for boys is to suppress sadness (Perry-Parrish & Zeman, in press) and thus, boys who violate this norm would not receive a positive reception from their male peers.

Of note, in this set of findings, only one finding differentiated between anger and sadness factors predicting to depressive symptomatology which is contrary to functionalist theory which would hypothesize that a different pattern of results would emerge for anger and sadness. It is likely that this result reflects research that has found higher levels of anger and aggressiveness in depression than in anxiety or somatoform disorders (Picardi, Morosini, Gaetano, Pasquini, & Biondo, 2004). That is, both the emotions of anger and sadness appear to be important in childhood depressive symptomatology.

Anxiety

Perhaps most surprising is the absence of significant associations between emotion regulation decisions and social cognitions with symptoms of anxiety. Further, boys and girls did not differ in their self-report of anxiety symptoms. This result is inconsistent with past research that indicates gender differences are evident as early as age six. The only significant finding to emerge indicated an
association for boys between their sadness regulation decisions and their anxiety symptomatology. That is, a greater outward expression of sadness indicated a higher report of anxiety in boys. This finding may be due to gender norms that encourage the expression of anger in boys but not more vulnerable types of emotions such as sadness. The pressure from attempting to adhere to these gender norms may create anxiety within boys who are aware that they should not be so expressive with their sadness experience (Ginsburg & Silverman, 2000).

The co-morbidity between the anxiety and depression measures utilized in this study may be another reason for the paucity of anxiety findings. Although some literature indicates comorbidity between anxiety and depression symptomatology (Angold, Costello, & Erkanli, 1999; Kovacs & Devlin, 1998), the Children's Depression Inventory (CDI) and State Trait Anxiety Inventory for Children (STAIC) in this study were only moderately correlated ($r = .50, p < .01$) indicating that the scores could be considered independent from each other. Angold et al. (1999) investigated the prevalence of co-morbidity between anxiety and depression in children in a community sample. They found the percentage of anxious youth with a comorbid depressive disorder ranged from 11 to 69 percent. Additionally, they found that depressed youth with a comorbid anxiety disorder to be 15 to 75 percent. Another possibility for limited anxiety findings could be that the STAIC is an older measure that may not differentiate between different types of anxiety. However, other research has indicated that the STAIC is an appropriate measure for investigations involving larger samples (Seligman,
Ollendick, Langley, & Baldacci, 2004). Furthermore, past research has indicated that the CDI and the STAIC-Trait Scale have about a 25% overlap in the self-report instruments (Seligman et al., 2004). This overlap may be the measure’s greatest weakness. Another possibility for the paucity of anxiety findings could be that we may have not found a relation between anxiety and social cognitions because we only used vignettes with anger and sadness content and only had the participants indicate how they regulated their anger and sadness; these emotional scenarios may not have been relevant to anxiety experiences. Future studies should incorporate regulation of worry into their designs when assessing their relations to anxious symptomatology.

**Aggression**

Interestingly, for boys, no significant models were found predicting anger or sadness social cognitions or sadness and anger regulation decisions to peer report of aggressive behaviors. This lack of findings is surprising given the literature that finds that boys display more physically aggressive behavior than girls (Rose & Rudolph, 2006), and boys in this sample had higher same-sex ratings of aggression than did girls. It may be that the boys and girls interpreted the items on the sociometric in different ways based on their gender norms for aggressive behavior. That is, from an early age peer groups comprised of boys will typically engage in physical, rough-and-tumble play such as wrestling, playing football, etc. (Rose & Rudolph, 2006). When examining the items that comprise the sociometrics (i.e., starts fights, gets mad easily, hits, pushes, and
kicks), the boys may have interpreted these items in a benign way. That is, the boys in this study may not have regarded other same-sex peers as often starting fights because the fights they had were considered to be fun, not with a violent or aggressive intent. Although the overall aggression findings for boys were null, a significant negative relation between anger regulation and peer-rated aggression emerged. That is, boys who reported not expressing their anger were rated lower on aggression by peers than boys who reported expressing their anger. This finding is consistent with past research that indicated boys without a conduct disorder were rated lower in aggression than boys with a conduct disorder (Cole et al., 2003).

A different pattern of findings emerge for girls in which the anger social cognitions of positive interpersonal consequences and negative instrumental consequences yielded significant relations with same-sex ratings of aggression. That is, girls who believed that their friends would understand their reason for expressing anger, were perceived as less aggressive by other girls. Additionally, girls who reported that there would be negative instrumental consequences for showing their anger were rated as less aggressive by other girls. For instance, girls who are angered by a difficult classroom task may choose to not express their anger because that expression may result in their not being able to play at recess. These findings are especially interesting because the aggression sociometric consisted of three items assessing physical aggression and only one item assessing relational aggression, which has been the main focus for research
examining aggression in girls (Crick & Grotpeter, 1995; Crick et al., 2006; Galen & Underwood, 1997; Tomada & Schneider, 1997). As discussed previously, it may be that the girls interpreted the items differently than did the boys. That is, in order for a girl to receive a high endorsement on an aggressive item, gender norms must be violated to a significant degree given the low frequency of female overt aggression. When such a violation occurs, it is noteworthy and likely related to social cognitions regarding the anticipated outcomes to such expression. Thus, the results from the current study indicate that physical aggression may be more apparent and relevant in girls’ social functioning than previously thought (Galen & Underwood, 1997). Future research should include measures that investigate physical aggression in addition to relational aggression in girls and examine these intriguing social cognitive findings in more detail.

One common finding across type of emotion and gender was the predominant role of the social cognition, norm maintenance. Specifically significant models for anger and sadness norm maintenance predicting to anger and sadness regulation for boys and girls were found. That is, children who endorsed the belief that they should not show their anger or sadness also reported that they would not show anger or sadness. These findings are intuitive and provide evidence for the validity of this methodology given the consistent pattern of findings. It also is evidence of the children’s cognitive developmental stage of concrete operations in which reasoning is based on concrete rules that are adhered to strictly (Piaget, 1928; Richards & Siegler, 1981). Children of this age have
internalized the socialization rules of inhibiting negative emotions in peer situations and may not be taking context into consideration when making decisions about emotion regulation. Saarni (1979) examined school-age children and found that they have a better understanding of norm maintenance than 6- to 8-year-old children.

**Limitations**

Although this study yielded many significant and interesting results, there were some limitations that require comment. First, the sample was largely ethnically and economically homogenous. That is, the majority of the participants were from white, middle-class families that limits the generalizability of the findings to other, more diverse populations. Second, indices of internalizing symptomatology (i.e., depression, anxiety) were based solely on self-report which raises concerns about the validity of the report, particularly given the young age of the participants. The findings would have been more reliable and valid if a parent- or teacher-report of the child's depression and anxiety symptoms had been obtained in addition to the self-report measures. However, it is important to note that research has indicated that children are typically thought to be the most reliable reporter of their internalizing symptoms since these experiences are private and not subject to overt scrutiny by others (Ladd & Profilet, 1996; Smith, Pelham, Gnagy, Molina, & Evans, 2000). Third, in regard to the internalizing measures, as discussed above, another limitation is the use of the State-Trait Anxiety Inventory for Children (STAIC) which is now considered to be an
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outdated measure of anxiety given more recently developed instruments such as the Multidimensional Anxiety Scale for Children (March, Sullivan, & Parker, 1999). As such, usage of the STAIC may not have captured an accurate understanding of the relations between social cognitions and anxiety in this sample. Fourth, the sociometric data that were collected were based on a low percentage of return and consent rates and therefore the validity of the aggression sociometric might have been hampered. That is, some of the highly aggressive children may not have been included in the sociometric due to low return rates in their classroom.

Strengths and Clinical Implications

This study contributed to the emotion development literature in several important ways. First, a strength of this study included its use of multiple reporters (i.e., self, peers) especially since the use of multiple methodologies at different levels of analyses that has been recently emphasized as a key methodological component necessary to understand the complex phenomenon of emotion processes (Larsen & Larsen-Prizmic, 2006). The participants reported on how they would regulate their anger and sadness in addition to peers reporting on each participant’s externalizing behavior. This approach is particularly important given that peers are thought to be the most valid reporters of other children’s aggressive behaviors (Weiss, Harris, & Catron, 2002). Second, the use of pilot testing was included to insure that the social cognitions included in this research had ecological validity. Further, the pilot testing was based on previous research
in which children provided their social cognitions in response to an open-ended question interview (Zeman & Garber, 1996).

Third, the examination of individual emotions (i.e., sadness, anger) is a strength because past research has typically examined negative emotion as a unitary construct. Our research is consistent with a functionalist approach that posits that emotions are organized around the functions they serve, not the facial expression or the physiological patterns that are observed (Witherington & Crichton, 2007). Therefore, it is the specific social inter-personal or intra-personal goal associated with the action instead of the outward manifestation of the way in which the action is completed that is important in distinguishing between emotions. Therefore, the current study investigated two specific negative emotions rather than negative emotions as a whole because of their different sets of goals and action tendencies.

Finally, the role of social cognitions has not yet been examined in the context of predicting internalizing symptoms; specifically, this study investigated how several specific social cognitions mediated the relationship between anger and sadness regulation and internalizing symptoms (i.e., depression and anxiety). This is an important relationship to investigate that has clinical implications. For instance, clients may be better served in therapy if psychologists are able to understand the mediating relationship between emotion regulation and internalizing symptomatology. That is, if a clinician is working with a child with depressive or anxious symptomatology, they can indirectly work on those
symptoms by focusing on developing ways to increase their client’s self-efficacy with respect to controlling their anger and sadness expression.

Continued studies in this area of research could be improved upon by remediating some of the weaknesses found in the current study. Regarding methodological issues, future studies should include an overall more diverse sampling of participants in race and SES status. In addition, current anxiety measures such as the Revised Children’s Manifest Anxiety Scale: Second Edition (RCMAS; Reynolds & Richmond, 1978) could be utilized that may be able to better assess anxiety in children than older measures, such as the STAIC. In regards to specific measures, future studies should include more than one measure of self-reported social cognitions. For instance, the ARI may be helpful in identifying some aspects of how or why children would choose to express their emotions, however another measure might be able to show agreement with the ARI and make the findings more robust. Additionally, to have a more complete understanding of a child’s social cognitions and internalizing symptomatology, it may be important to include parent-reports of children’s behavior in addition to children’s self-report assessment. The inclusion of the parent measure would allow for a clearer understanding of the participant’s depressive and anxious symptomatology. Although methodological improvements in the current study are needed in future studies, conceptual improvements are also needed.

Future research should include not only different negative emotions (i.e., worry) but also how emotion regulation operates in different cultures. That is, the
current research has typically investigated anger and sadness regulation in white, middle-class families, however given that emotion is highly influenced by context, it would be interesting to investigate these processes in African-American, Asian, Latino, and other populations. The relations between emotion regulation and internalizing and externalizing symptomatology may be mediated through other social cognitions than self-efficacy, as found in the current study. For instance, in an Asian culture, the social cognition, negative instrumental consequences, may mediate the relations between anger or sadness regulation and internalizing symptomatology because that culture is largely known as a collectivist society and acting in a helpful way that is beneficial to the group instead of the individual may be emphasized more than in Western cultures (Church et al., 2008).
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Appendix

**Sports-Mad:** “It’s the day of the big soccer game. Chris goes to the park to meet the rest of his team. His team doesn’t get to play because not enough kids showed up for the game. Late, when Chris is with his friend, he finds out that his friend didn’t show up because he forgot about the important soccer game and went to the movies instead. It makes Chris feel MAD.”

**Present-Mad:** “One day, Andrew gets a birthday present from his friend. He opens the present in front of his friend. The present is a t-shirt that Andrew has seen his friend wear once and he knows that his friend doesn’t like it. It makes Andrew feel MAD.”

**Party-Mad:** “John goes to a birthday party where he has a good time and everybody gets a bag of prizes. John is about to go home but can’t find the bag of prizes with his name on it. Then he sees that his friend has his bag of prizes and is getting ready to leave with it. It makes John feel MAD.”

**Sports-Sad:** “Nathan really wants to be on the baseball team. He tries out for the team. The next day, Nathan goes with his friend to the bulletin board that has the list of all the children who made the team. Nathan sees that he did not make the team and that his friend did. It makes Nathan feel SAD.”
Present-Sad: “One day David gets a Christmas present in the mail from his friend. From the shape of the box, it looks like the present that he had been hoping he would get. When David opens the present, in front of his friend, he sees that it is not anything that he wanted or would like to have. It makes David feel SAD.”

Party-Sad: “It is Steve’s friend’s birthday. Steven spent a long time planning a special birthday party for his friend. Once the party is planned, Steve tells his friend that he is going to throw him a special birthday party. Instead of being happy, Steve’s friend looks annoyed and tells him that he doesn’t want a big fuss. It makes Steve feel SAD.”
Table 1

*Total Confirmatory Percentages of Open-Ended Pilot Tested Vignettes for Anger and Sadness*

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Anger</th>
<th>Sadness/Disappointment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports</td>
<td>69.1</td>
<td>69.1</td>
</tr>
<tr>
<td>Present</td>
<td>47.7</td>
<td>33.2</td>
</tr>
</tbody>
</table>

*Note.* Questions asks, “How would you feel if this happened to you?”
Table 2

*Forced-Choice Emotion Ratings for Sports Vignette for Anger*

<table>
<thead>
<tr>
<th>Rating</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>6</td>
<td>14.3</td>
<td>17</td>
<td>40.5</td>
</tr>
<tr>
<td>A little</td>
<td>4</td>
<td>9.5</td>
<td>16</td>
<td>38.1</td>
</tr>
<tr>
<td>Some</td>
<td>10</td>
<td>23.8</td>
<td>7</td>
<td>16.7</td>
</tr>
<tr>
<td>A Lot</td>
<td>22</td>
<td>52.4</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td>Totals</td>
<td>32</td>
<td>76.2</td>
<td>9</td>
<td>21.5</td>
</tr>
</tbody>
</table>

*Note.* Totals = the number and percentage of responses for *some* and *a lot*
Table 3

*Forced-Choice Emotion Ratings for Present Vignette for Anger*

<table>
<thead>
<tr>
<th>Rating</th>
<th>Anger Frequency</th>
<th>Anger Percentage</th>
<th>Sadness Frequency</th>
<th>Sadness Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>14</td>
<td>33.3</td>
<td>24</td>
<td>57.1</td>
</tr>
<tr>
<td>A little</td>
<td>10</td>
<td>23.8</td>
<td>8</td>
<td>19.0</td>
</tr>
<tr>
<td>Some</td>
<td>13</td>
<td>31.0</td>
<td>7</td>
<td>16.7</td>
</tr>
<tr>
<td>A Lot</td>
<td>5</td>
<td>11.9</td>
<td>3</td>
<td>7.1</td>
</tr>
<tr>
<td>Totals</td>
<td>18</td>
<td>42.9</td>
<td>10</td>
<td>23.8</td>
</tr>
</tbody>
</table>

*Note.* Totals = the number and percentage of responses for *some* and *a lot*
Table 4

*Forced-Choice Emotion Ratings for Sports Vignette for Sadness*

<table>
<thead>
<tr>
<th>Rating</th>
<th>Anger Frequency</th>
<th>Anger Percentage</th>
<th>Sadness Frequency</th>
<th>Sadness Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>7</td>
<td>16.7</td>
<td>5</td>
<td>11.9</td>
</tr>
<tr>
<td>A little</td>
<td>18</td>
<td>42.9</td>
<td>5</td>
<td>11.9</td>
</tr>
<tr>
<td>Some</td>
<td>10</td>
<td>23.8</td>
<td>9</td>
<td>21.4</td>
</tr>
<tr>
<td>A Lot</td>
<td>7</td>
<td>16.7</td>
<td>23</td>
<td>54.8</td>
</tr>
<tr>
<td>Totals</td>
<td>17</td>
<td>40.5</td>
<td>32</td>
<td>76.2</td>
</tr>
</tbody>
</table>

*Note.* Totals = the number and percentage of responses for *some* and *a lot*
Table 5

*Forced-Choice Emotion Ratings for Present Vignette for Sadness*

<table>
<thead>
<tr>
<th>Rating</th>
<th>Anger Frequency</th>
<th>Anger Percentage</th>
<th>Sadness Frequency</th>
<th>Sadness Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>22</td>
<td>52.4</td>
<td>11</td>
<td>26.2</td>
</tr>
<tr>
<td>A little</td>
<td>9</td>
<td>21.4</td>
<td>20</td>
<td>47.6</td>
</tr>
<tr>
<td>Some</td>
<td>8</td>
<td>19.0</td>
<td>8</td>
<td>19.0</td>
</tr>
<tr>
<td>A Lot</td>
<td>3</td>
<td>7.1</td>
<td>3</td>
<td>7.1</td>
</tr>
<tr>
<td>Totals</td>
<td>11</td>
<td>26.1</td>
<td>11</td>
<td>26.1</td>
</tr>
</tbody>
</table>

*Note.* Totals = the number and percentage of responses for *some* and *a lot*
Table 6

*Means and Standard Deviations for Anger Cognitions by Gender*

<table>
<thead>
<tr>
<th>Cognition</th>
<th>M</th>
<th>SD</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>subscales</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Regulation</td>
<td>7.07</td>
<td>7.74</td>
<td>1.86</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>6.22</td>
<td>5.91</td>
<td>2.25</td>
</tr>
<tr>
<td>Prosocial</td>
<td>7.47</td>
<td>7.19</td>
<td>1.73</td>
</tr>
<tr>
<td>Pos. Interp. Con.</td>
<td>6.69</td>
<td>6.15</td>
<td>1.84</td>
</tr>
<tr>
<td>Neg. Interp Con.</td>
<td>9.25</td>
<td>9.27</td>
<td>1.94</td>
</tr>
<tr>
<td>Neg. Instru Con.</td>
<td>8.19</td>
<td>8.22</td>
<td>2.04</td>
</tr>
<tr>
<td>Norm Maint.</td>
<td>7.72</td>
<td>6.74</td>
<td>2.09</td>
</tr>
</tbody>
</table>

*Note. * p < .05, ** p < .01, *** p < .001. Pos. Interp Con. = positive interpersonal consequences. Neg. Interp Con. = negative interpersonal consequences. Neg. Instru Con. = negative instrumental consequences. Norm maint = norm maintenance.*
Table 7

Means and Standard Deviations for Sad Cognitions by Gender

<table>
<thead>
<tr>
<th>Cognition</th>
<th>M Male</th>
<th>SD Male</th>
<th>M Female</th>
<th>SD Female</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation</td>
<td>8.13</td>
<td>1.99</td>
<td>7.85</td>
<td>1.78</td>
<td>1.28</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>5.67</td>
<td>2.09</td>
<td>5.76</td>
<td>1.61</td>
<td>-.41</td>
</tr>
<tr>
<td>Prosocial</td>
<td>7.93</td>
<td>1.85</td>
<td>7.75</td>
<td>1.76</td>
<td>.86</td>
</tr>
<tr>
<td>Pos. Interp Con.</td>
<td>6.55</td>
<td>2.05</td>
<td>6.31</td>
<td>1.53</td>
<td>1.12</td>
</tr>
<tr>
<td>Neg. Interp Con.</td>
<td>9.18</td>
<td>2.21</td>
<td>9.56</td>
<td>1.72</td>
<td>-1.65</td>
</tr>
<tr>
<td>Neg. Instru Con.</td>
<td>8.72</td>
<td>2.28</td>
<td>8.85</td>
<td>1.72</td>
<td>-.54</td>
</tr>
<tr>
<td>Norm Maint</td>
<td>7.46</td>
<td>2.31</td>
<td>6.49</td>
<td>1.94</td>
<td>3.93***</td>
</tr>
</tbody>
</table>

Note. * p < .05, ** p < .01, *** p < .001. Pos. Interp Con. = positive interpersonal consequences. Neg. Interp Con. = negative interpersonal consequences. Neg. Instru Con. = negative instrumental consequences. Norm maint. = norm maintenance.
Table 8

*Internal Consistency for ARI subscales*

<table>
<thead>
<tr>
<th>Cognition Subscales</th>
<th>Anger</th>
<th>Sadness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation</td>
<td>.37</td>
<td>.46</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>.64</td>
<td>.60</td>
</tr>
<tr>
<td>Prosocial</td>
<td>.38</td>
<td>.54</td>
</tr>
<tr>
<td>Understanding</td>
<td>.53</td>
<td>.57</td>
</tr>
<tr>
<td>Negative Interpersonal Consequences</td>
<td>.57</td>
<td>.69</td>
</tr>
<tr>
<td>Negative Instrumental Consequences</td>
<td>.56</td>
<td>.65</td>
</tr>
<tr>
<td>Norm Maintenance</td>
<td>.63</td>
<td>.74</td>
</tr>
</tbody>
</table>

*Note.* All reliability statistics based on Cronbach’s alpha.
Table 9

Mediation Effects of Anger Self-Efficacy (S.E.) on the Relation Between Anger Regulation and Depressive Symptoms

<table>
<thead>
<tr>
<th>Step</th>
<th>Predictors</th>
<th>Beta</th>
<th>t</th>
<th>R² change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>A. Reg</td>
<td>-.27</td>
<td>-3.43**</td>
<td>.10***</td>
</tr>
<tr>
<td>Step 2</td>
<td>A. Reg</td>
<td>-.18</td>
<td>-2.28*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S.E.</td>
<td>.27</td>
<td>3.39**</td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .05, **p < .01, ***p < .001, A. Reg = Anger Regulation, A.S.E. = Anger Self-Efficacy, CDI = Children’ Depression Inventory.
Table 10

Mediation Effects of Self-Efficacy (S.E.) on the Relation Between Sadness Regulation and Depressive Symptoms

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Beta</th>
<th>t</th>
<th>$R^2$ change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>S. Reg</td>
<td>-.19</td>
<td>-2.40*</td>
</tr>
<tr>
<td>Step 2</td>
<td>S. Reg</td>
<td>-.14</td>
<td>-1.72</td>
</tr>
<tr>
<td></td>
<td>S.E.</td>
<td>.26</td>
<td>3.25**</td>
</tr>
</tbody>
</table>

Note. *p < .05; **p < .01; ***p < .001, S. Reg = Sadness Regulation, S.E. = Self-Efficacy
Curriculum Vitae

Gina Veits
2704 Carriage House Way
Williamsburg, VA 23188
gmveits@wm.edu (757) 784-2339

Education:

College of William and Mary
Psychology M.A. Program
Expected Date of Graduation: August, 2009

University of Maine at Orono
B.A. Psychology, magna cum laude
August, 2001-May, 2005

Honors Societies and Professional Memberships:

Eastern Psychological Association
American Psychological Association
Society for Research in Child Development
Association for Behavioral and Cognitive Therapies
Phi Beta Kappa Honors Fraternity
Psi Chi Psychology Honors Society

Awards:

University of Maine John W. Nichols Award
(awarded to a student that demonstrates outstanding academic achievement along with a willingness to give his or her time and energy to service and/or research with handicapped or normal children)

Bangor Business and Professional Women’s Scholarship

University of Maine Department of Psychology Faculty Award,
(awarded to a student that demonstrates potential in the field of psychology)
Grants:

Research Grant ($350) 
College of William and Mary Arts and Sciences Graduate Research 
Research Grant ($300) 
College of William and Mary Graduate Student Association 
Research Grant ($350) 
College of William and Mary Graduate Student Association

Research Experience:

Master's Thesis 
"The Role of Social Cognitions on Internalizing and Externalizing Behaviors and Psychopathology" 
This study examines the socialization of emotion in peer relationships and the linkages to internalizing and externalizing behaviors through social cognitions. The specific goal of this study is to explore the potential relations between emotion regulation decisions, social cognitions (i.e., reasons for emotion regulation decisions; methods of emotion regulation) and psychological symptomatology in children. Specific tasks include data analysis, preparation and presentation of findings.

Supervisor: Janice Zeman, PhD

Graduate Research Assistant 
"Peer Socialization of Emotion: The Impact of Friendship and Peer Group" 
This study examines the emotional development in friendships and seeks to understand how children express emotion in the unique context of friendships and peer relations. The specific aims are to investigate the ways in which friends communicate about emotions and how youth decide to manage emotions in two different contexts to illuminate mechanisms underlying emotional development in friendships and peer groups. Specific tasks include project recruitment, data collection, preparation and presentation of findings.

Supervisor: Janice Zeman, Ph.D

Honors Thesis (University of Maine) 
"The role of fathers in developmental psychopathology research" 
Located 349 articles in four journals, (i.e., Development and Psychopathology, Developmental Psychology, Journal of Clinical Child Psychology, and Child Development), that complied with study criteria, developed a coding system, entered and analyzed data, and wrote the results in thesis format.

Supervisor: Janice Zeman, Ph.D
Role of Social Cognitions 88

Research Assistant (University of Maine) September, 2003-May, 2005
“Parental socialization of emotion regulation”
Recruited parents for research study; entered data; scored psychological questionnaires (i.e., CBCL, emotion regulation measures)
Supervisors: Janice Zeman, Ph.D., & Michael Cassano, M.A.

Publications:


Research Conference Presentations (Peer-Reviewed):

Veits, G., & Zeman, J. (2009, March). *Peer-rated aggression and anger regulation: Do social cognitions play a role?* Presented at the College of William and Mary’s Annual Graduate Research Symposium, Williamsburg, VA.


Veits, G., & Zeman, J. (2008, February). Emotion regulation: Do children have different reactions in different contexts?. Department of Psychology colloquium presentation, College of William and Mary, Williamsburg, VA.


Clinical Experience:

Summer Treatment Program Counselor: June, 2008-August, 2008
Buffalo, NY
Participated in delivering effective treatment to fifteen 5-7 year old children with ADHD. Worked on behavioral and emotional issues through the use of behavior modification techniques. Collected and entered data from each child throughout the day and tracked specific problem behaviors to deliver a more effective treatment.
Supervisor: Dr. William Pelham, PhD

Williamsburg, VA
Lead small group activities with low-functioning adult schizophrenic patients to increase fine and gross motor functioning and engage in social situations.
Supervisor: Christine Armstead, PsyD.
School Substance Abuse Counselor: Ellsworth, ME
Worked with referred students in grades 6-12 in a one-on-one clinical assessment setting and taught substance abuse prevention to grades 6-8. Work as the advisor to the Student Health Awareness Group. Group awarded the 2006 Maine Youth Advocacy Award by the American Lung Association of Maine, while under my direction.
Supervisor: Barbara Royal, LADC

Teacher’s Assistant: Orono, ME
September, 2004-May, 2005
Helped teach pre-academics to children ages 2-5 at the University of Maine Child Study Center. Also observed their emotional and physical development within the context of the Child Study Laboratory class.