EMOTION MANAGEMENT SKILLS IN CHILDREN WITH EXTERNALIZING DISORDERS

by

AMY MARGARET BROWN

(Under the Direction of Kimberly Shipman, Ph.D.)

ABSTRACT

The present study investigated emotion management skills (i.e., emotion decoding, emotional understanding) in externalizing and nonexternalizing children. Eighteen externalizing children, 18 control children, and their mothers were recruited for participation from community programs, including the Head Start Program and YMCA. Children were administered questionnaires designed to measure emotion management skills. Mothers completed a measure assessing children's level of externalizing symptomatology. Findings indicated that externalizing children demonstrated similar levels of emotional understanding and emotion decoding skills. Further, externalizing children did not demonstrate a bias for expressions of anger when decoding expressions of sadness and fear. Findings suggest the importance of observational research that places children in real-life situations given that externalizing children tend to show deficits in emotion management in interpersonal settings.

INDEX WORDS: Childhood aggression, Emotional understanding skills, Decoding of emotional expressions

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AMY MARGARET BROWN

B.A., The University of Kansas, 1998

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

MASTER OF SCIENCE

ATHENS, GEORGIA

2003

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AMY MARGARET BROWN

Major Professor: Kimberly Shipman

Committee: Nader Amir
Ronald Blount

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
May 2003

ACKNOWLEDGEMENTS

I would like to extend my gratitude and appreciation to several important people who have supported me through this process. First, I would like to thank my colleagues and friends at the University of Georgia for their contributions, feedback, and continued support. In particular, I want to express my gratitude to my committee members whose contributions helped me to develop and refine this project. I would like to thank my parents, Carol and Tom Brown, for instilling in me the confidence and determination necessary to achieve my professional and personal goals. Finally, my sincerest thanks go to my academic advisor, Kimberly Shipman, for her assistance with this project and for providing me with the skills to complete this project successfully.

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CHAPTER 1

INTRODUCTION

Healthy emotional development has long been considered a crucial component of children's physical and psychological welfare. Not until recently, however, have researchers begun to investigate the factors that underlie competent emotional development (Parke, Cassidy, Burks, Carson, & Boyum, 1992; Saarni, 1990, 1999). Current research in this area has focused on the normative development of skills within three emotion management categories (a) emotion encoding/decoding which involves the ability to produce clear and appropriate emotional displays and to recognize others' emotional expressions, (b) emotional understanding which involves understanding the causes and consequences of emotional expression as well as the appropriate responses to others' emotional displays, and (c) emotion regulation which involves the ability to maintain, accentuate, prolong, as well as subdue or inhibit an emotional state (Thompson, 1994). Research suggests that skills within each of these categories develop within an interpersonal context (Parke, et al., 1992) and relate to children's social competence (Custrini & Feldman, 1989; Denham, McKinley, Couchoud, & Holt, 1990; Eisenberg & Fabes, 1992,1995; McDowell, O'Neil, & Parke, 2000). Children who are adept at these emotion management skills have a greater propensity toward developing positive relationships with others in their environment. This demonstrates the importance of the development of these skills to children's ability to function adaptively in interpersonal contexts.

Research examining the development of emotion management skills in children who deviate from normal course of emotional development has been limited. Specifically, within childhood psychopathology literature, researchers have primarily focused on environmental (e.g., child abuse) or genetic risk factors contributing to the onset of childhood psychopathology, yet little attention has been given to the investigation of the skills of emotional development that may underlie psychopathology. Examining emotion management skills will increase the understanding of the processes underlying childhood psychopathology and will aid in the development of effective intervention techniques. The present study intends to examine the relation between emotion management skills and psychological maladjustment in children, specifically children with externalizing disorders, in order to identify emotional processes that may underlie externalizing symptomatology.

Theoretical Foundation

The functionalist approach to emotional development provides a foundation for understanding the importance of the emotion management skills to children's social and psychological adjustment (Barrett & Campos, 1987; Campos, Campos & Barrett, 1989; Saarni, Mumme & Campos, 1998). Historically, emotions have been viewed as subjective feeling states that have no impact on external events (Clore & Ortony, 1984; James, 1890). In contrast, the functionalist approach emphasizes the social significance of emotions, viewing emotions as social signals that can greatly influence one's environment. According to functionalist theory, emotions are "bi-directional processes of establishing, maintaining, and/or disrupting significant relationships between the organism and the external or internal environment" (Barrett & Campos, 1987, p.558).

Thus, rather than emphasizing the feeling or internal experience of emotion, the functionalist definition of emotion emphasizes the action that accompanies emotion and the significance of this action for one's environment. The way in which one communicates emotion through action can substantially influence the nature and the valence of social interactions.

According to the functionalist approach, each emotion is associated with certain goals and functions, which may be interpersonal and/or intrapersonal in nature (Campos, Campos, & Barrett, 1989). For example, anger functions intrapersonally to signal that an obstacle is hindering one's attainment of a goal while, at the same time, functions interpersonally to overcome that obstacle. Similarly, sadness functions to elicit help in situations in which an individual recognizes he or she will be unable to attain the desired goal without assistance. For example, the function of a baby's crying is to elicit comfort from a caregiver. Functions associated with emotions tend to be emotion-specific, and an individual's ability to use an emotion appropriately to attain a goal may vary per emotion-type.

Functionalist theory underscores the concept that emotions are social in nature and highlights the role that emotion management skills may play in children's psychosocial adjustment. When an individual experiences and expresses an emotion, the presence of the emotion not only impacts the individual, but also those within one's external environment. This point may be illustrated by examining peer relationships. Positive peer relationships are important to children's social adjustment (Dubow & Cappas, 1988) and emotions play a key role in maintaining positive relationships. As such, deficits in emotion management skills may interfere with children's ability to adapt

successfully within their social environment (Webster-Stratton & Lindsay, 1999). For example, a child who misinterprets the emotion expression of others within peer interaction is likely to respond inappropriately, increasing his risk for peer rejection and behavioral dysregulation. That is, if a peer approaches the child in a friendly manner and the child responds inappropriately by becoming hostile, the peer may be prone to respond in an equally hostile manner. In this example, the child's inability to interpret the emotion signals of others has interfered with his ability to respond appropriately to the friendly overtures by peers, resulting in a negative interaction. In this way, adaptive social functioning relies on the development of emotion management skills, which help children to effectively establish and maintain positive social relationships (Boccia & Campos, 1989).

Saarni (1990, 1999) offers a theory of emotional development that similarly emphasizes the role that emotions play in adaptive psychosocial functioning. Consistent with the functionalist approach, she contends that emotions are social in nature and emphasizes the importance of the emotion management skills to the development of socioemotional competence. Saarni (1999) identified eight skills that are important to the development of emotional competence. These skills can best be described in relation to the three emotion management categories previously discussed. The first two skills that Saarni presents are closely related to the encoding/decoding skills of emotion management (Parke et al., 1992). The first skill reflects the importance of developing a sense of emotional awareness, which includes an ability to recognize one's own emotional state and to distinguish among multiple emotions that may be experienced simultaneously. Saarni contends that this awareness becomes more complex with

development and, as a result, one's capacity to recognize and communicate emotional experiences increases with age. The second skill involves an ability to effectively interpret others' emotions based on situational and expressive cues of emotion.

Saarni (1999) also presents several skills that make up children's emotional understanding (Parke et al., 1992). These skills include understanding the causes of emotions, such as the situational cues that elicit emotional experiences, as well as the consequences of one's emotional-expressive behavior on interactions. Saarni asserts that emotional understanding promotes an appreciation for others' emotional experiences and an awareness for how best to respond to others' emotional expression.

The final skills that Saarni considers to be essential to emotional competence involve emotion regulation. These skills include an ability to regulate both the external expression and the internal experience of emotion (Parke et al., 1992). Attaining emotion regulation involves a capacity to cope with distressing emotions by using self-regulatory strategies (i.e., redirecting emotional experience, altering emotional expression). Given that self-regulatory strategies facilitate positive social interactions and psychological health, an ability to efficiently regulate emotions relates to social competence and psychological adjustment (Saarni, 1999).

Emotion Management Skills and Social Competence

Empirical research supports tenets of emotion theory by demonstrating that emotion management skills relate to social competence. Findings from normative research have concluded that encoding and decoding skills are important to the development of social competence because they enhance one's ability to effectively communicate their emotions to others, interpret others' emotions, and to respond

appropriately to others' emotions (Custrini & Feldman, 1989; Hesse & Cicchetti, 1982; Olson, 1988; Nowicki & Mitchell, 1998; Parke et al., 1992). For example, Edwards, Manstead, and McDonald (1984) as well as other researchers (Beitel & Parke, 1986; Walden & Field, 1988) have demonstrated that children's ability to recognize facial expressions of emotion is positively related to their sociometric rating. Furthermore, encoding and decoding skills can be particularly helpful in dealing with interpersonal conflict (Kopp, 1989) given that children who are adept at these skills are more likely to discern other's intentions and respond appropriately during confrontations.

Emotional understanding helps children interpret their own emotional experiences with greater sophistication, fosters interpretations of the emotional experiences of others based on situational cues, and it enhances children's competence at inferring emotions in others when direct cues are unavailable (Parke et al., 1992; Thompson, 1989). Findings suggest that emotional understanding is essential to children's socioemotional competence (Denham, McKinley, Couchoud, & Holt, 1990). In particular, Cassidy, Parke, Butkovsky, and Braungart (1992) found that children's ability to identify emotions, understand the causes and consequences of emotions, as well as acknowledge the emotional experiences within themselves were all positively correlated with peer acceptance.

Although researchers have described emotion regulation as an essential component of children's social competence (Gross, 1998; Saarni, 1990, 1999), research examining the relation between emotion regulation and social functioning is limited. Theorists contend that regulation of emotional experience and expression serves a social regulatory function (Kopp, 1989; Fainsilber-Katz & Gottman, 1994; Underwood, 1997).

Successful emotion regulation leads to optimal emotional arousal, which promotes social competence (Gross, 1998). An inability to regulate emotions leads to emotional and physiological overarousal and disrupts adaptive social interactions. The one available study examining the direct relation between emotion regulation and social competence found that well-regulated children (i.e., low in negative emotional intensity, high in attentional control) were viewed as more socially competent by teachers as compared to dysregulated children (Eisenberg and Fabes, 1995), suggesting that this skill facilitates children's social adjustment.

Emotion Management Skills and Psychopathology

Although emotion theorists (Barrett & Campos, 1987; Saarni et al, 1998) suggest that deficits in emotion management skills are related to psychosocial problems in children (Barrett & Campos, 1987), few studies have examined the relation between these skills and childhood psychopathology (Garber, Braafladt, & Weiss, 1995; Southam-Gerow & Kendall, 2000). This is particularly surprising with regard to externalizing disorders given that deficits in emotion management skills may underlie their behavioral dysregulation and social skills deficits. In particular, research indicates that children with externalizing disorders tend to have difficulties managing strong negative affect (e.g., aggression), they miss emotional cues from others (Zabel, 1979), and they tend to respond to others inappropriately and with more aggression than other children (Casey & Schlosser, 1994; Zahn-Waxler et al., 1994). Moreover, research on hostile attributional biases (Dodge, 1983, 1986) has suggested that externalizing children tend to misinterpret social cues as angry or aggressive more often than well-adjusted children (Dodge, 1983).

It may be that their bias for social cues is actually the result of misinterpreting emotional cues that regularly occur during social encounters.

While there is evidence to suggest that externalizing problems in children involve dysregulated emotional and behavioral functioning (Casey & Schlosser, 1994; Cole, Zahn-Waxler, & Smith, 1994), research has just begun to examine how processes in emotional development may differ for these children. The following sections review the limited existing literature examining the emotion management skills in children with externalizing disorders.

Encoding and Decoding Skills. Research has demonstrated that children with externalizing disorders are less able to encode emotional expressions compared to well-adjusted children. In a study by Casey and Schlosser (1994), children diagnosed with oppositional defiant disorders and conduct disorders were examined to identify their awareness of their own emotional expressions in response to a positive social situation. Diagnosed and nondiagnosed children aged 7 to 14 years were compared on their response to positive peer feedback from a same-gender, same-age peer. Children diagnosed with an externalizing disorder reported a positive response to positive peer feedback; however, they displayed more expressions of hostility and surprise compared to the nondiagnosed children in response to the positive peer feedback. Diagnosed children demonstrated deficient encoding skills in comparison to nondiagnosed children, given that diagnosed children's self-report of their inner emotional experience was discordant with their facial expression compared to controls.

Four studies have examined the ability of children with externalizing disorders to decode facial expressions of emotions. Research has demonstrated that children with

externalizing disorders tend to be less able to accurately decode expressions of emotion compared to psychologically healthy children; however, results have been inconsistent across studies. Zabel (1979) compared children who exhibited externalizing problems to healthy children in their abilities to recognize facial expressions. Children in the externalizing group were characterized by behavioral problems that were too severe to be managed in regular schools. Facial expressions of emotions shown to the children included happy, mad, sad, surprised, afraid and disgusted expressions. Results indicated that children with externalizing problems scored significantly lower in their recognition of facial expressions than healthy children when comparing overall mean emotion recognition scores. Analyses examining accuracy for each emotion demonstrated that externalizing children's ability to accurately recognize sad, fearful, and disgusted facial expressions was significantly lower than that of the control group. No differences were found for happy, surprised, or angry facial expressions.

A similar study focused on children and adolescents diagnosed with conduct disorders (Strand & Nowicki, 1999). Subjects completed the Diagnostic Analysis of Nonverbal Accuracy (DANVA; Nowicki & Duke, 1994), which examined the subjects' ability to accurately decode facial expressions, postures, gestures, and tone of voices. The children's ability to decode children's and adults' facial expressions as well as emotions communicated through vocal tones was examined. Conduct disordered children ranged from 8 to 16 years of age and were matched to non-disturbed children on age, race, gender, intelligence, and socioeconomic status. Results indicated that children and adolescents diagnosed with conduct disorders were significantly less accurate in decoding facial expressions of emotion and emotions communicated through vocal tones

compared to the control group. The study did not analyze decoding skills by emotion type.

Lancelot and Nowicki (1997) examined decoding abilities in children who had been institutionalized for various psychological difficulties, including externalizing disorders. Children were administered the DANVA (Nowicki & Duke, 1994) to assess decoding facial expressions and tone of voices. Emotions that the subjects identified included happy, sad, angry, and fearful. Results suggested that accuracy in decoding emotions was negatively correlated with the magnitude of externalizing problems in girls. Girls who were less adept at recognizing the expressive cues of others exhibited more behavioral problems (i.e., aggression and anger) than girls more adept at this skill. Accuracy in decoding was not associated with the number of externalizing problems in boys. Researchers concluded that decoding abilities may be more important for girls' adjustment than for boys'. This finding suggests that the relation between decoding skills and psychopathology may differ as a function of gender.

In contrast to other studies, a study by Egan, Brown, Goonan, Goonan, and Celano (1998) yielded results indicating no difference across groups. Egan and colleagues examined the ability to decode verbal and nonverbal expressive cues of emotions comparing children with externalizing disorders to medically ill children and normally developing, psychologically healthy children. Children were shown videos of happy, angry, sad, or neutral expressions and were instructed to identify the emotion of the video across four different modalities including verbal, vocal, facial, and combined. Results did not support their hypotheses that children with externalizing disorders would be less accurate than children in the other two groups in decoding emotional expressions.

Accuracy in decoding, however, did increase with child age, supporting a developmental progression of this skill.

Emotional Understanding. Research examining the ability to understand the causes and consequences of emotions in children with psychological maladjustment is sparse. The one available study by Cook, Greenberg, and Kusche (1994) examined the understanding of the causes of emotions in children with externalizing problems. Subjects ranged from 6 to 10 years of age and were classified as low, moderate, and high in behavior problems. The first task involved asking the children to provide examples of situations in which they felt different emotions: "Tell me about a time when you felt *emotion*." During the second task, children were asked: "How do you know when other people are *emotion*." Both tasks included two sets of emotions: basic (i.e., happy, sad, mad, scared, love) and complex (proud, guilty, jealous, nervous/anxious, and lonely).

Based on the appropriateness of their response, children were rated on their level of understanding the causes of emotions and their ability to accurately identify the expression of emotions in themselves and in others. Results indicated that children with elevated levels of behavior problems generated fewer appropriate examples for all emotions. Children with moderate problems demonstrated problems with complex feelings. Researchers concluded that lower-level responses for basic emotions may be related to behavior problems, and inappropriate responses for complex emotions may be associated with cognitive difficulties related to behavioral difficulties. Although results suggest that children with externalizing problems are less able to accurately report the causes of emotions, this study neglected to examine other aspects of emotional

understanding (i.e., consequences of emotions, appropriate responses to others' emotions, emotional self-awareness), which are equally important elements of this skill.

Emotion Regulation. Past research has suggested that emotion regulation is crucial for healthy socioemotional functioning. The ability to regulate emotional responses helps individuals to respond effectively to opportunities and challenges, to achieve social goals, and to maintain positive relationships with others (Gross, 1998). Researchers have purported that children with externalizing disorders, who exhibit difficulties with anger, irritability, and a lack of positive relationships, demonstrate maladaptive emotional expression and regulation of emotion (Casey & Schlosser, 1994). Problems regulating emotions may contribute in part for the lack of positive affiliations with others. When children are unable to effectively regulate their emotions, patterns of emotion dysregulation emerge, which are characterized by under- and over-control of emotion (Cole, Michel, & O'Donnell-Teti, 1994). A study by Zahn-Waxler et al. (1994) examined emotion regulation in children with externalizing disorders. Results indicated that children with externalizing symptomatology tend to report greater use of aggressive strategies to cope with stressful situations compared to children without externalizing difficulties. Researchers concluded that emotional under-regulation may characterize externalizing emotional behavior.

Limits of the Past Research

Although past research has made important contributions, several limitations should be noted. Lack of clarity concerning the relation between emotion management skills and externalizing symptomatology in children remains. There is limited research examining this relation and investigations have indicated inconsistent results (Egan et al.,

1998; Strand & Nowicki, 1999). Further, with one exception, past studies examining decoding skills have neglected to examine decoding skills based on emotion type. According to functionalist approach (Barrett & Campos, 1987; Campos, Campos & Barrett, 1989; Saarni et al., 1998), children have different learning experiences for different emotions. For example, children learn that others' responses to the display of different emotions varies by emotion type. Given the varied learning experience for each emotion, an individual's emotional competence level may differ per emotion type. Thus, it is not only important to examine the ability of externalizing children to decode emotions compared to healthy controls, but to also examine whether decoding skills differ for externalizing children based on emotion type. Further, no studies have examined the types of mistakes externalizing children are making, which will help to analyze whether a bias is present. For example, it may be that children with externalizing disorders misinterpret expressions of sadness as anger, which would lead to an inappropriate social response.

For emotional understanding, only one study has been conducted to examine the relation between this skill and externalizing symptomatology in children, and it contained several limitations. In part, this study was limited in their measurement of emotional understanding, neglecting to examine the ability of externalizing children to understand consequences of emotions and the appropriate responses to others' display of emotions, which are also important aspects of emotional understanding (Saarni, 1999). Clearly, further investigation is necessary to determine whether their findings will hold up, especially with the inclusion of all aspects of emotional understanding. The one study available also neglected to examine emotional understanding by emotion type. Based on

functionalist perspective (Barrett & Campos, 1987; Campos et al., 1989; Saarni et al., 1998), it is important to examine emotion management skills by emotion type given that competence may differ as a function of emotion. Therefore, despite the fact that research examining the emotion management skills may facilitate the understanding of the processes underlying externalizing psychopathology in children, the availability of research examining externalizing symptoms and emotion management skills has been limited and inconsistent.

Present Study

Consistent with the functionalist approach, the present study will examine emotion management skills in children with externalizing disorders and psychologically healthy controls in order to examine differences in emotional development as a function of psychopathology. Decoding skills and emotional understanding skills were selected given that these two skills are considered elementary skills of emotional competence that must be adequately established in order to develop more advanced skills of emotional development, such as emotion regulation (Saarni, 1999). Without these skills, emotional competence cannot be attained and problems with dysregulated emotions and behaviors are likely to arise. According to the Diagnostic and Statistical Manual of Mental Disorders (4th ed., Text Revision [DSM-IV-TR]; American Psychiatric Association, 2000), difficulties with emotions are characteristic features of many psychological disorders (Cole et al., 1994) and, in particular, it is speculated that emotion dysregulation contributes to and may even cause psychological disturbances (Cicchetti, Ackerman, & Izard, 1995; Cole et al., 1994; Garber & Dodge, 1991). Similarly, externalizing problems are characterized by dysregulation of emotions. Thus, the present study emphasized

these two skills because, although it is clear that children with externalizing problems have dysregulated emotional behaviors, the types of deficits in basic skills that may be leading to dysregulation are unclear.

Based on the functionalist theory (Barrett & Campos, 1987), emotional competence fosters one's ability to reach their objectives and attain interpersonal/intrapersonal goals. Goals associated with emotions differ based on emotion type. It may be that a failure to understand certain emotions has a bigger impact on the child than a failure to understand other emotions. In order to identify whether certain emotion(s) are more related to externalizing disorders, several emotion types were included (i.e., anger, sadness, fear, and happiness).

Hypotheses

Based on functionalist theory and the importance of emotion management skills to children's psychological welfare, it was hypothesized that decreased skills in managing negative emotions (e.g., angry, sad, fearful) will be related to externalizing symptomatology. Consistent with research demonstrating a hostile attribution bias for social cues in externalizing children, children with externalizing disorders will be significantly less accurate in decoding others' expressive cues of sadness and fear compared to normal children. Children with externalizing disorders will demonstrate a bias toward anger, misinterpreting emotional cues of sadness and fear as expressions of anger. In regards to emotional understanding skills, it was hypothesized that children with externalizing disorders would be significantly less accurate in their emotional understanding of sadness, anger, and fear compared to normal children.

CHAPTER 2

METHODS

Participants

Thirty-six children between 6 and 11 years of age and their mothers were recruited from a Head Start Program, a temporary job placement organization, community pools, and after-school programs. Efforts to recruit children mainly involved approaching mothers directly as well as contacting families who were informed of the project by flyers. Graduate research assistants contacted families to schedule interview times. The sample of externalizing and nonexternalizing children consisted of 24 boys (12 externalizing, 12 control) and 12 girls (6 externalizing, 6 control). Psychologically healthy controls were matched with externalizing children on child age (within 1 year), child gender, and race. Findings indicated that there were no significant differences in relation to child age in the externalizing (M = 112 months, SD = 19 months) and the control (M = 100 months, SD = 23 months) groups. In relation to socioeconomic status as measured by the Hollingshead Four Factor Index (1975), families ranged from low (unskilled and semi-skilled workers) to middle (clerical/skilled craftsmen, minor professional/technical positions) socio-economic status with no significant differences between the externalizing (M = 26.39, SD = 13.69) and the control (M = 30.31, SD = 10.38) groups. Finally, in relation to racial composition of the families, 67% of the participants in both groups were of African-American heritage, 28% were Caucasian, and 5% reported being Bi-racial.

Power Analysis

Power analysis was computed according to Cohen (1988). In calculating effect size, findings from past studies demonstrated that effect sizes tend to be large. Using the formula *r = SQRT(F/F+df)* (Rosenthal & Rosnow, 1984), previous studies demonstrated that, with power set at .80, an alpha level of .05, and a large effect size of .15, a minimum of 17 subjects per group is needed (Cohen, 1988) (see Table 1).

Measures

Decoding Skills. The Diagnostic Analysis of Nonverbal Accuracy Scale, (DANVA; Nowicki & Duke, 1994) assessed children's abilities to accurately decode others' expressive cues of emotions. Subtests included decoding abilities for facial expressions and paralanguage. The facial expressions subtest consisted of 48 pictures showing facial expressions. Of the 48 pictures, 24 depicted adult expressions and 24 showed children's expressions. For both adult and child facial expressions, there is an equal number of happy, sad, angry, and fearful facial expressions of high and low intensities (Nowicki & Carton, 1993). For adult faces, internal consistency as indicated by Cronbach coefficient alpha was α=.68, and test-retest reliability over two months was r=.84 (Nowicki & Carton, 1993). Internal consistency for child faces has also been established, ranging from α=.69 to α=.81, and test-retest reliability was r=.74 (Nowicki & Carton, 1993). The paralanguage subtest included 24 trials in which the sentence "I am going out of the room now, but I will be back later" was said in a manner reflecting happy, sad, angry, or fearful affect. The adult voices has an internal consistency of α=.70 (Collins, 1996) and test-retest reliability over six weeks of r=.83 (Nowicki, 1995), and

a=.74 and r=.88 for child voices. Validity was established for children and adults (Nowicki & Duke, 1994).

Anger bias scores will be determined by comparing the number of times children from both groups responded with the anger label for expressions of sadness and fear on facial and paralanguage tests.

Emotional Understanding. The Emotional Understanding Interview, (EUI; Cassidy, Parke, Butkovsky, & Braungart, 1992) evaluated children's understanding of causes and consequences of emotional experience as well as their ability to respond appropriately to emotional expressions of others. During the EUI, children looked at pictures of a child experiencing one of four emotions (e.g., happiness, sadness, anger, fear), and then answered a series of questions that reflect the child's understanding of the causes, consequences, and personal experiences of that emotion. The questionnaire consists of five scales that assess: (a) identification of emotion (e.g., "How do you think this child is feeling?"), (b) experience of emotion (e.g., "Do you ever feel like this?"), (c) causes of emotions (e.g., "What kinds of things make you feel this way?"), (d) expression of emotion (e.g., "When you feel this way, do you let other people know how you feel?"), and (e) action responses to emotional displays (If your mom saw you looking this way, what would she do?"). The five scales may be combined to form an overall emotional understanding score based on principal components analysis of responses of children as young as five years of age (Cassidy et al., 1992). Research has demonstrated high interrater agreement and has also supported construct validity by demonstrating relations between emotional understanding and children's social competence (Cassidy et al., 1992).

Child report of anxiety. Children's self-report of anxiety symptoms was measured using the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985). The measure, subtitled "What I Think and Feel," consists of 37 items designed to assess the level and nature of anxiety in children. The measure has four subscales including physiological anxiety, worry/oversensitivity, social concerns/concentration, and a lie scale. The responses to 28 items are summed to ascertain the Total Anxiety score. The measure has an internal consistency of $a = 0.83$ to $a = 0.85$. Research has supported the short-term stability of the Total Anxiety score and provided stable results indicating the validity in the assessment of anxiety (Reynolds & Richmond, 1985). Children reporting levels of anxiety in the clinical range will not be included in the control group.

Child report of depression. Children's report of depressive symptoms was obtained using the Children's depression inventory (CDI; Kovacs, 1992). The CDI is a 27-item self-report measure designed to assess social, behavioral, and emotional symptoms of depression in children. Each of the 27 items consists of three sentences that describe a symptom of depression varying in degree of severity. Children are asked to choose the sentence that best describes them during the past two weeks. Each item set is then scored from 0 to 2 (0=absence of symptom, 2=presence of symptom most or all the time), resulting in a range of total scores from 0 to 54. The CDI has been reported as having internal consistency of $a = 0.86$ (Kovacs, 1992), and acceptable test-retest reliability (Saylor, Finch, Spirito, & Bennett, 1984) ranging from .38 to .87 depending on the population. Children who report clinical levels of depression will be excluded from the control group.

Children's Verbal Abilities. The vocabulary subtest of the Wechsler Intelligence Scale for Children-Third Edition (WISC-III) was administered to provide an estimate of children's overall intellectual functioning. This was included to permit consideration of the potential influence of overall intellectual ability when interpreting group differences in emotion management skills. The vocabulary subtest of the WISC-III was selected because research has demonstrated that this subtest has high test-retest reliability (r=.87) and provides the best measure of the general intelligences factor of the entire scale (62% of the variance may be attributed to g) (Sattler, 1992). Similarly, the vocabulary subtest of the WISC-III demonstrates the highest correlation with the Full Scale (r=.74) of any subtest on the WISC-III (Sattler, 1992).

Children's Social Desirability. The Children's Social Desirability Questionnaire (Short Version) (CSD; Crandall, Crandall, & Katkovsky, 1965) consists of 20 yes-no items adapted from the Social Desirability Scale developed by Crowne and Marlowe (1960) to make it suitable for children. Social desirability has been defined as the desire to appear socially acceptable and to give socially desirable responses (Crandall et al., 1965). The CSD was administered to determine if the responses of children with externalizing disorders compared to the responses of their nonexternalizing peers are influenced to a greater or lesser extent by social desirability. Items on the questionnaire are phrased such that one can only answer them in a socially desirable manner by dissembling the truth. In particular, questions ask if one always behaves or holds some attitudes that are prescribed as culturally appropriate (e.g., "Are you always careful about keeping your clothes neat and your room picked up?") or if one ever engages in behaviors that are disapproved of by the culture (e.g., "Do you ever act 'fresh' or 'talk

back' to your mother or father?"). This questionnaire forces participants to choose between responding honestly and presenting a socially desirable picture of themselves. To protect against the influence of response sets, half of the items require 'yes' and half require 'no' answers for socially desirable responses. Test-retest reliability (range *r*=.82-.95) and internal consistency (Cronbach's alpha=.86) of the CSD have been established for school-age children.

Externalizing Symptoms. Mothers were asked to complete the Child Behavior Checklist (CBCL; Achenbach, 1991) in order to assess children's externalizing problems. This questionnaire consists of 113 questions regarding common child behavior problems that are answered on a 3-point Likert scale (0= Not true, 1= Sometimes true, 2= Very true). The CBCL consists of eight syndrome scales (Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems, Attention Problems, Delinquent Behavior, and Aggressive Problems). Several scales combine to form two Broad-band categories: Internalizing factor (e.g., Withdrawn, Somatic Complaints, Anxious/Depressed), and the Externalizing factor (Delinquent Behavior, Aggressive Behavior). The remaining scales (e.g., Social problems, Thought problems, Attention Problems) do not display a consistently strong association with either the Internalizing or Externalizing factors. The present study will solely examine mothers' report of children's externalizing problems. Children meeting criteria for the clinical cut-off for externalizing problems will be included in the externalizing group. Children with an absence of endorsed externalizing problems (above 70th percentile) will be included in the control group. The CBCL has high test-retest reliability for combined scores on the problem scales (*r*=.89) as well as for each individual problem scale (range *r*=.82-.95)

over a one week time period. Research has supported the construct validity by indicating that: (a) the CBCL effectively discriminates between clinic-referred and nonreferred children, (b) subscales relate to other variables in expected ways (e.g., attention/delinquent/aggression scale relates to other measures of externalizing problems), and (c) findings from the CBCL show significant relations to other measures that ask parents to report children's emotional and behavioral difficulties (see Achenbach, 1991 and Achenbach & Brown, 1991, for a review).

Procedure

Mothers interested in participating were asked to sign a consent form giving permission for participation of both mother and child. Child assent was obtained verbally on the first contact of the researcher with the child. Children with parental permission to participate were administered the questionnaires by graduate and undergraduate research assistants with significant training in clinical research interviewing. Two research assistants attended each data collection session so that one researcher could work with the mother and the other with the child. Children were read all questionnaires to control for differences in reading ability. Children were reinforced verbally and given small toys (e.g., stickers, toy airplanes) for their continued participation.

CHAPTER 3

RESULTS

Data Analysis Strategy

Repeated measures Analyses of Variance (ANOVA) were conducted to assess differences on the Diagnostic Analysis of Nonverbal Accuracy Scale and the Emotional Understanding Interview with respect to group status and emotion type. Repeated measures ANOVA was selected given that the design permits the examination of the effects of all levels of an independent variable for each participant and helps increase statistical power, particularly for within-subjects variables (Keppel & Zedeck, 1989). The between-subjects factor was group status (i.e., externalizing, control), and the within-subjects factor included the type of emotion, with four levels (e.g., happiness, anger, sadness, fear). In accordance with recommendations of Hertzog and Rovine (1985) for repeated measures analyses, the degree to which the assumption of sphericity was met was taken under consideration using the Greenhouse-Geisser epsilon value. In the instance that this assumption was not met, the degrees of freedom were adjusted to maintain the Type 1 Error rate at conservative levels. Interaction terms for ANOVA solutions will be presented only when significant.

Emotional Understanding Interview (EUI)

A repeated measures Analysis of Variance (ANOVA) was conducted to determine group differences in children's understanding of emotion. The dependent variable was the total score for each child on the EUI with emotion type (i.e., happiness, anger, sadness, fear) as the within-subjects factor and group status as the between-subjects factor.

Findings indicated a significant main effect for emotion, F (3, 102) = 14.18, p<.001, in which children demonstrated more understanding for happiness (M = 10.66, SD = 1.57) than sadness (M = 8.77, SD = 3.09), anger (M = 8.43, SD = 2.45), and fear (M = 8.07, SD = 2.21). There were no significant differences as a function of group status, F (1, 34) = 1.47, p=.23 (see Table 2 for means).

Diagnostic Analysis of Nonverbal Accuracy Scale (DANVA)

Repeated measures Analyses of Variance (ANOVA) were conducted to determine group differences in children's ability to decode expressions of emotion, including decoding of adult faces, adult voices, child faces, and child voices. The within-subjects factor was emotion type (i.e., happiness, anger, sadness, fear), and the between-subjects factor was group status. Because the Greenhouse-Geisser epsilon values for the following tests (GG epsilons = .74-.88) indicated minor violations of the sphericity assumption, the degrees of freedom were adjusted.

Adult Facial Expressions. A main effect for emotion emerged, F (3, 77) = 13.06, p<.001, demonstrating that children were more likely to accurately decode happy adult facial expressions (M = 5.16, SD = .81) compared to sad (M = 3.36, SD = 1.91), angry (M = 3.39, SD = 1.29), and fearful (M = 3.78, SD = 1.53) adult facial expressions. There was no significant difference for group status, F (1, 34) = .07, p=.79 (see Table 3 for means).

Adult Vocal Expressions. A main effect for emotion emerged, F (3, 90) = 5.05, p<.01, where children were more accurate in their ability to decode happy adult vocal expressions (M = 3.31, SD = 1.51) compared to fearful adult vocal expressions (M = 2.50, SD = 1.89), and angry adult vocal expressions (M = 4.05, SD = 1.49) compared to fearful adult vocal expressions. A marginally significant differences was found, t (35) = 1.95,

p<.06, with children demonstrating more accurate decoding of angry adult vocal expressions compared to happy adult vocal expressions. There was no significant difference for group status, F (1, 34) = .14, p=.71 (see Table 3 for means).

Child Facial Expressions. A main effect for emotion emerged, F (3, 79) = 9.55, p<.001, demonstrating that children were better at decoding happy child facial expressions (M = 5.78, SD = .64) compared to sad (M = 4.97, SD = 1.34), angry (M = 4.67, SD = 1.45), and fearful (M = 4.36, SD = 1.59) child facial expressions. Further, children were more able to accurately decode sad child facial expressions (M = 4.97, SD = 1.34) compared to fearful child facial expressions (M = 4.36, SD = 1.59). No significant difference was found for group status, F (1,34) = .01, p=.92 (see Table 3 for means).

Child Vocal Expressions. Results demonstrated a main effect for emotion, F (3,76) = 21.59, p<.001, indicating that children were able to more accurately decode sad child vocal expressions (M = 4.36, SD = 1.69) compared to happy (M = 3.44, SD = 1.81) and fearful (M = 2.36, SD = 1.82) child vocal expressions, and to decode angry child vocal expressions (M = 5.0, SD = .79) compared to happy, sad, and fearful child vocal expressions. Further, children more accurately decoded happy child vocal expressions compared to fearful child vocal expressions of emotion. No significant difference was found for group status, F (1,34) = .01, p=.92 (see Table 3 for means).

Anger Bias. T-tests were conducted to determine whether externalizing children compared to controls demonstrate an anger bias wherein they misinterpret sad and fearful emotional expressions as angry based on scores from the DANVA. Examining children's bias for decoding adult facial expression, results did not indicate significant differences,

t (34) = .899, *p*=.37, indicating a lack of bias for adult facial expressions. Results were also nonsignificant when examining potential anger biases for decoding adult vocal expressions, *t* (34) = .31, *p*=.76, child facial expressions, *t* (34) = .65, *p*=.52, and child vocal expressions, *t* (34) = .62, *p*=.54. Thus, no anger biases were found to be present for the externalizing children.

Children's Social Desirability Measure (CSD)

A *t*-test was conducted to consider group status differences (i.e., externalizing, control) on children's total scores on the CSD. Findings indicate significant difference between the externalizing (*M* = 8.72, *SD* = 4.17) and control groups (*M* = 12.17, *SD* = 5.43) on the tendency to respond in a socially desirable manner, *t*(1,34) = 2.13, *p*<.05. Higher scores are reflective of greater levels of social desirable responding.

Vocabulary Subtest, Wechsler Intelligence Scale for Children-Third Edition (WISC-III)

A *t*-test was conducted to consider group differences (i.e., externalizing, control) in estimated intellectual functioning. The dependent variable was the standardized score on the WISC-III vocabulary subtest for each child. Findings indicate no significant difference in estimated intellectual functioning, *t*(1, 34) = .64, *p*=.53. Consideration of scores for the externalizing (*M* = 8.67, *SD* = 3.89) and the control (*M* = 9.33, *SD* = 2.11) group suggest that, overall, participants performed within the Average Range on the Vocabulary subtest of the WISC-III.

CHAPTER 4

DISCUSSION

Recent research examining adaptive emotional development has identified three categories of emotion management skills (e.g., encoding/decoding of emotion, emotional understanding, emotion regulation) that appear to impact the development of children's emotional competence (Parke et al., 1992). Consistent with the functionalist approach to emotion (Barrett & Campos, 1987; Saarni et al., 1998), findings in this area demonstrate the importance of emotion management skills to children's social and psychological functioning (Casey, 1991; Kolko, 1996; Shipman, Zeman, Penza, & Champion, 2000). While researchers have examined environmental and genetic risk factors that may lead to childhood psychopathology, little empirical research exists that has examined factors of emotional development that may underlie the development of maladjustment in children. Examining emotion management skills is important to understanding the processes underlying childhood psychopathology and will aid in the development of effective intervention techniques.

The present study investigated two types of emotion management skills (i.e., emotional understanding, decoding of emotional expressions) in externalizing and nonexternalizing children to identify the ways in which aggression may impact children's emotion management skills necessary for effective functioning in interpersonal (e.g., peer and family relations) and intrapersonal (e.g., psychological health) domains (Casey, 1991). In general, findings indicated that externalizing children did not differ from nonexternalizing children on emotional understanding (e.g., understanding of causes and

consequences of emotion, knowledge of appropriate responses to other's emotional displays) or decoding skills (e.g., accuracy in interpreting vocal and facial emotional expressions of others). Further, externalizing children did not exhibit an anger bias when interpreting others' facial and vocal expressions. Findings indicate that externalizing children exhibit similar emotional understanding and decoding abilities compared to nonexternalizing children, suggesting that deficits in these emotion management skills do not underlie externalizing problems in children.

Emotional Understanding Skills

Findings from the present study failed to support the hypothesis that children with externalizing symptoms would demonstrate lower levels of emotional understanding skills compared to the control group. This finding is surprising given research that has demonstrated that (a) externalizing children exhibit decreased emotional understanding, particularly for happiness and sadness (Cook et al., 1994), (b) externalizing children frequently misreport their own expressive behavior and overly interpret others' emotional experiences as negative (Casey & Schlosser, 1994), and (c) they have low peer status compared to nonexternalizing children (Minde, 1992). One reason for this discrepancy may, in part, be the result of study differences in relation to the population included in the externalizing group. Previous studies (Casey & Schlosser, 1994) have included clinical samples, examining a severe group of externalizing children. In contrast, the present study consisted of a community sample. It may be that a clinical sample is qualitatively different from a community sample of aggressive children, demonstrating deficits in emotional competence beyond those of a community sample. However, this reason for the discrepancy is unlikely given that children in the externalizing group demonstrated

aggressive behaviors above the 97th percentile on the CBCL externalizing scale, which classifies children as within the clinical range for behavior problems.

The discrepancy in findings may also be related to the measurement of emotional understanding skills. Saarni (1999) and other emotion researchers have defined emotional understanding as the ability to understand the causes and consequences of emotion as well as the ability to recognize appropriate responses to others' emotions. Thus, a valid measure of emotional understanding skills should examine each element of the construct. However, the one study that reportedly examined emotional understanding skills of externalizing children (Cook et al., 1994) assessed children's awareness of previous experiences that caused emotions ("Tell me about a time when you felt *emotion*") and of cues of emotional experience ("How do you know when you are feeling *emotion*"), neglecting a full assessment of children's understanding abilities, particularly in relation to their understanding of consequences of emotions and their awareness regarding appropriate responses to others' emotions. Conversely, the measure utilized in this study included questions of cause ("What kinds of things make you feel this way?"), consequence ("If your mom saw you looking like this, what would she do?"), and responses to others' emotions ("If you saw another kid looking this way, what would you do?"). Thus, it may be that externalizing children have less understanding for situations that cause certain emotional responses and for cues of emotional experiences (as found in the Cook et al. study), yet they do not differ from nonexternalizing children in their ability to understand consequences and appropriate responses to others' emotions. Although externalizing children may possess emotional understanding skills, it does not appear that they implement their skills through their actions in social situations based on

findings demonstrating their low peer status (Minde, 1992). This may be due to decreased access to their skills during emotion-eliciting situations. Problems with emotion regulation during emotional situations may limit their access to emotional understanding skills in real-life circumstances.

Another possible reason for the discrepancy may be related to cultural differences among the present sample of participants compared to samples used in previous research. Given that the present sample was composed primarily of African-American children and children of lower socioeconomic status, it is important to consider differences in the socialization of emotional understanding among this population compared to children of middle-class Caucasian families. Unfortunately, little is known about cultural and ethnic variations in emotional development (Barbarin, 1993). However, it is clear that African-American children and children of lower socioeconomic status tend to be exposed to a greater frequency of psychosocial life stressors (e.g., financial stress, community violence, parental psychopathology; Evans & English, 2002) and receive less education about emotions to promote emotion knowledge (Schultz, Izard, Ackerman, & Youngstrom, 2001). These factors may disrupt the acquisition of emotional understanding skills among this population compared to children of greater socioeconomic status.

Findings indicated, however, that, regardless of group status, children demonstrated higher levels of emotional understanding of happiness compared to anger, sadness, or fear. Past research examining young children's ability to understand causal factors in emotional situations demonstrated that happy and sad situations are easiest for children to interpret (Denham & Couchoud, 1990), particularly happy situations.

Incorrect responses are more often provided for other negative emotions (e.g., anger, fear). It may be that positive emotions are perceived by children as less threatening than negative emotions, and, in turn, information surrounding the causes, consequences, and appropriate responses to positive emotions may be processed more readily and effectively (Hoffman, 1983). It is also possible that children receive more consistent feedback in relation to displays of happiness than other emotions and, as a result, develop more consistent expectations for happiness.

Decoding of Emotional Expressions

Contrary to predictions based on the functionalist approach to emotion (Barrett & Campos, 1987) and past empirical research (Strand & Nowicki, 1999; Zabel, 1979), findings of the present study do not support hypotheses that externalizing children demonstrate decreased accuracy in decoding vocal and facial expressions of emotion compared to nonexternalizing children. No significant findings emerged for decoding of adult facial, adult vocal, child facial, or child vocal expressions of emotion. These findings are inconsistent with previous research, which indicated that children with externalizing problems demonstrate decreased abilities to interpret others' emotional expressions, including facial and vocal expressions of emotion (Strand & Nowicki, 1999; Zabel, 1979). However, findings from the present study are consistent with findings from Egan et al. (1998), which indicated no differences in decoding abilities comparing externalizing children to medically ill and normal children. Thus, studies have yielded inconsistent results despite similar methodology. The lack of findings were surprising given past research that consistently demonstrates that externalizing children are less adept at effectively employing social skills that require an understanding of incoming

expressive information (Frankel & Feinberg, 2002; Minde, 1992). It may be that externalizing children possess the skills to accurately decode expressions when instructed to do so in a situation that is not emotionally arousing, but that they are less able to utilize this skill effectively in real life situations during which intense emotions are experienced. More specifically, it may be that their emotion dysregulation during emotional situations inhibits their ability to utilize their decoding skills to make appropriate interpretations regarding others' emotional experiences to guide their emotional responses.

Regardless of group status, findings indicated that children demonstrated higher levels of decoding skills for adult happy facial expressions compared to sad, angry, or fearful expressions. This is consistent with past research demonstrating that recognition of happy expressions tends to be greater than recognition of negative emotions (Camras & Allison, 1985; see Denham, 1998). However, interestingly, results differed for children's ability to decode adult vocal expressions. Specifically, regardless of group status, children demonstrated greater ability to decode happy and angry vocal expressions compared to fearful vocal expressions. Further, there was a trend toward children decoding adult angry vocal expressions better than adult happy vocal expressions. Children's increased ability to decode angry vocal expressions may be related to the frequency of exposure to adult angry vocal tones compared to other emotions. It may be that children are exposed to happy and angry vocal expressions more often than fearful vocal expressions and, further, that angry tones are particularly salient and predictable due to exposure to vocalization of anger from parents during discipline and punishment.

Examining children's ability to decode child facial expressions, findings indicated that children were better at decoding happy child facial expressions compared to sad,

angry, and fearful child facial expressions. This finding is consistent with past research suggesting that children are able to recognize positive emotional expressions more readily than negative facial expressions (Denham & Couchand, 1990). This may be related to the frequency of exposures to happy expressions compared to negative expressions, with happy expressions being observed more frequently leading to better prediction and recognition. Interestingly, regardless of group status, children were better at decoding sad child vocal expressions compared to happy and fearful child vocal expressions, and they were better at decoding angry child vocal expressions compared to happy, sad, and fearful child vocal expressions. It may be that vocal tones of anger and sadness are more salient for children compared to vocal tones of fear and happiness, facilitating their decoding skills of these expressions. Across decoding of child and adult expressions, it consistently appears that children are better at recognizing happy expressions when presented as facial expressions, whereas they are better at accurately interpreting expressions of sadness and anger when presented as vocal expressions. This may suggest that interpretation of happiness is more dependent on facial expression while decoding of negative emotions may be more dependent on vocal expressions of emotion.

Anger Bias

Findings from the present study did not support the hypothesis that externalizing children would demonstrate a bias for interpreting expressions of other negative emotions (e.g., sadness, fear) as angry. This is surprising given past research demonstrating that externalizing children demonstrate a cognitive hostile attributional bias in which they misinterpret ambiguous provocation by a peer as hostile in nature (Dodge, 1980; Waas, 1988). Although it was hypothesized that deficits in emotion recognition may underlie

their bias in these situations, it seems that their bias is not related to misinterpretation of facial and vocal emotional cues.

This finding, however, may be due to differences in methodology and the present sample. First, the measure used to assess their bias did not include ambiguous stimuli as in previous studies. The reason for this was to determine whether they would misinterpret other negative emotions (e.g., sadness, fear) as angry. Although it remains unclear whether the externalizing group would have interpreted ambiguous emotional expressions as angry, it appears that they do not demonstrate a bias for interpreting expressions of sadness and fear as angry. Second, findings may be partly related to the type of children included in the externalizing group. Although evidence suggests that greater peer rejection, lower peer status, and social skills deficits occur in both proactively (i.e., initiate confrontation) and reactively (i.e., react to others' provocations) aggressive children (Brown, Atkins, Osborne, & Milnamow, 1996; Dodge & Coie, 1987; Marcus & Kramer, 2001), some studies have demonstrated that reactive aggression, compared to proactive aggression, is more closely associated with the hostile attributional bias (Dodge & Coie, 1987). Results have been inconsistent (Dodge, Price, Bachorowski, & Newman, 1990), yet it may be that reactively aggressive children demonstrate greater deficits in emotion decoding skills necessary for interpreting social cues as compared to proactively aggressive children. Unfortunately, this study did not measure subtypes of aggression. If the sample is primarily composed of proactively aggressive children, this may be a reason for the lack of findings. Third, little is known about the importance of nonverbal communication of emotion within the African-American culture (which

describes most participants). It may be that nonverbal expressiveness is less central within this culture, making this skill less essential to socioemotional competence.

Children's Social Desirability (CSD)

As would be expected, children in the control group provided significantly more socially desirable responses on the CSD. This finding demonstrates their interest in behaving in ways consistent with social conventions.

CHAPTER 5

LIMITATIONS AND CONSIDERATIONS FOR FUTURE RESEARCH

Although the findings of the present study provide a sound illustration of externalizing and nonexternalizing children's use of emotional understanding skills and emotion decoding skills, some limitations exist in relation to understanding externalizing children's emotional competence within interpersonal settings. One of the most notable limitations to this study was the lack of emotional arousal during administration of these measures. This makes it difficult to determine whether externalizing children's emotion management skills differ under emotionally arousing circumstances. Although no differences were observed based on these measures, it remains unclear whether externalizing children employ these strategies in real life situations. By conducting behavioral observations, it would be possible to place children in emotionally arousing situations to evaluate externalizing children's ability to access and utilize emotional understanding and emotion decoding skills.

In relation to the analysis of anger bias for emotion decoding among externalizing children, it may be helpful to include ambiguous emotional stimuli. Although no bias was observed for misinterpreting sad or fearful expressions as angry, it remains unclear whether they would misinterpret ambiguous expressions as angry. Further, as discussed previously, it might be helpful to examine reactively aggressive children (separate from proactively aggressive children) when assessing the presence of a hostile emotional bias. Although past research has been inconsistent, there is some evidence that this bias may be more salient in reactively aggressive children.

Summary

Based on functionalist theory of emotions, findings of the present study indicate that externalizing and nonexternalizing children do not differ in relation to their emotional understanding skills and their emotion decoding skills for facial and vocal expressions of emotion. Further, externalizing children did not demonstrate a hostile emotion bias in which they inaccurately interpret sad and fearful expressions of emotion as angry in nature. Although it does not appear that emotional understanding skills and emotion decoding skills are associated with their emotion dysregulation, their dysregulation places them at risk for failures in developing and maintaining constructive interpersonal relationships and further psychopathology.

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APPENDICES

APPENDIX A

EMOTIONAL UNDERSTANDING INTERVIEW

The child is shown a picture of another child posing facial expressions of emotion (e.g., sadness, happiness, anger, and fear) and is asked the following questions:

(1) How do you think this kid is feeling? (If they get this wrong, correct them for rest of questions by saying "Most kids think this kid feels…").

(2) Do you ever feel like this?

(3) What kind of things make you feel this way?

(4) When you feel this way, do you show it, let other people know how you feel?

(5) If you felt this way, would you let your mom see you looking like this?

(6) If your mom saw you looking like this, what would she do?

(7) If you felt this way, would you let your dad see you looking like this?

(8) If your dad saw you looking this way, what would he do?

(9) Can you give me an example of a time that you felt that way? (Then what happened?)

(10) Child must acknowledge that s/he does feel this way (e.g., sometimes, yes, every once in a while.)

(11) Let's pretend you saw another kid looking this way. Why might s/he be looking that way?

(12) If you saw another kid looking this way, what would you do?

APPENDIX B

DIAGNOSTIC ANALYSIS OF NONVERBAL ACCURACY

Instructions for Receptive Faces: Adult and Child Tests

Specific Instructions for Adult Test. "I am going to show you some people's faces and I want you to tell me how they feel. I want you to tell me if they are happy, sad, angry, or fearful (scared). Let's start with adults' (grownups') faces. Is this a happy, sad, angry, or fearful face?"

Specific Instructions for Child Test. "Now we are going to look at children's faces. I want you to do the same thing that we did with the adult faces: Tell me if they are happy, sad, angry, or fearful."

Instructions for Paralanguage Tests: Adult and Child Tests

Specific Instructions for Adult Test. "I am going to play an audio tape in which you will hear someone say the sentence: "I'm going out of the room now, but I'll be back later." I want you to listen to the sentence and tell me if the person saying the sentence is happy, sad, angry, or fearful (scared). There are 24 sentences. Before each sentence is spoken, a number will be announced. You are to listen to the sentence that follows and tell me if that person is happy, sad, angry, or fearful. Here is the first sentence."

Specific Instructions for Child Test. "I am going to play an audio tape in which you will hear a child say the sentence: "I'm going out of the room now, but I'll be back later." I want you to listen to the sentence and tell me if the person speaking is happy, sad, angry, or fearful (scared). Here is the first sentence."

APPENDIX C

CHILDREN'S SOCIAL DESIRABILITY INTERVIEW

Y N 1. Does it sometimes bother you to share your things with your friends?

Y N 2. Do you ever hit a boy or girl who is smaller than you?

Y N 3. Do you ever act "fresh" or "talk back" to your mother or father?

Y N 4. Do you ever let someone else get blamed for what you do wrong?

Y N 5. Are you always careful about keeping your clothing neat and your room picked up?

Y N 6. Do you always help people who need help?

Y N 7. Do you sometimes argue with your mother to let you do something she doesn't want you to?

Y N 8. Do you ever say anything that makes somebody else feel bad?

Y N 9. Are you always polite, even to people who are not very nice?

Y N 10. Do you always listen to your parents?

Y N 11. Do you ever forget to say "please" and "thank you"?

Y N 12. Do you sometimes wish you could just play around instead of having to go to school?

Y N 13. Do you always wash you hands before every meal?

Y N 14. Have you ever broken a rule?

Y N 15. Sometimes, do you try to get even when someone does something to you that you don't like?

Y N 16. Do you sometimes feel angry when you don't get your way?

Y N 17. Do you sometimes feel like making fun of other people?

Y N 18. Are you always glad to cooperate with others?

Y N 19. Are there times that you don't like it if somebody asks you to do something for him?

Y N 20. Do you sometimes get mad when people don't do what you want them to do?

APPENDIX D

VOCABULARY SUBTEST, WISC-III

Children will be asked what these words mean according to instructions specified in the WISC-III Manual (discontinue after 4 errors).

START HERE 6-8 years

1. Clock

2. Hat

START HERE 9-10 years

3. Umbrella

4. Bicycle

START HERE 11-13 years

5. Cow

6. Alphabet

7. Donkey

8. Thief

9. Leave

10. Brave

11. Island

12. Ancient

13. Nonsense

14. Absorb

15. Fable

16. Precise

17. Migrate

18. Mimic
19. Transparent
20. Strenuous
21. Boast
22. Unanimous
23. Seclude
24. Rivalry
25. Amendment
26. Compel
27. Affliction
28. Imminent
29. Aberration
30. Dilatory

TABLE 1

Power Analysis

Prior Studies	*r*	Type of Effect
Nowicki & DiGirolamo (1989)	.36	Group
Zabel (1979)	.33	Group
Howe, Tepper, & Parke (1998)	.35	Group X Emotion

TABLE 2

Mean Performance and Standard Deviations for Emotional Understanding Interview

Group	Happy	Sad	Angry	Fearful
Externalizing	9.94 (1.79)	8.41 (3.32)	8.24 (2.12)	7.90 (2.48)
Nonexternalizing	11.37 (.91)	9.14 (2.89)	8.62 (2.79)	8.25 (1.97)

TABLE 3

Mean Performance and Standard Deviations for DANVA

DANVA test	Group	Happy	Sad	Angry	Fearful
Adult Facial Expressions	Externalizing	5.22 (.88)	3.33 (2.19)	3.89 (1.19)	3.61 (1.50)
	Nonexternalizing	5.11 (.76)	3.39 (1.65)	3.39 (1.42)	3.94 (1.59)
Adult Paralanguage	Externalizing	3.44 (1.38)	3.55 (1.50)	3.66 (1.71)	2.39 (1.97)
	Nonexternalizing	3.17 (1.65)	3.22 (1.93)	4.44 (1.15)	2.61 (1.85)
Child Facial Expressions	Externalizing	5.78 (.55)	5.00 (1.24)	4.50 (1.50)	4.56 (1.50)
	Nonexternalizing	5.78 (.73)	4.94 (1.47)	4.83 (1.42)	4.17 (1.69)
Child Paralanguage	Externalizing	3.56 (1.62)	4.17 (1.62)	4.89 (.68)	2.72 (1.87)
	Nonexternalizing	3.33 (2.03)	4.56 (1.79)	5.11 (.90)	2.00 (1.75)