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Experience and Regulation of Positive Emotions as Predictors of Anxiety and Depression in Adolescents and Children

Ann Schlegelmilch
Old Dominion University

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ADOLESCENTS AND CHILDREN

by

Ann Schlegelmilch, M.A.
B.A. May 2003, Wesleyan University
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Approved by:

Janice Zeman (Director)   Danielle Dallaire (Member)
The College of William and Mary   The College of William and Mary

Clifford Hatt (Member)   Michelle Kelley (Member)
Norfolk State University   Old Dominion University

Todd Thrash (Member)
The College of William and Mary

ABSTRACT

EXPERIENCE AND REGULATION OF POSITIVE EMOTIONS AS PREDICTORS OF ANXIETY AND DEPRESSION IN ADOLESCENTS AND CHILDREN

Ann Schlegelmilch, M.A.
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Director: Dr. Janice Zeman

The high rate of comorbidity between anxiety and depression in children and adults raises questions concerning whether these disorders are two distinct disorders or a broad, but unitary construct. Clark and Watson's (1991) tripartite model purports that these disorders can be differentiated by two factors, positive affect (PA) and physiological hyperarousal (PH), in which low PA is unique to depression and PH is specific to anxiety. However, little is known about how specific positive emotions or their various facets may be related to depression and anxiety in children. Using 162 elementary and 148 middle school children (49% male, 66% Caucasian), this study examined the relations among different facets (i.e., frequency, intensity, regulation) of three positive emotions (happiness, interest/excitement, and pride) to determine if they differentiate between symptoms of depression and anxiety. Data were analyzed using path analyses that explored gender and age group differences. Consistent with the tripartite model, decreased frequency of positive emotions predicted increased depressive but not anxious symptoms for boys only. Further, frequency variables predicted depression more for older than younger children. Decreased intensity of positive emotions predicted increased depressive but not anxiety symptoms for all groups. Finally, for boys, happiness dysregulation differentiated between anxiety and depression, whereas pride dysregulation did so for girls. Positive emotion dysregulation played a stronger role

in anxiety for boys than girls. Regardless of age, happiness dysregulation was the only

regulation variable to differentiate between anxiety and depression. Overall, results

suggest that examination of specific positive emotions and their facets is worthwhile, as it

further illuminates the phenomenology of depression and anxiety in children as a function

of age or gender.

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CHAPTER I

INTRODUCTION

The last two decades have seen growing emphasis in psychological research placed on the role of emotions in development and psychopathology, a shift often referred to as the "affect revolution" (Fischer & Tangney, 1995). The re-evaluation of the study and importance of emotions has colored research in a number of areas, including the study of the relation between anxiety and depression. The high rates of comorbidity observed between anxiety and depression (e.g., Angold, Costello, & Erkanli, 1999) have given rise to extensive debates, both in the adult and child literature, over their conceptualization (e.g., Kendall & Watson, 1989). This in turn, has led to research investigating the nature of these disorders in terms of the emotional experiences that are common and unique to each disorder. Although examination of negative emotions has tended to dominate such research in the past, the role of positive emotions in psychopathology has begun to be considered.

In addition to emotion experience, emotion regulation (ER) has also been identified as another important area of research, as studies have found that children's ER skills play a vital role in psychological functioning (Bradley, 2000). Poor ER skills have been shown to be related to a number of negative outcomes in children, which has led to the supposition that poor ER skills may contribute to most forms of psychopathology (Cicchetti, Ackerman, & Izard, 1995). Further, poor social functioning (Hubbard & Cole, 1994), low academic achievement (Greenberg, Kusche, Cook, & Quamma, 1995), and

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The Publication Manual of the American Psychological Association (5th ed.) is the model used for this manuscript.

poor physical health (Salovey, Rothman, Detweiler, & Steward, 2000) have all been associated with poor ER skills.

Few studies have examined the role that children's experience and management of positive emotions has in depressive and anxiety symptomatology, and how such facets of positive emotions may be used to differentiate between the two disorders. Thus, the purpose of the current study is to provide a preliminary exploration of the relationship of positive emotions and their regulation to these disorders. A review of the anxiety and depression comorbidity literature will be undertaken first. Following this, the literature examining the tripartite model of anxiety and depression will be summarized. The final section will review the extant research examining children's experience and management of positive emotions.

Comorbidity of Anxiety and Depression

The discussion of anxiety and depression in children and adolescents must be prefaced with an acknowledgement of the issues inherent in the conceptualization and definition of psychopathology in children. Compared with the abundant research on adult psychopathology, there are relatively few well-controlled research studies with children. It has been noted that child-focused models and research into disorders such as anxiety and depression have only begun to be developed within the last 5-10 years (Zahn-Waxler, Klimes-Dougan, & Slattery, 2000).

Until recently, psychology's understanding of child psychopathology has been largely rooted in extrapolation from theory and research on adult disorders. The criteria for diagnosis of anxiety and depressive disorders in children (with the exception of Separation Anxiety Disorder) are a downward extension of that set forth for adults in the

Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV;

American Psychiatric Association, 1994) with limited descriptors added for their

application to children. The adequacy of this approach has been challenged by the advent

of a developmental psychopathology perspective, which emphasizes the dynamic nature

of most child psychopathology. The variation in the expression of psychopathology as a

function of development makes accurate diagnosis of children more complex. This has

led to a call for the utilization of more longitudinal methods in order to gain a better

understanding of the developmental trajectories of child psychopathology (Mash &

Dozois, 2003).

Another factor that complicates the study of child psychopathology is the

difficulty in differentiating between commonly occurring childhood difficulties (e.g.,

transient fears of childhood, such as fear of the dark or a young child's distress at being

separated from a caregiver) and those problems that come to be recognized as "disorders"

(e.g., Specific Phobia or Separation Anxiety Disorder). Many variables play into whether

a problem is considered deviant, including child characteristics (e.g., age, sex,

intelligence), and the situational appropriateness of a child's behavior (Mash & Dozois,

2003).

Thus, the field of psychology continues to wrestle with the problem of describing

and classifying childhood disorders. Rutter and Garmezy (1983) aptly captured this

dilemma stating, "All too frequently findings have been inconclusive because the

measures employed have been weak, nondiscriminating, or open to systematic bias.

Similarly, comparisons between studies have often been vitiated because cases have been

defined differently, because the settings have been noncomparable, or because the measures focused on different aspects of behavior (p. 865).

The term comorbidity is used to refer to the existence of covariation among psychiatric diagnoses (Lilienfeld, 2003). Research has documented the existence of psychiatric comorbidity among youth, both between disorders within diagnostic groupings (e.g., the co-occurence of major depression and dysthymia), and disorders from different diagnostic groupings (e.g., depression and conduct disorder; see Angold, Costello, & Erkanli, 1999 for a review).

Particular attention has been paid to the co-occurence of anxiety and depression, as evidence suggests that children experiencing such comorbidity are at increased risk for negative outcomes. Studies have found that children with comorbid anxiety and depression experience more severe symptoms of anxiety and depression than children with a pure anxiety or depressive disorder, comorbid anxiety disorders, or comorbid anxiety and externalizing disorder (Bernstein, 1991; Franco, Saavedra, & Silverman, 2007; Strauss, Last, Hersen, & Kazdin, 1988). Children with comorbid anxiety and depressive disorders also have been found to demonstrate more psychosocial impairment in the areas of involvement in extracurricular activities, quality of peer relationships, and academic performance than children with a pure anxiety disorder or multiple anxiety disorders (Franco et al., 2007).

Research suggests that youth who experience comorbid anxiety and depression are at greater risk of negative outcomes as they move into adulthood. A longitudinal study found that a diagnosis of comorbid anxiety and depression at 15 years of age was associated with one of the highest rates of disorder at age 18 when compared with other

DSM diagnoses (Feehan, McGee, & Williams, 1993). A comparison of the psychosocial

functioning of young adults (mean age 22 years) who had histories of early–onset anxiety

disorders, comorbid anxiety and depressive disorders, or no history of mental illness

found that those individuals who had a history of comorbid anxiety and depression were

less likely than controls to be working or in school (Last, Hansen, & Franco, 1997).

These participants were also more likely than controls or individuals with a history of a

pure anxiety disorder to report psychological problems, and were more likely to report

utilizing mental health services than those individuals with a pure anxiety disorder.

Finally, there is some evidence that adolescents with comorbid social anxiety disorder

and depression are more likely to experience suicidal ideation and to attempt suicide than

adolescents with a pure depressive disorder (Stein et al., 2001).

    Given the notable detrimental effects of co-occuring anxiety and depression, the

high rates of comorbidity documented in research with children and adolescents, both in

community and clinical samples (Angold et al., 1999; Beiderman, Faraone, Mick, &

Lelon, 1995; Brady & Kendall, 1992; Feehan et al., 1993; Fergusson, Horwood, &

Lynskey, 1993; McGee et al., 1990), is cause for concern. The reported rates of this

comorbidity vary greatly across studies. The variability may reflect differences among

the samples and methods used for diagnosis. In a meta-analysis of 21 community-based

studies using DSM criteria to assess the prevalence of comorbid anxiety and depression,

Angold et al. (1999) found that the percentage of anxious youth with a comorbid

depressive disorder ranged from approximately 11-69% (median = 17%), whereas 15-

75% (median = 39%) of depressed youth had a comorbid anxiety disorder. Angold et al.

also calculated the median degree of association, or odds ratio, between depressive and

anxiety disorders using the figures reported in the studies they reviewed. Analysis

revealed an odds ratio of 8.2 (95% confidence interval of 5.8 to 12.0), regarding the

likelihood of comorbidity between depressive and anxiety disorders. A similarly wide

range of variability has been documented in reports of comorbidity within clinical

populations. A review of four studies that employed clinical samples reported rates of

comorbidity that ranged from 28-62% (Brady & Kendall, 1992).

Unitary or separate constructs. The conceptualization of anxiety and depression

in children has been debated extensively in the literature. The high level of comorbidity

found between anxiety and depressive symptomatology has produced two prominent

approaches to conceptualizing these problems. Some researchers consider anxiety and

depression as discrete disorders (Blumberg & Izard, 1986; Crowley & Emerson, 1996:

Lonigan, Carey, & Finch, 1994). Others view the two disorders as comprising a unitary

construct (Achenbach, Connors, Quay, Verhulst, & Howell, 1989; Brady & Kendall,

1992; Finch, Lipovsky, & Casat, 1989).

A clearer understanding of depression and anxiety in children has been hampered

by variation in the way that researchers and clinicians have measured these problems

(Compas & Oppedisano, 2000). Within the literature, the unit of analysis employed in the

measurement of anxiety and depression has ranged from depressed and anxious mood, to

empirically derived syndromes that include depressive and anxious symptoms, to

symptoms that meet criteria for categorical disorders as set forth by the Diagnostic and

Statistical Manual (see Appendix A for diagnostic criteria of depressive and anxiety

disorders). Additionally, multiple methods have been used to assess these constructs, with

approaches ranging from structured and unstructured interviews to rating scales. The

variation in measurement is increased further by the utilization of different informants including parents, children, teachers, or psychologists. These heterogeneous approaches have created confusion and made it difficult to develop a cohesive body of knowledge in this area. However, the co-occurrence of symptoms of anxiety and depression and their corresponding disorders have been observed across all three levels of analysis (Compas & Oppedisano, 2000).

Those who adhere to the categorical perspective of depression and anxiety purport that these problems represent distinct disorders that have a tendency to co-occur in many but not all affected individuals. Research has lent credence to this view, showing that although a high rate of comorbidity exists between these disorders, many children are diagnosed with only anxiety or depression (Hammen & Compas, 1994). Observations regarding the bidirectional patterns of comorbidity between anxiety and depression also suggest the existence of separate disorders. It has been found that anxiety disorders in children and adolescents are more likely to co-occur with depression, whereas depression is less likely to co-occur with anxiety (McConaughy & Achenbach, 1994). Additionally, longitudinal studies provide evidence that anxiety disorders tend to precede depressive disorders (e.g., Kovacs, Gatsonis, Paulauskas, & Richards, 1989).

One criticism of the categorical approach is that it creates the appearance of a high level of comorbidity between anxiety and depression due to the number of overlapping definitional criteria of the disorders. Countering this critique, some argue that existing empirical evidence suggests that the high level of comorbidity is more than just an artifact of the categorical system (Seligman & Ollendick, 1998). As noted above, children who are depressed are more likely to exhibit a comorbid anxiety disorder than

the reverse. Given this finding, if overlapping criteria were truly responsible for the comorbidity of anxiety and depression, it would be expected that a higher proportion of anxiety symptoms should be present in the criteria for depression than the reverse. No symptom overlap is present between social phobia or separation anxiety disorder and major depressive disorder. But when the criteria for generalized anxiety disorder (GAD) and major depressive disorder (MDD) are compared, it can be seen that 5 out of the 19 (26.3%) symptoms of GAD overlap with symptoms of MDD, whereas five of the nine symptoms of MDD (55.6%) overlap with those of GAD. This observation is the reverse of what would be expected if symptom overlap were the source of comorbidity. In addition, the defining symptom of GAD (i.e., "unrealistic and excessive worry") is not present among the symptoms of MDD. This fact renders it impossible to give a diagnosis of GAD based on the symptom overlap found in MDD. Yet, due to the stipulation that irritability may be considered a symptom of MDD in children and adolescents, a diagnosis of MDD would be possible based solely on the overlapping symptoms present in GAD. To summarize, although symptom overlap alone could explain the evidence of MDD in children with GAD, symptom overlap alone cannot explain the presence of GAD in children with MDD.

The assertion that symptom overlap may cause the high level of comorbidity between anxiety and depression is further weakened by observed rates of comorbidity between depression and the various specific anxiety disorders (Seligman & Ollendick, 1998). As there are varying levels of overlap between the symptoms of depression and separation anxiety disorder (SAD), social phobia, and GAD, one would expect that the rates of comorbidity would therefore differ as a function of symptom overlap, with

greater overlap resulting in increased comorbidity. From the discussion above then, it would be expected that the highest rates of comorbidity would be between GAD and MDD, and lower rates would be seen between MDD and social phobia or SAD. Although research examining the comorbidity of specific types of anxiety disorders in children is currently lacking, as many studies collapse all anxiety disorders into a unitary category, there is preliminary evidence from investigations of clinical samples that suggests that the rates of comorbidity do not correspond to the degree of symptom overlap. For example, Last, Strauss, and Francis (1987) reported that in their sample 8.3% of children with a primary diagnosis of SAD, 18.2% of children with a primary diagnosis of social phobia and none of the children with a primary diagnosis of overanxious disorder (analogous to GAD) were also diagnosed with MDD.

Proponents of a unitary construct of anxiety and depression argue that the high level of comorbidity reported in the literature is the product of the splitting of a unitary latent construct into two or more categories. They maintain that quantitative approaches to child and adolescent psychopathology have not yielded separate syndromes of anxiety and depression, but instead have produced a single syndrome comprised of both anxious and depressed symptoms. Achenbach and his colleagues (1989) employed both exploratory factor-analytic methodology (EFA) and confirmatory factor-analytic (CFA) methodology to identify latent factors from parent, teacher, and self-report questionnaire items. Specifically, exploratory Unweighted Least Squares and Principal Components (PCA) analyses of Pearson correlations among items were performed. The factor solutions derived from these analyses were subjected to Varimax rotations, as well as Oblimin rotations. The unidimensionality of factors identified in these analyses was

tested using single-factor Weighted Least Squares analyses to candidate items comprising each factor. Eight factors emerged from these analyses, including a single factor onto which both anxiety and depressive symptoms consistently loaded. Achenbach and colleagues named this factor Anxious-Depressed. The emergence of a single factor through this empirical procedure is seen by some as evidence that anxiety and depression are more appropriately viewed as a unitary phenomenon and not as two distinct disorders. These results have led some researchers to question the validity and reliability of clinically derived systems, such as the DSM, which they believe lack a solid empirical and/or theoretical base.

Yet, in an article reviewing research on the comorbidity of anxiety and depression, Seligman and Ollendick (1998) were able to present examples of studies that employed exploratory and confirmatory factor analyses that provide support for a two-factor model over a one-factor model. The small literature base seems to suggest that there is distinctiveness in the symptoms of anxiety and depression, although there is still notable overlap between the two (Ollendick, Yule, & Ollier, 1991; Williams, McGee, Anderson, & Silva, 1989). For example, Crowley and Emerson (1996) conducted a factor analysis of items from the Reynolds Children's Manifest Anxiety Scale (RCMAS), State-Trait Anxiety Inventory for Children (STAIC), the Children's Depression Inventory (CDI), and the Reynolds Child Depression Scale (RCDS). They performed a direct comparison of the one- and two-factor models of anxiety and depression and found that the one-factor model did not provide an acceptable fit to the data. The two-factor model was found to fit the data significantly better, although the fit was still not ideal as indicated by the adjusted fit index.

Compas, Ey, and Grant (1993) have proposed that the categorical approach and the empirical syndrome approach are not necessarily incompatible. In a review of literature that examined the correspondence among measures of depressed mood, the Anxious/Depressed syndrome, and mood disorders, they found that although this correspondence was imperfect, there was some degree of overlap between children who were elevated on measures of anxious/depressed symptoms and those who met criteria for MDD. In an attempt to describe the relationship among depressed mood, depressive syndromes, and depressive disorders, Compas and his colleagues suggest that these perspectives may in fact represent different manifestations of depression and anxiety that occur in a hierarchical and sequential fashion. The three perspectives could be seen as forming a hierarchy representative of the severity of the anxious or depressive phenomena. Specifically, depressed or anxious mood could be viewed as a risk for the development of the syndrome, and the syndrome would then serve as a risk factor for the disorder.

Consideration of anxiety and depression in children from a developmental psychopathology perspective may also serve as a link between the two positions. There is preliminary evidence that suggests that the constructs of anxiety and depression may be almost indistinguishable in young children, but become more differentiated as children age. Cole, Truglio, and Peeke (1997) used confirmatory factor analysis to examine which construct of anxiety and depression (i.e., unitary or separate) best fit data gathered on third and six grade students. Measures of depressive and anxiety symptoms were obtained through self-report, teacher ratings, parent report, and peer nomination. Results supported a unified construct model for third grade children given the strong correlation

($r = .93$) between the depression symptoms factor and the anxiety symptoms factor. However, in the sixth grade sample, the correlation ($r = .85$, standard error $= .05$) between the depression symptoms factor and the anxiety symptoms factor was significantly different from unity. Although there was significant overlap between these two factors among the sixth grade sample, the authors noted that there was considerable unshared variance as well. Additionally, a test of a single-factor model for the sixth grade data resulted in a poor fit.

Other research exploring the epidemiology and developmental trajectory of psychological disorders in childhood and adolescence, however, provides an alternative perspective on the relationship between anxiety and depression. In children and adolescents, a temporal relationship has been noted in both cross-sectional analyses and longitudinal findings, with anxiety tending to precede the development of depression. Cross-sectional analyses suggest that when compared to children with a pure anxiety disorder on socio-demographic variables, children diagnosed with both anxiety and depression are significantly older (Rohde, Lewinsohn, & Seeley, 1991; Strauss, Last, Hersen, & Kazdin, 1988). Similarly, a study that examined symptoms of depression in children and adolescents diagnosed with overanxious disorder (Strauss, Lease, Last, & Francis, 1988) found that even after controlling for the number of overanxious symptoms, adolescents reported significantly more depressive symptomatology than younger children.

These findings have been mirrored in longitudinal studies as well. In a study of depressed children, Kovacs and colleagues (1989) found that among those who were diagnosed with a comorbid anxiety disorder, the anxiety disorder predated major

depression in approximately two-thirds of the cases. In the remaining children with comorbid anxiety and major depression, the anxiety disorder occurred simultaneously with or secondary to major depression. Interestingly, of the nine children who were diagnosed with dysthymic disorder and comorbid anxiety disorder, the anxiety disorder only preceded depression in two cases.

Similar results were reported by Feehan and colleagues (1993) who found that two thirds of adolescents diagnosed with multiple anxiety disorders at age 15 had an affective disorder at age 18. Of adolescents who had one anxiety disorder at age 15, approximately one third were diagnosed with an affective disorder when evaluated at 18. Another study that further examined the course of comorbid anxiety and depressive disorders in youth found that the anxiety disorder often persists after the depression has abated (Kovacs et al., 1989).

Although there is evidence to suggest a developmental trajectory of anxiety and depression, the reason underlying this temporal relationship is still unclear. It has been hypothesized that the psychosocial consequences of anxiety may place an individual at increased risk for depressive disorders (Seligman & Ollendick, 1998). Research suggests that anxious children are often liked less than non-anxious peers (Verduin & Kendall, 2008), are frequently socially neglected (e.g., Strauss, Lahey, Frick, Frame, & Hynd, 1988), and experience other psychosocial impairments, such as poor school performance (Seipp, 1991). In turn, there is evidence that social functioning can impact later adjustment. For instance, early social withdrawal has been found to be related to later internalizing symptomatology, including depression (e.g., Ollendick, Greene, Weist, &

Oswald, 1990; Rubin, 1993). Longitudinal research is needed to further explore the possibility of such a relationship.

The observed temporal sequence has also been attributed to a developmental "readiness" of young children to manifest anxiety disorders (Kovacs & Devlin, 1998). Infants and young children have been observed to respond to separation from caretakers with anxiety-like symptoms, which precede other expressions of distress (Bowlby, 1973). Additionally, responses of agitation and hyperarousal under conditions of experimental or naturally occurring stress have been noted in toddlers and young children in studies of the development of emotion regulation (Fox, 1994). The predisposition to anxiety may be related to the syndrome's psychophysiology. As Kovacs and Devlin (1998) asserted, "all other factors being equal...the younger the child, the more likely it is that provoking agents will elicit some type of anxiety disorder" (p. 55).

Assessment issues. Debate continues within the literature as to whether the strong correlations between anxiety and depression reflect the existence of a unitary category or are merely the result of instruments that are unable to adequately discriminate between anxiety and depression. Related to the issue of symptom overlap is a measurement issue; namely, the assessment tools (e.g., questionnaires, structured interviews) that assess anxiety and depression have items in common (Seligman & Ollendick, 1998). It has been noted that when anxiety and depression are measured in dimensional terms, the two constructs are significantly correlated. One study reported correlations between self-reports of anxiety and depression ranging from .46 to .70, with the range representing differences among samples (i.e., clinical vs. community sample) and assessment instruments used to measure each disorder (King, Ollendick, & Gullone, 1991).

The amount of item overlap varies among the existing instruments used to assess depression and anxiety in children (Seligman & Ollendick, 1998; see Appendix B for additional information about each instrument). The Children's Depression Inventory (CDI) and the Revised Children's Manifest Anxiety Scale (RCMAS) have six similar items (22.2% of the CDI and 21.4% of the RCMAS), the CDI and the State Anxiety Inventory (STAIC) have two similar items (7% of the CDI and 10% of the STAIC-State scale), and the CDI and the STAIC-Trait Scale have five similar items (18.5% of the CDI and 25% of the STAIC-Trait scale). One example of such overlapping items noted between the CDI and the RCMAS includes the following: "I cannot make up my mind about things" (from the CDI) and "I have trouble making up my mind" (from the RCMAS). In the case of the CDI and the STAIC-Trait scale, both scales include the item "I feel like crying."

It has been suggested that "nonspecific" symptoms that overlap between the different diagnoses should be removed in order to increase the differentiation between disorders. As discussed above, using a community sample of children, Cole et al. (1997) investigated whether deleting overlapping items from parent, teacher, peer, and self reports of anxiety and depression would decrease the shared variance between the anxiety and depression constructs. Exclusion of these items resulted in a decrease of 12-14% of shared variance; however, a high correlation between anxiety and depression factors remained ($r = .72$).

Angold and colleagues (1999) have voiced objections to deleting "nonspecific" symptoms from measures of anxiety and depression. They argue that the diagnostic criteria for major disorders would become defined by atypical symptoms were these

items to be removed. Angold and colleagues (1999) assert that concern over the inclusion of similar symptoms in different diagnoses is misplaced, as the real issue lies in the lack of research on the differential characteristics of those symptoms in different disorders. As an example they cite a study by Angold (1996) that found that severe insomnia was significantly associated with depression, whereas mild insomnia was strongly associated with anxiety disorders. Thus, although sleep disturbance is a symptom of both anxiety and depression, upon further examination this symptom is manifested in qualitatively different ways in each disorder.

Exploring a different avenue for examining the discriminative ability of measures of anxiety and depression, Lonigan and colleagues (1994) focused on the relationship between subscales of the RCMAS and the CDI. The original subscales of the RCMAS (Worry-Oversensitivity, Physiological, and Concentration) were employed, while factor analysis was used to derive new factors for the CDI. This analysis yielded three factors: Self-Dissatisfaction, Depressed Affect, and Low interest/Low Motivation. Lonigan and his colleagues found that among their inpatient sample of children with a pure anxiety or depressive disorder, the depressed children scored significantly higher on the Low Interest/Low Motivation factor and the Self-Dissatisfaction factor of the CDI than the anxious children. In addition, anxious children were found to score significantly higher than depressed children on the Worry factor of the RCMAS. However, the groups did not differ on the Depressed Affect factor of the CDI.

Lonigan and colleagues concluded that relatively nonspecific measures of negative affect states, such as the CDI Depressed Affect factor, will likely produce similar scores for depressed and anxious children, but that measures of negative affective

states related to specific content will produce scores that can discriminate between anxious and depressed children. Thus, it appears that depressed and anxious children may not differ in terms of the degree to which they experience negative affect in general, but may differ in the extent to which this negative affect is associated with a specific content area.

The Tripartite Model of Anxiety and Depression

The recognition of nonspecific negative affect as a common component of both anxiety and depression has been articulated in the adult literature by the tripartite model of anxiety and depression (Clark & Watson, 1991), which has also recently been applied to children and adolescents (Anderson & Hope, 2008; Chorpita, 2002; Jacques & Mash, 2004; Ollendick, Seligman, Goza, Byrd, & Singh, 2003). According to Clark and Watson (1991), anxiety and depression share a common, nonspecific component of negative affect (NA) that is responsible for symptom overlap and comorbidity. NA encompasses a range of affective states including upset, angry, guilty, afraid, sad, scornful, disgusted, and worried. Overall, it captures feelings of distress and unpleasant engagement. Clark and Watson (1991) suggest that self-report measures of anxiety and depression commonly tap this general factor of NA, which contributes to the high correlation between such measures.

The model suggests that although anxiety and depression have NA in common, they can be differentiated by examining positive affect (PA) and physiological hyperarousal (PH; Clark & Watson, 1991). PA is defined as pleasurable engagement with the environment and reflects a person's feelings of enthusiasm, pride, interest, alertness, zest for life, and activity. Research by Clark, Watson, and colleagues provides evidence

that depression is specifically characterized by low positive affect (PA), whereas no noticeable change in PA is evident in individuals with anxiety. Anxiety is specifically characterized by high levels of PH, which refers to somatic tension, shortness of breath, dizziness, lightheadedness, and dry mouth (Watson, Clark, Weber, Assenheimer, Strauss, & McCormick, 1995a; Watson, Clark, Weber, Assenheimer, Strauss, & McCormick, 1995b).

The structure provided by the tripartite model explains why different perspectives of anxiety and depression have emerged in the field and also provides a way in which to synthesize and reconcile the disparate views. Those researchers who have focused on the general factor of NA have tended to conceptualize anxiety and depression as points on a continuum or as having common risk factors. In contrast, those who have focused on the specific factors have been proponents of viewing anxiety and depression as discrete phenomena. Thus, if there are both general and specific factors, these views can be incorporated into a more comprehensive conceptualization of anxiety and depression under the tripartite model (Clark & Watson, 1991).

Application of the tripartite model with youth. Studies with adults have provided support for the utility of the tripartite model in explaining the association between symptoms and diagnoses of anxiety and depression (Joiner, 1996; Watson, Clark et al., 1995a, 1995b). Recent research has sought to assess the applicability of this model with children and adolescents.

Inpatient and clinically referred youth. Research discussed earlier by Lonigan et al. (1994) conducted with inpatient children and adolescents, provides support for the tripartite model's assertion of a shared component of NA between anxiety and

depression. Specifically, they found that anxious and depressed children did not differ on nonspecific measures of negative affect states. Additionally, the authors noted that when nonspecific measures of negative affect states were used as covariates when examining the differences between groups on the measures of anxiety, the differences between depressed and anxious children increased. Further, Lonigan and colleagues suggested that the higher level of problems involving low interest or low motivation found among depressed children in comparison with anxious children, fit with the tripartite model, as these problems can be conceptualized as indicating a lack of positive affect in depressed children. That is, low interest or low motivation can be viewed as representing the polar opposite of emotions generally associated with positive affect (e.g., excited, proud, and enthusiastic).

Additional support for the use of a three-factor model with child and adolescent psychiatric inpatients has been provided by the work of Joiner, Catanzaro, and Laurent (1996), who also used the CDI and the RCMAS. However, instead of employing the total scores or the subscales of these measures, Joiner and colleagues rationally selected items from the CDI and RCMAS that were deemed to capture only the constructs of the tripartite model. These items loaded onto the three factors in the expected way. To further confirm this model, correlations between the three item-based factors and the Positive Affect (PA) and the Negative Affect (NA) subscales of the Positive And Negative Affect Schedule (PANAS) were examined. The PANAS PA subscale was found to be significantly more highly correlated with the item-based PA scale than the other two item-based scales. Similarly, the PANAS NA subscale was found to be more highly correlated with the NA item-based scale than with the other two item-based scales.

Few studies have explored the relationship between specific DSM-IV anxiety and depressive disorders and the factors of the tripartite model in children and adolescents. Mixed results emerged from a preliminary study by Chorpita, Plummer, and Moffitt (2000) that examined models relating tripartite factors to DSM-IV diagnoses in a sample of clinically referred youth, ages 6-17 years. Although NA was found to be related to several of the mood and anxiety disorders as stipulated by the tripartite model, NA was not related to MDD, social anxiety, or separation anxiety in the model. The authors conjectured that in the case of depression, this result was due to the fact that PA accounted for a larger amount of the variance in MDD, which attenuated the path from NA to depression in the model. However, zero-order correlations revealed that both PA and NA were significantly related to MDD. Interestingly, social anxiety and separation anxiety did not show statistically significant zero-order correlations with the measure of NA. Further, mirroring findings in the adult literature, PA was found to be significantly related both to MDD and social anxiety.

Going beyond the application of the tripartite model to differentiate between anxiety and depression in child and adolescent psychiatric inpatients, Joiner and Lonigan (2000) explored the use of the depression aspect of the model in predicting future symptoms of anxiety and depression. Participants had a depressive or externalizing disorder diagnosis, and completed the CDI, RCMAS, and PANAS-C two to four days after admission to the hospital and then again two months later. The combination of low PA and high NA was found to predict changes in depression symptoms, but was not related to changes in anxiety. Specifically, among children with low PA, NA was a specific and significant predictor of depression changes, whereas among children with

high PA, NA was not a predictor of depression changes. Therefore, it appears that the combination of low PA and high NA may act as a risk factor for the development and/or maintenance of depressive, but not anxious, symptoms.

Community samples. The tripartite model's proposed relationship between anxiety and depression and NA and PA has also been supported by research with community samples of children. Stark and Laurent (2001) completed a factor analysis of the items of the CDI and RCMAS that produced an anxiety factor and a depression factor. They then examined the relationship of these factors to the PANAS-C PA and NA scales. Results showed that the anxiety and depression factors were almost equally correlated with the NA scale. Thus results supported the general negative affect component put forth in the tripartite model. Further, it was found that the depression factor showed a stronger negative correlation to the PA scale than the anxiety factor, which is consistent with the tripartite model.

Chorpita, Daleiden, Moffitt, Yim, and Umemoto (2000) also found support for distinct constructs of NA, PA, and PH in a community sample of 1,289 children and adolescents ages 7-18. The study tested a new measure of the tripartite constructs, the Affect and Arousal Scale (AFARS). Items for the AFARS were taken and adapted from various pre-existing child self-report questionnaires including the CDI, RCMAS, the Behavioral Inhibition System/Behavioral Activation System scale, and the Depression Anxiety Stress Scales. Principal component factor extraction revealed three factors that reflected the structure of the tripartite model. Chorpita (2002) completed additional analyses with this sample to explore the relationship between the tripartite factors as measured by the AFARS and selected anxiety disorders and depression. Results were

generally consistent with the hypotheses of the tripartite model, as NA was found to be positively related with all anxiety and depression scales, and PA was negatively correlated with the depression scale.

Developmental differences and the tripartite model. As research supporting a tripartite model of relations between anxiety and depression in children has accumulated, attention has begun to focus on possible developmental differences that might moderate the applicability of this structure. As discussed earlier, some research suggests that anxiety and depression are less differentiated in younger children and can be better conceptualized as a unitary construct, only becoming recognizable as two distinct concepts as children age (Cole et al., 1997). Consideration of existing research on children's ability to recognize and label emotions undermines the hypothesis that such developmental differences in the constructs of anxiety and depression can be attributed to differences in emotion awareness or labeling. Research has shown that knowledge of basic emotional expressions is solid by the end of the preschool period (e.g., Camras & Allison, 1985; Filed & Walden, 1982; Felleman, Barden, Carlson, Rosenberg, & Masters, 1983). Additionally, studies have shown that two and three year old children are able to employ emotion language to refer to internal emotional states and to influence others to meet their own emotional needs (e.g., Dunn, Brown, & Beardsall, 1991; Ridgeway & Kuczaj, 1985). These findings suggest that the ability to recognize and label emotions develops early, making it unlikely that such abilities could account for differences between the constructs of anxiety and depression in elementary and middle/high school aged children.

Lonigan, Hooe, David, and Kistner (1999) found that in a sample of school children in grades four through 11, NA was strongly associated with reports of both symptoms of anxiety and symptoms of depression, as measured by the RCMAS and CDI respectively, conforming to the tripartite model's construct of shared general NA. However, PA was only more strongly related to reports of depressive symptoms among older children in grades 6-11. Among fourth and fifth graders, there was no significant difference in the relation of PA with measures of anxiety symptoms and measures of depressive symptoms. Thus, it appears that the discriminative function of PA may be moderated by age.

The lack of differentiation between anxiety and depression in young children was also suggested by the findings of Crook, Beaver, and Bell (1998) when they examined the relationship of the CDI, RCMAS, and the scales of the PANAS-C. They found that in their sample of third to fifth graders, PA was negatively correlated with both the CDI and the RCMAS, and thus did not discriminate between anxiety and depression. But, when a hierarchical regression was performed to study the partial correlations of PA and NA with measures of anxiety and depression, PA discriminated between anxiety and depression. Specifically, both NA and PA made independent contributions to the prediction of depression symptom scores; however PA only contributed slightly to anxiety symptom scores. Reflecting on these findings, the authors conjectured that the lack of specific relationships when only zero-order correlations were examined could indicate that depression and anxiety are highly related in prepubertal children.

Jacques and Mash (2004) reported finding both age and gender differences in the goodness of fit of the tripartite model when it was applied to their sample of elementary

and high school students. Using structural equation modeling, they explored the fit of the model by gender and age group, with a younger group composed of fourth and fifth graders and an older group of 10th and 11th graders. However, the authors noted that the size of these subgroups was small, with 132 elementary school girls and 114 elementary school boys, and 131 high school girls and 87 high school boys. Analyses revealed that the model fit better with the high school sample than the elementary school sample, again suggesting differentiation across development. The authors also reported some gender differences in the applicability of the model. All hypothesized relationships between the tripartite dimensions, depression, and anxiety were significant for the high school girls, whereas NA was found not to be significantly related to depression in high school boys. Of all the subgroups, the model fit the data best for the sample of high school girls.

In contrast to these findings, Turner and Barrett (2003) found little evidence of increasing differentiation in anxiety and depression in a cross-sectional design of third, sixth, and ninth grade students. Confirmatory factor analysis of items from the CDI and RCMAS showed that the three-factor model provided the best and most parsimonious fit across all grade levels.

Applicability of the tripartite model with minority youth. The majority of studies investigating the applicability of the three-factor structure of the tripartite model with children have had samples primarily composed of white children. Therefore Lambert, McCreary, Joiner, Schmidt, and Ialongo (2004) sought to test whether the model provided a valid representation of the anxiety and mood symptoms reported by a sample of urban African-American adolescents in grades six to nine. Using a subset of items from the Baltimore How I Feel scale of depressive and anxious symptoms, Lambert and

colleagues assigned the items on theoretical grounds to groups representing the three factors of the tripartite model. Confirmatory factor analysis suggested that the three-factor model was the best fit for the data. Longitudinal factor analysis was also conducted and suggested that the tripartite structure was configurally invariant from grade six to grade nine. However, the authors also found that there was high overlap among the tripartite dimensions, which was reflected in the pattern of factor correlations. It was unclear as to whether this pattern of results may have been related to the urban context in which the children resided or the ethnic composition of the sample. The authors point out that prior research has found that in comparison with white adults, African-American adults present with more comorbidity in anxiety-related problems. Additionally, African-American adults who are depressed tend to report more anxiety, anger, and hostility than depressed white adults. Thus, there is some question as to whether anxiety and depressive symptoms differentiate as clearly as in non-white populations, which suggests that the applicability of the tripartite model may differ depending on the ethnic group studied.

Limitations of the tripartite model. Although much research with adults and children has provided evidence for the utility of the tripartite model, some researchers point to limitations and possible exceptions to its theoretical constructs. It has been noted that the tripartite model does not account for the significant heterogeneity among the anxiety disorders (Chorpita, Albano, & Barlow, 1998) and therefore may not be applicable to all anxiety disorders. For instance, Chorpita (2002) found that the construct of PH may not possess a general relation with all anxiety dimensions. In his study of 3-12 graders, PH was found to be positively associated with symptoms of Panic Disorder only. Thus, there have been calls for more studies to shift from the more general examination

of depressive and anxiety symptoms to the investigation of the tripartite model's relationship to specific anxiety and depressive diagnoses (e.g., Laurent & Ettelson, 2004; Mennin, Holaway, Fresco, Moore, & Heimberg, 2007).

Another area of concern regarding the model is the finding among adults that low PA may not be exclusively associated with depressive symptoms and diagnoses. Brown, Chorpita, and Barlow (1998) used structural equation modeling to investigate the relationship between specific DSM-IV disorders (i.e., generalized anxiety disorder, panic disorder, obsessive-compulsive disorder, social phobia, major depressive disorder and dysthmia) and the dimensions of the tripartite model. Although their results were generally consistent with the expectations of the model, they found that the fit of the model would improve with the addition of a path from PA to social phobia. In addition, it was reported that this path from social phobia to PA was almost identical in strength to the path from PA to depression. This finding runs counter to the tripartite model, which posits that PA is more strongly associated with depression than anxiety. Social phobia had a significantly stronger zero-order correlation with PA than did the other anxiety disorders examined. The relationship between social phobia and PA has been attributed to the disruption of interpersonal functioning that is caused by the disorder. The authors suggest that similar interpersonal dysfunction also occurs in those who are depressed. Similar findings in an adult population have also been reported by Watson, Gamez, and Simms (2005).

In addition to these criticisms of the tripartite model, two studies have cast doubt on the relationships predicted for all three of the tripartite factors. Burns and Eidelson (1998) used structural equation modeling to test the tripartite model in three independent

adult samples composed of a group of outpatients seeking treatment for mood disorder, anxiety disorder, or both, a group of outpatients seeking treatment for substance abuse, and a group of college students. In all three samples, measures of nonspecific depression and nonspecific anxiety could not be loaded onto a single NA factor as proposed by the tripartite model. The authors maintained that contrary to the tripartite model, these results suggest that nonspecific symptoms of depression and anxiety are phenomenologically distinct and cannot be combined into a construct of general NA. Instead, Burns and Eidelson found that a four-factor model composed of anhedonia, nonspecific depression, nonspecific anxiety, and somatic arousal provided a much better fit for the data.

Reservations regarding the overall structure of the tripartite model have also been raised by Ollendick and colleagues (2003), who compared the goodness of fit of single-factor, two-factor, and three-factor models of anxiety and depression with children. Confirmatory factor analyses were conducted to examine the three models' applicability to the whole sample, followed by separate analyses of boys and girls and then for each of the grade levels represented in the sample (i.e., fourth, seventh, and 10th grade). In all cases, results showed that the two-factor model, composed of an anxiety factor and a depression factor, provided the best fit to the data. Yet, it was noted that the two factors in the model were highly correlated, suggesting the presence of a common factor of negative affectivity. The authors also conceded that their results may have resulted from inadequate representation of the constructs of positive affectivity and physiological arousal, which were measured by items from the RCMAS and CDI.

Additional research is needed to explore the possibility of developmental differences in the utility of the tripartite model in the differentiation of anxiety and

depression in youth as results thus far have been mixed. Attention to possible gender

differences in the application of this model is also lacking. Further, research has yet to

examine the specific components of the general construct of PA, and their relationship

with symptoms of anxiety and depression. Such inquiry may be valuable in the continued

refinement of the tripartite model.

The Role of Positive Emotions in Psychopathology

The interest garnered by the tripartite model can be seen to reflect a larger trend

within the field of psychology to place greater emphasis on the role that positive

emotions play in both well-being and psychopathology. Until recently, the study of

emotions within the field of psychology has been dominated by a focus on negative

emotions, such as anger and sadness. Positive emotions have tended to be marginalized,

resulting in scant knowledge regarding how the experiences of positive emotion impacts

peoples' lives (Fredrickson, 1998). The disparity in the literature concerning positive and

negative emotions can be attributed to a number of factors (Fredrickson, 1998). First,

there are a smaller number of positive than negative emotions. Scientific taxonomies of

discrete emotions usually identify only one positive emotion for every three or four

negative emotions. Second, positive emotions tend to be diffuse and are more difficult to

differentiate and define than negative emotions. Third, the dysregulation of negative

emotions often result in disruptive and readily observable externalizing behaviors that

attract much attention. In contrast, it has generally been assumed that positive emotions

bestow beneficial effects upon an individual, an assumption that may have inadvertently

discouraged a deeper study of the complexities of these emotions.

The recent emergence of the field of positive psychology has helped to cultivate interest and research related to positive emotions. This field strives to understand how typically developing people flourish and how to build on positive qualities that people possess, providing a balance to psychology's general adherence to a disease model (Seligman & Csikszentmihalyi, 2000). Elucidating what contributes to the health and well-being of individuals has important implications for both the prevention and treatment of psychological disorders.

The function and effects of positive emotions. Fredrickson (1998) has sought to highlight the importance of positive emotions by creating a model that explains their function and value. She views current models of emotion, which she asserts are based primarily on negative emotions, as inadequate for explaining positive emotions because they view emotions as evolved adaptations (see Tooby & Cosmides, 1990). Emotions are believed to be associated with urges to act in particular ways, which are referred to as specific action tendencies. These specific action tendencies allow for quick and specific life-preserving actions in life-threatening situations. Thus, to facilitate this speedy response, negative emotions can be viewed as narrowing and focusing a person's range of thoughts and actions. Fredrickson maintains that many positive emotions do not fit models of this type, as they do not typically arise in life-threatening situations and they do not seem to generate specific urges to engage in a particular course of action.

In her broaden-and-build model of positive emotions, Fredrickson posits that positive emotions give rise to nonspecific action tendencies, which are not necessarily prompts to engage in physical action. She maintains that some positive emotions seem to result in changes in cognitive activity that may then influence physical activity in some

cases. Thus, she uses the term thought-action tendencies to describe the urges associated with positive emotions. As positive emotions do not tend to occur in life-threatening situations, the need for quick and decisive action is not present, which in turn obviates the narrowing of an individual's thought-action repertoire. Instead, Fredrickson asserts that many positive emotions broaden a person's momentary thought-action repertoire, leading one to pursue novel, creative, and improvised paths of thought and action. These new responses therefore have the effect of building the individual's personal resources, including physical, intellectual, and social resources, which can then be drawn on in other situations.

Fredrickson (1998) suggests that based on the broaden-and-build model, positive emotions should "undo" the aftereffects of negative emotions by reversing the narrowing of a person's thought-action repertoire and dismantling the physiological preparation for specific action. Fredrickson and Levenson (1998) found support for this hypothesis in a study that exposed to a short film that elicited fear and heightened cardiovascular activity. Participants were then shown films that elicited contentment, mild amusement, or sadness. Those participants who were shown the two positive films displayed faster recovery from the arousal caused by the scary film, returning to their baseline level of cardiovascular activation within 20 seconds, whereas those shown the sad film took 40 to 60 seconds to recover.

Fredrickson (1998) notes that current experiments have not tested the hypothesis that positive emotions restore flexible thinking following the experience of negative emotion. However, in support of this position, she cites a study by Martin, Kuiper, Olinger, and Dance (1993), in which it was found that individuals with higher levels of

humor reacted to a stressful academic exam with more problem-focused coping and greater emotional distance. Overall, Fredrickson's work suggests that positive emotions play an important role in coping with stress and adversity.

In a similar vein, Tice, Baumeister, and Zhang (2004) have found that in adults, positive emotions increase the self's capacity for all types of self-regulation, especially when that capacity has been depleted through recent use. Tice and colleagues have concluded that self-regulation is fueled by what could be conceived of as a limited resource of energy or strength. Acts of self-regulation thus detract from this resource, leaving less energy or capacity for new attempts at self-regulation. Positive emotions have been found to have a replenishing effect on this capacity for self-regulation.

In addition to serving intrapersonal functions, positive emotions are also integral to interpersonal functions (Shiota, Campos, Keltner, & Hertenstein, 2004). Positive emotional experience and expression contribute to the shaping of social interactions through three processes. First, the experience and expression of positive emotions provides information about the social world. Positive emotion experience can provide information about whether a current interaction partner deserves a significant investment of resources due to an existing close genetic relationship or signs that the relationship will be profitable. Positive emotion expression demonstrates an individual's emotional and interpersonal traits, providing information about that person as a relationship partner. Second, expression of positive emotions evokes complimentary or matching emotions in others, thereby regulating the other's emotional state. Third, expression of positive emotions serves as a reward for desirable social behavior and acts to create shared norms for behavior within a relationship.

As positive emotions tend to be more diffuse than negative emotions (De Rivera, Possel, Verette, & Weiner, 1989; Ellsworth & Smith, 1988), the idea of emotion families (Ekman, 1992) can be helpful in their conceptualization. Emotion families refer to the notion that a positive emotion term, such as joy, is not exclusively associated with one affective state, but instead is associated with a family of similar affective states that share a common theme with variations on that theme. These affective states may vary in terms of intensity, which may give rise to minor differences in their associated thought-action tendency (Fredrickson, 1998). Given the goals of the current research, the following review will focus on only the three emotions of interest in this study; namely, happiness, pride, and interest/excitement.

Happiness. The term happiness is often used interchangeably with joy (Lazarus, 1991), though some researchers differentiate the two by viewing joy as a more defined concept that is encompassed by the broader emotion of happiness (Averill & More, 1993). Elation and gladness also overlap conceptually with joy (de Riveria et al., 1989). The experience of happiness is thought to be different from sensory pleasure, although sensory pleasure can often lead to happiness. It has been suggested that happiness is more of a by-product of our efforts than a direct result of anything we do (Izard, 1993). Happiness has been described as "a pleasant, desirable, positive, rewarding feeling" that includes "a sense of psychological comfort and well-being" (Izard, 2004, p. 137). The experience of happiness in children is often elicited from social interaction, as well as the achievement of mastery in a game, task, or intellectual endeavor (Izard, 2004). Smiling, laughing, and playing are all considered to be expressions of happiness. The experience

of happiness in children is often elicited from social interaction, as well as the

achievement of mastery in a game, task, or intellectual endeavor (Izard, 2004).

The experience of happiness is thought to emerge in infants by three months,

when they begin to smile and appear to show happiness when presented with familiar

events (Lewis, 2008). Research on the emotion expression of infants and toddlers

suggests that genetics may play a role in frequency with which young children experience

happiness, as individual differences in frequency of smiling and laughing have been

observed (Izard, 2004). In an examination of the stability of patterns of emotional

expressiveness across the first 30 months of life, Denham, Lehman, Moser, and Reeves

(1995) found between-age stability of expressions of happiness at six measurement

points. Additionally, LaFreniere and Sroufe (1985) noted stability of positive

expressiveness of 4- and 5-year-olds across time. However, the authors of both studies

caution that the stability coefficients were relatively low, suggesting that although young

children's emotional expressiveness may be partially biologically based, it is also

influenced by learning, enculturation, and context.

Happiness is believed to increase an individual's openness to others, which can

contribute to the building of social bonds (Izard, 1993). These interpersonal connections,

and the attendant social support that they can supply, are highly adaptive, both

developmentally and evolutionally. The expression of happiness serves the function of

signaling to others one's readiness for friendly interaction. Thus, happiness can be seen to

play a vital role in forming and maintaining relationships. The experience of happiness is

also believed to increase an individual's ability to appreciate and savor the world,

allowing him to tune into the positive aspects of the environment and those around him.

When a person experiences happiness, she is more likely to savor an object than to dissect or analyze it (Izard, 2004). Additionally, happiness seems to elicit a very generic, nonspecific thought-action tendency; that is, the urge to play and be playful, not only in the physical sense, but intellectually, socially, and artistically. This inclination to play is important, as play promotes skill acquisition in these various areas of functioning (Fredrickson, 1998).

Interest/excitement. Interest is sometimes used interchangeably with curiosity, intrigue, excitement, or wonder. It is thought to be the most frequently experienced positive emotion, playing an essential role as a motivator in the development of skills, competencies, and intelligence. It is described as the feeling of being engaged, caught up, fascinated, or curious. The individual feels enlivened and feels a desire to become involved with the things that have stimulated the interest (Izard, 2004). Interest is necessary for creativity and provides the impetus for sustaining day-to-day work. The feeling of interest tends to be initiated by change, animation, or novelty in an aspect of the individual's environment (Izard, 2004). Behaviors indicating interest/excitement are noticeable in infants by three months of age (Lewis, 2008), though the presence of interest in infants as young as two months has been inferred from research showing that they will look longer at a human face than that of a mannequin, and will look longer at a mannequin face than at an inanimate object with scrambled facial features, Interest facilitates intersensory and sensorimotor coordination and skill development in infants and young children.

Similar to findings regarding the stability of expression of happiness in infants and young children, the expression of interest has also shown between-age stability

(Denham et al., 1995). However, the development of interest can be influenced by the child's environment, such as the amount and variety of stimulation available. Impoverished environments or those that are intolerant of a child's exploratory urges may inhibit or dampen a child's development of interest. Additionally, parents who are themselves open and receptive to new experiences a more likely to pass on to children similar attitudes and to foster the development of a low threshold for interest-motivated constructive activities (Izard, 2004).

Some theorists suggest that the thought-action tendency associated with interest is attending or orienting, though others find this to be an inadequate account of the emotion's influence (Fredrickson, 1998). Interest enhances a person's ability to receive and process information from the environment, and thus makes exploring and learning possible. As a result, some theorists maintain that interest's thought-action tendency is more accurately described as "exploration, explicitly and actively aimed at increasing knowledge of and experience with the target of interest" (Fredrickson, 1998, p. 305). In this way, interest also serves as a driving force in all types of play. The openness to new ideas, experiences, and actions inherent in the experience of interest identifies it as a broadened mindset.

Pride. The emotion of pride arises when one makes a comparison or evaluates one's behavior against some standard, rule, or goal and determines that one has succeeded (Lewis, 2008). It follows from this definition that the experience of pride depends on a large number of factors that have to do with cognitions related to the self. Children must first develop the cognitive ability to pay attention to the self, which emerges during the second half of the second year of life. Children must then achieve a

second cognitive milestone: the capacity for self-evaluation against a standard. This capacity develops during the third year of life, giving rise to what are referred to as "self-conscious evaluative emotions," including pride (Lewis, 2008).

The phenomenological experience of pride is happiness over an action, thought, or feeling well done. As the feeling of pride is related to a particular action, individuals have the necessary means to reproduce this emotion. Expressed in a group situation, pride can influence an individual's status in relation to other members (Shiota et al., 2004). Display of pride communicates to the group that an individual has just succeeded at a valued task, and that their status within the group should rise. The individual's dominance within the group increases as a result, which can lead to various social and material benefits.

The role of positive emotion experience in anxiety and depression. Clark and Watson's (1990) tripartite model of anxiety and depression has drawn attention to the role of positive emotions in these internalizing disorders. An early study by Blumberg and Izard (1986) foreshadowed the relationships articulated in the tripartite model. Ten and 11-year-old children in a public school completed the Trait scale from the State-Trait Anxiety Inventory for Children (STAIC), the CDI, and the Differential Emotion Scale - IV (DES-IV), which measures how often children experienced basic emotions (i.e., interest, joy, sadness, anger, disgust, contempt, fear, shyness, guilt, and surprise) during the past week. Children completed the CDI and the DES-IV twice over a 4-month interval, while the STAIC was only completed during the second administration. Step-down regression analysis revealed that the Time 2 DES-IV joy scale accounted for 3.94% of the variance in the Time 2 CDI scores after the STAIC score was partialed out.

Additionally, the DES-IV interest scale accounted for 3.11% of the variance in the Time 2 CDI scores. In contrast, joy and interest did not account for a statistically significant amount of the variance in the Time 2 STAIC scores.

Multivariate regression analysis was also used to evaluate the efficacy of emotion variables from the Time 1 DES-IV as predictors of depression at the second questionnaire administration. Results showed that low scores on DES-IV joy scale at Time 1 predicted depression at Time 2. The authors noted that these results can be viewed as consistent with Lewinsohn's (1974) behavioral/social learning theory of depression, which asserts that depression results from a reduced quantity of positive reinforcement or lack of contingency between reinforcers and an individual's behavior. Specifically, an individual who is low in positive emotions, such as joy, may be less likely to engage in activities that result in positive reinforcement. The dearth of positive reinforcement could in turn negatively affect an individual's emotion experience, creating a feedback loop that could lead to depression.

Emotion Regulation and Its Development in Childhood

Research has also begun to move beyond the study of discrete positive emotion states to the exploration of the regulation of positive emotions. Emotion regulation (ER) is described as "the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" (Gross, 1998a, p. 275). ER includes the ability to identify, understand, and integrate emotional information while also managing one's behavior in order to accomplish a particular goal (Thompson, 1994).

Emotion dysregulation often occurs when people have difficulty meeting the contextual demands of a situation in terms of appropriate management of the experience and expression of emotion. Emotion dysregulation also refers to difficulty managing the influence of emotional arousal on the organization and quality of one's thoughts, actions, and interactions (Cole, Michel, & Teti, 1994). Dysregulation can take the form of over-control of emotion (also referred to as inhibition) or the under-control of emotion.

Individuals use a number of different methods to regulate their emotions, which may be utilized automatically or purposely, and can also be conscious or unconscious (Gross, 1998b). Adaptive regulation of emotion, both positive and negative, may involve efforts to initiate or increase emotions, decrease the intensity of experienced emotions, or enhance or maintain emotions. ER strategies can be broadly separated into two categories: antecedent-focused regulation strategies and response-focused regulation strategies. Antecedent-focused strategies happen before the emotion has been fully generated and allow for the alteration of the emotional trajectory. This strategy can influence both the experience and subsequent expression of the emotion. Response-focused strategies happen later in the emotion generation process when the emotion is already under way. Thus, these strategies tend to be focused on the alteration of the expression of the emotion. Response-focused strategies may have unintended effects on the physiological and experiential aspects of the emotion. Suppression is the most frequently studied response-focused strategy in adults. It is described as the attempt to intentionally disrupt or minimize emotional experience and expression.

During infancy and into toddlerhood, adults are primarily responsible for helping young children to regulate their emotional displays. Adults utilize soothing behaviors and

control exposure to events or stimuli that elicit a given emotion. At this early age, socialization of emotional expression begins. It has been found that parents tend to respond to various emotional displays by their infants differently depending on the child's gender. Social referencing, the use of others' emotional expression to guide one's reactions to novel aspects of a situation, also starts to emerge in normally developing infants (Zeman, Cassano, Perry-Parrish, Stegall, 2006).

By the end of the toddler years, children have a large emotion vocabulary that they can use to label their emotional experience. This increases a child's ability to self-regulate, as they are now able to talk themselves through emotionally challenging situations or express their concerns to someone who can aid them in regulating their emotions (Zeman, 2006).

Children of preschool and early elementary school age develop an increased understanding and use of display rules. Amplification of facial expression, minimization of emotion, substitution of expression, and neutralization of emotional expression are all considered display rule strategies. Preschool aged children begin to understand that one's expressed emotion does not necessarily need to match one's subjective emotional experience. This understanding deepens as children age, with older children reporting use of display rules more than younger children (Zeman, 2006).

In middle childhood, social context has been found to influence children's use of display rules, with children's expressed emotions differing depending on whether they are interacting with their mother or father, or peers. Gender differences in the use of specific emotion regulation methods have been noted as well, with girls tending to utilize

substitution of one emotional display for another and boys showing more skill in the neutralization of emotional expressions (Zeman, et al., 2006).

Children's ability to regulate their emotions continues to increase as they move from middle childhood into adolescence (i.e., 12-18 years). As a result, their choices regarding emotion regulation become more refined and specific as these decisions are influenced by motivation, emotion type, and social contextual factors. Adolescence may also bring with it an increase in the intensity and frequency of self-conscious emotions, such as shame and pride, as adolescents' tend to experience heightened sensitivity to the evaluation of others (Zeman et al., 2006).

Regulation of positive emotions. Research has only just begun to explore the ways that individuals regulate positive emotions and how these processes affect positive emotion experience; however, these studies have primarily focused on adults. Gross and Levenson (1997) explored the relationship between different emotion regulation strategies and the experience of positive emotion experimentally by having college students watch sad, neutral, and amusing films under one of two conditions. One group was instructed to inhibit their expressive behaviors as they watched the films, whereas the second group was told just to watch the films. Participants then completed questionnaires about their subjective experience of various emotions. Those who were asked to inhibit their expressive behaviors reported decreased experience of amusement. This contrasted with their finding that suppressing negative emotions did not alter the experience of the negative emotion. Similar results have also been reported in studies that had participants suppress pride-expressive behavior (Stepper & Strack, 1993), that is that such suppression decreased pride experience.

Building on these results, Gross and John (2003) sought to examine the real-life and longer term outcomes related to the use of two different types of emotion regulation, reappraisal and suppression. Reappraisal is defined as "a form of cognitive change that involves construing a potentially emotion-eliciting situation in a way that changes its emotional behavior" (Lazarus & Alfert, 1964, as cited in Gross & John, 2003). These regulatory processes were examined by having college students complete self-report questionnaires about their use of the two management types, as well as their experience and expression of negative and positive emotions. Additionally, peers nominated as friends by the participants completed questionnaires regarding their friends' expression and management of emotion. Results showed that use of reappraisal as an emotion regulation strategy was related to greater self-reported experience of positive emotion and greater expression of positive emotion in both self-report and peer-report measures. Conversely, those individuals who predominantly used suppression reported experiencing less positive emotion and expressed less positive emotions according to both self-report and peer-report measures.

Thus, it is clear that the experience of positive emotions can be both diminished and enhanced depending on one's chosen ER strategy. Given the benefits that come with the experience of positive emotions discussed earlier, it is important to understand the ER strategies that can work to maintain these emotions. From a theoretical standpoint, it is thought that greater tendencies to express and outwardly display emotions should enhance the sensitivity to and savoring of positive life events (Kashdan & Breen, 2008). Positive events and the positive emotions that accompany them, can be prolonged by expressing and sharing positive feelings openly with others. Additionally, accepting and

openly expressing positive emotions acts to clearly delineate pleasurable and meaningful events, which in turn leads to more organized positive memories that can be more easily retrieved, savored, and strategically used to enhance or sustain positive emotions.

A preliminary study by Langston (1994) lends support to the theoretical relationship between expressive displays of positive affect and the experience of positive affect. In this study, college students were asked to keep a diary in which they reported one negative and one positive event that occurred each day over a 15-day period. Open- and close-ended questions were then used to assess how participants responded to positive events, and specifically whether they capitalized on (or savored) positive events by engaging in expressive displays (e.g., communicating the event to others, celebrating). The mood of participants was measured through random experience sampling. Results revealed that expressive responses were associated with positive affect above and beyond the benefits due to the valence of the positive events themselves.

Although it is commonly assumed that people are motivated to feel good and to generate and perpetuate positive affective states, Wood and his colleagues (2003), however, have found that there may be individual differences in the degree of motivation to maintain pleasurable feelings. In a study looking at individuals' responses to positive events, they found that individuals low in self-esteem (LSE) were more likely than individuals with high self-esteem (HSE) to report dampening their positive emotions. Additionally, those with HSE were especially likely to report behaviors aimed at enhancing or savoring good feelings that resulted from positive events in their lives. Thus, Wood et al. concluded that certain people, in this case individuals with LSE, might be more inclined than others to mute their own joy and excitement. They reasoned that

because individuals with LSE generally report being less happy than HSEs, they could

likely be described as having a lower than normal set point for their emotions than

individuals with high self-esteem (HSE). As research has suggested that people are less

likely to change a mood the more that they accept the mood as typical of themselves, it

would be expected that LSE individuals might seek to decrease their positive emotions to

return to their lower set point. Wood and colleagues entertained additional bases for such

differences between LSE and HSE individuals, including the role of self-verification

theory (e.g., Swann & Schroeder, 1995). This theory postulates that people seek to

maintain their views of themselves, even if those views are unfavorable, as doing

otherwise would be to challenge one's self-concept and cause disruption of one's world.

Thus, Wood and colleagues hypothesized that individuals with LSE might dampen their

positive emotions to avoid such feelings of disruption and instability.

Children's regulation of positive emotions. Research has only begun to examine

normative emotion regulation practices of positive emotions among children. Studies

have tended to focus on children's understanding of positive emotions and their

knowledge of display rules, eschewing direct exploration of the emotion regulation

processes that children employ themselves. For example, Gosselin, Warren, and Diotte

(2002) examined children's understanding of the distinction between real and apparent

emotions and how an individual might modify the expression of felt emotions (i.e.,

display strategies). The children were read stories in which the character was

experiencing either happiness or sadness but had a motivation to hide his or her emotion.

Children were asked to identify the real emotion felt by the character and then pick a

picture showing the facial expression that the character would display, representing the

display strategies of masking, neutralization, or minimization. Results showed that older

boys chose neutralization significantly more than masking when the character was

experiencing happiness, whereas they chose masking more often when the character was

experiencing sadness. In contrast, girls were more likely to choose neutralization as a

display strategy regardless of the felt emotion described in the story. Although the

Gosselin et al. study demonstrates that children understand that there are situations in

which the expression of happiness should be altered and that there are different strategies

to achieve this end, it could be argued that the hypothetical nature of the design may not

fully capture children's real world application of these strategies.

Underwood (1997) conducted a similar study with children in grades two, four,

and six, that explored their understanding of the regulation of both pride and happiness.

The design differed slightly from that of Gosselin and colleagues (2002) in that children

read stories intended to elicit an emotion and were then asked to choose one of four

responses (e.g., strong honest expression, moderate expression, masking by showing no

expression, or masking by showing the opposite expression) to represent how *they* would

expressively respond to the situation. Children were also asked how they thought their

peers would react to the emotional expressions described. Children chose masked

expression less frequently for pride than for sadness, embarrassment, and disappointment.

Children also reported that they would express pride less openly than happiness.

Developmental differences emerged, with children in the second grade acknowledging

more open expressions of happiness than children in grades four and six. In terms of

social outcomes related to emotional expression, children expected more positive

outcomes from peers following the expression of positive emotions and sadness. Children

reported that they believed the most positive social outcomes would follow moderate expressions of happiness or pride; masking by showing no emotion when experiencing happiness and pride; and masking by showing the opposite emotion when experiencing happiness.

Reissland and Harris (1991) observed preschool children's displays of pride after winning a game, and found that all the children except the three youngest participants (mean age 23 months) expressed pride. Additionally, it was observed that older preschool children (mean age 58 months) used display rules significantly more than the younger preschool children, and were noted to use one management strategy, masking.

Developmental differences in the management of expressions of pride have also been observed from pre-adolescence to adolescence (Stegall & Zeman, 2005). Two vignettes designed to elicit pride were presented to participants in the fifth, eighth, and 11th grade and college. The participants were than asked questions to gauge pride intensity, emotion management, and perceived self-efficacy in relation to management skills. Results demonstrated that children in fifth grade were more likely to express their feelings of pride to their friends compared to college-age participants.

The role of positive emotion regulation in depression and anxiety. Increased attention has also been given to the role that regulation of positive emotions may play in the development and maintenance of psychopathology, and internalizing disorders in particular. It is thought that ER may be an important factor in understanding risk for internalizing problems, as they are characterized by affective dysregulation of sadness, fear, or joy (Silk, Shaw, Forbes, Lane, & Kovacs, 2006). Results presented in a poster by Harris, Walden, Kim, Karrass, and Catron (2003) found that an interaction between

positive emotion and emotion control significantly predicted children's depression and anxiety symptoms. Specifically, emotion control was found to be associated with depression and anxiety when children were low in positive emotion.

Chaplin (2006) employed self-report and observational methods to explore the relationship between depressive symptoms and patterns of emotional experience and expression, including happiness, sadness, and anger, in older adolescents aged 18-20. Participants completed questionnaires on emotion experience (e.g., Differential Emotions Scale IV; DES-IV) and depressive symptoms (e.g., Beck Depression Inventory; BDI) and were videotaped attempting a frustrating task with a friend. The videotaped interactions were subsequently coded for emotion expressions. Results showed a relationship between depressive symptoms and reporting low happiness but showing high happiness expression in the task. Chaplin suggested that this pattern might reflect a need to appear cheery to others. Interestingly, when the three emotions were examined together, happiness seemed to be the most related to depressive symptoms, to a greater extent than anger. The author speculated that the regulation of happiness might be as important or more important than the presence of negative emotions in understanding the development of depression in late adolescence. Additionally, gender differences were observed, with females showing higher levels of happiness expression with a friend than males, expressions that were related to higher depressive symptoms. However, it was also noted that females reported higher happiness experience than males, despite the fact that happiness experience was inversely related to depression. Chaplin suggested that the female participants' self-reported level of happiness experience might reflect their belief that they should feel happy, rather than representing their actual level of happiness.

The ER strategies of preschool and early elementary school children of depressed mothers have been examined in a laboratory reward-delay situation (Silk et al., 2006). Children were told that they would receive a prize, which was given to the child's mother and kept in view but out of reach of the child. The child was asked to wait for the prize in a room that lacked enjoyable toys or other activities. Observations were made as to how frequently a child employed three ER responses: sustaining a negative focus on the desired object or waiting situation; use of behavioral distraction to redirect attention away from the waiting situation; and maintaining, or up-regulating, positive affect in anticipation of receiving the desired object. Additionally, child internalizing symptomatology was measured using the CBCL and parent depression was assessed using the Beck Depression Inventory (BDI).

Results showed a trend toward lower use of positive reward anticipation among children of depressed mothers, as well as a negative association between maternal scores on the Beck Depression Inventory and children's positive reward anticipation. Positive reward anticipation was also found to be negatively associated with internalizing behavior as measured by the CBCL for children of both depressed and non-depressed mothers. However, it was reported that this relationship was much stronger among children of depressed mothers, and was found to be strongest among children of mothers who had a history of depression and were currently experiencing elevated depressive symptoms. The authors suggest that children of mothers with current depressive symptoms may have a greater need to seek out and up-regulate their own positive emotions, as their mothers may be unable to organize pleasant experiences and model positive emotions for their children. This suggests that a child's ability to generate and

regulate positive emotions may serve as protective factor against internalizing symptoms. In addition, a gender difference was also noted in the relationship between positive reward anticipation and internalizing symptoms, with this link appearing to be stronger for girls than for boys. The authors speculate that the ability to mobilize positive emotion may be more important for girls than boys, as previous research has shown that girls report experiencing more frequent and intense negative emotions than boys.

Mennin, Heimberg, Turk, and Fresco (2005) created an emotion dysregulation model of anxiety and the mood disorders in adults that articulates four components of emotion dysfunction: heightened intensity of emotions, poor understanding of emotions, negative reactivity to one's emotional state, and maladaptive emotional management responses. This model was used to explore whether aspects of emotion dysregulation exhibit specific and nonspecific relationships to GAD, MDD, and social anxiety disorder in undergraduate participants (Mennin, Holaway, Fresco, Moore, & Heimburg, 2007). Results showed that these emotion dysregulation factors may be seen in some form in all of these anxiety and mood disorders, though some patterns of specificity were also apparent. Heightened intensity of emotions, both positive and negative, was found to be a strong predictor of GAD, and was also found to negatively predict social anxiety disorder. GAD was also found to be predicted by maladaptive emotion management. The authors suggest that although many anxiety and mood disorders are likely characterized by some amount of poor emotion management, individuals with GAD may have the greatest difficulty managing their emotional responses, which is likely related to the heightened intensity of emotions that they experience. Poor understanding of emotion characterized by difficulty identifying one's emotions and experiencing them as

undifferentiated, confusing, and overwhelming, was found to be associated with both MDD and social anxiety disorder. Further, negative reactivity to emotions predicted MDD and social anxiety disorder. These findings show the importance of studying both common and specific relationships between components of emotion and its dysregulation with psychopathology.

In a study comparing the regulation of positive emotions by college students who met DSM-IV criteria for GAD and social anxiety disorder, Turk, Heimberg, Luterek, Mennin, and Fresco (2005) had participants complete questionnaires assessing negative beliefs about emotional reactions, degree to which emotional impulses are expressed overtly, and emotional intelligence. Results showed that both groups reported elevated fear of positive emotions compared to controls. However, Turk and his colleagues suggest that individuals with GAD and social anxiety disorder may differ in their reasons for fearing positive emotions. They suggest the fear of positive emotions in those with GAD may arise from superstitious beliefs, specifically that if they allow themselves to feel good rather than worry, bad things may be more likely to happen. Individuals affected by social anxiety disorder on the other hand, may fear positive emotions because if they are expressed, others may not reciprocate or validate them. The study also revealed that socially anxious individuals reported being less expressive of positive emotions than both controls and individuals with GAD. Turk and his colleagues postulate that individuals with social anxiety disorder may actively attempt to suppress the expression of positive emotions in the hope of avoiding becoming the center of attention or to protect themselves from being hurt if their feelings are not reciprocated. This emotion regulation approach may harm these individuals' chances of achieving closeness

and affiliation with others, as expressive suppression has been associated with reduced feelings of rapport, motivation to become further acquainted and increased physiological reactivity in an interaction partner (Butler et al., 2003). Expressive suppression has also been associated with poorer social support (Gross & John, 2003).

Despite being a relatively new area of study, the literature accumulating on the function and effects of positive emotions demonstrates the importance and potential of this line of research. The preliminary explorations of the role of experience and regulation of positive emotions in depression and anxiety suggest that these facets of emotion may provide a new perspective on the nature of each disorder, as well as a method for better differentiating the two disorders.

Current Study

The purpose of this study is to build on the framework of Clark and Watson's (1991) tripartite model with a specific emphasis on the role of positive emotional experience and regulation in the differentiation between depression and anxiety in children. The elucidation of factors unique to each of these disorders potentially could then be employed to address the issue of their comorbidity; specifically, do the concepts of depression and anxiety represent two distinct constructs or one unitary construct?

The current study adds to the literature by examining how the experience (i.e., frequency, intensity) and regulation (i.e., inhibition, dysregulation) of specific positive emotions (i.e., happiness, interest, pride) contribute to the prediction and differentiation of anxiety and depressive symptoms in children. Previous research has tended to examine positive emotions as a global entity (e.g., positive affect), despite the fact that discrete positive emotions differ experientially and in terms of the thought-action tendencies that

they elicit (Fredrickson, 1998). By examining the experience of happiness, interest/excitement, and pride and the inhibition and dysregulation of happiness and pride in more depth, the specific relationships between particular aspects of different positive emotions and symptoms of depression and anxiety can be discovered.

When examining the experience of positive emotions, previous research has tended to focus on the frequency with which individuals experience positive emotions, neglecting other facets of emotional experience. Thus, this study explored the relationships between symptoms of depression and anxiety and the frequency of happiness, interest/excitement, and pride experience, but also their relationship with intensity of happiness and interest/excitement. Additionally, this study explored the role of the regulatory processes of inhibition and dysregulation in predicting symptoms of depression and anxiety. Research completed with adults suggests that there may be components of positive emotion dysregulation that demonstrate specific and nonspecific relationships to various anxiety and mood symptomology. Only one study (Harris et al., 2003) has studied the relationship of positive emotion regulation to symptoms of depression and anxiety, representing an area in need of attention, particularly with children. In addition, studies examining the regulation of positive emotions appear to assume a uniformity in their regulation, addressing them as a class of emotion instead of considering the positive emotions individually. Work by Underwood (1997) provides evidence that children may vary in the way that they regulate different positive emotions, which suggests a need to investigate positive emotions separately.

In addition, the current study allowed for an examination of possible gender and developmental differences in the relationship of experience (i.e., intensity, frequency) and

regulation of positive emotions to symptoms of depression and anxiety. The existing research regarding gender differences in the applicability of the tripartite model is mixed, with some studies reporting no effect of gender with respect to the fit of the model (e.g., Chorpita, 2002) and others suggesting that the model may not fit boys and girls equally well (e.g., Jacques & Mash, 2004). Conflicting research findings also exist regarding the application of the tripartite model of anxiety and depression to younger children. Specifically, although some researchers have found no developmental differences in the application of the tripartite model (e.g., Turner & Barrett, 2003), the results of other studies suggest that PA does not differentiate between depression and anxiety in elementary school children (i.e., children in grade five or below), but may do so in children of middle school age or older (e.g., Crook et al., 1998; Jacques & Mash, 2004; Lonigan et al., 1999). For this reason, the present study focused on the emotional experience of children in elementary and middle school. Further, no studies have examined whether there are developmental differences in the relationship of the regulation of positive emotions and symptoms of depression and anxiety.

The current investigation used data collected from a larger scale study on the socialization of positive emotion that included two age groups: an elementary school sample of 3rd and 4th graders, and a middle school sample of 6th and 7th graders. Self-report measures used to assess the frequency (happiness, interest/excitement, pride), intensity (happiness, interest/excitement), and management (happiness and pride) of specific positive emotions will be examined in relation to self-report measures of anxiety and depressive symptoms.

The following hypotheses and research questions were addressed:

1. Consistent with the tripartite model, frequency of happiness would be negatively associated with symptoms of depression, but not anxiety.

2. It was expected that the frequency of interest/excitement would be positively related to anxiety symptomatology, but not to depressive symptomatology.

3. As prior research suggests that the suppression of the positive emotional expression decreases their subjective experience, it was hypothesized that the inhibition of happiness would be positively related to depressive symptomatology, but not to symptoms of anxiety.

4. No research is available regarding the relations between the intensity of positive emotion experience and depression and anxiety, thus no formal hypotheses were articulated and this analysis is considered exploratory in nature.

5. No research is available regarding the relations between dysregulation of positive emotional expression and depression and anxiety, thus no formal hypotheses were articulated and this analysis is considered exploratory in nature.

6. No research is available regarding the relations between the experience and management to pride and depression and anxiety, thus no formal hypotheses were articulated and this analysis is considered exploratory in nature.

CHAPTER II

Method

Participants

Participants were recruited from four public schools in the Hampton Roads area of Virginia (See Appendix C for contact letter and consent forms). A total of 310 students participated. The elementary school group was comprised of 162 children in the 3rd and 4th grades. There were 90 boys ($M = 9.43$ years, $SD = 0.75$) and 72 girls ($M = 9.57$ years, $SD = 1.44$). The middle school group was composed of 148 adolescents in the 6th and 7th grades. There were 64 boys ($M = 12.23$ years, $SD = 1.06$) and 84 girls ($M = 12.34$ years, $SD = 0.74$) in the middle school group. The overall racial composition of the sample was 65.5% Caucasian, 16.1% African American, 3.5% Hispanic, 3.2% Asian, and 11.6% other race (see Table 1 for demographic frequencies). As part of the larger original study, one legal guardian of each child was asked to participate, which resulted in a total of 177 parent/guardian participants distributed fairly equally between the elementary and middle school levels. Only parent/guardian information regarding families' socioeconomic status (SES) was considered in this study. SES was calculated using the Hollingshead (1975) *Four Factor Index of Social Status*, which uses four indicators (education, occupation, gender, and marital status) to measure and arrive at a score of social status/SES. Ranges of scores can be grouped into five categories: the lowest SES category (scores from 8-19); lower middle SES (20-29); middle SES (30-39); upper middle SES (40-54); and the highest SES level (55-66). Participants from both the elementary ($M = 41.78$, $SD = 11.14$) and middle school ($M = 45.01$, $SD = 12.28$) groups fell within the upper middle class category.

Recruitment Procedures

After receiving approval for this study through the College of William and Mary's Institutional Review Board the principal investigator began contacting schools from around the Hampton Roads area to attain consent to recruit students to participate. Following consent from the schools, letters explaining the study were mailed to parents, along with a consent form to be returned to the child's teacher (see Appendix A.1-A.3). All students who returned their permission slip were given a small gift (i.e., a pencil, folder, piece of candy) without consideration as to whether or not they participated. Only students who had the written consent of a legal guardian were allowed to participate.

Materials

Childhood depressive symptomatology. Symptoms of depression were assessed with the Children's Depression Inventory (CDI; Kovacs, 1992), which is composed of 27 items intended to measure a variety of symptoms associated with depression such as sleep disturbance, appetite loss, and anhedonia. One item pertaining to suicide was omitted. Each item consists of three self statements that range from what would be considered an asymptomatic response to statements indicating mild to moderately intense depressive symptoms, and are scored as a 0, 1, or 2 with higher numbers denoting endorsement of more intense depressive symptomatology. Respondents choose the item that is believed to best describe their experience; items are summed to obtain a total score.

The CDI norms were derived from a sample of 1,266 Florida public school students in grades two through eight. Based on total demographics for the school districts sampled in Florida, it is estimated that 77% of the children were white and 23% were

African-American, American Indian, or Hispanic in origin. Separate norms were developed for boys and girls and for two age groups, younger children ages 7 to 12 and older children ages 13 to 17. The CDI has been found to have reasonably good internal consistency, with coefficients ranging from .71 to .89. Test-retest coefficients range from .74 to .83 over a two to three week period (Kovacs, 1992). The CDI is the most widely used measure of childhood depressed affect (Cole & Turner, 1993), and there is significant research documenting its reliability and validity (e.g., Saylor, Finch, Baskin, Furey, & Kelly, 1984; Smucker, Craighead, Craighead, & Green, 1986). Brady and Kendall (1992) have suggested that the discriminant validity of the CDI and RCMAS can be improved by excluding items that overlap between the two scales. As the current study is particularly concerned with examining whether variables differentiate between depression and anxiety, this approach was utilized in calculating total scores for both the CDI and RCMAS (See Appendix D for CDI and RCMAS items excluded from total scores). Alpha values for the CDI, as well as all subsequently discussed scales, are presented in Table 3, with alphas calculated for the entire sample, by age group and gender.

Anxiety symptomatology. The Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1997) was employed to measure children's level of anxiety. The RCMAS is a 37-item questionnaire that assesses the presence or absence of a range of symptoms associated with anxiety. Embedded within the 37 items are nine items intended to detect social desirability in responding. Each item is answered in a yes-no format. A total score is derived by summing the number of "yes" responses. Total scores range from 0 to 28, with higher scores representing greater anxiety. The RCMAS

has three subscales: Worry-Oversensitivity, Physiological, and Social

Concerns/Concentration. Norms were developed for the RCMAS from a standardization

sample of 2,368 individuals aged 6 to 19, representative of the United States population

in terms of key demographic variables such as gender, ethnicity, and socioeconomic

status. Norms are stratified into three age groups: 6 to 8, 9 to 14, and 15 to 19. This

measure has been found to be reliable across different gender, racial, and age groups

(Reynolds & Paget, 1983).

Positive emotion constructs. Four measures were employed to assess a variety of

facets of the positive emotions happiness, excitement/interest, and pride. Table 2 presents

a complete explanation of which measures assess each positive emotion variable.

In order to assess frequency of happiness, interest, and pride the Discrete Emotion

Scale -IV (DES-IV; Izard, Dougherty, Bloxom, & Kotsch, 1974) was used. The DES-IV

is a self-report instrument with 47 items created to assess the experience of 12 basic

emotions: sadness, shame, interest, joy, surprise, disgust, anger, pride, shyness, fear,

hostility, and contempt. A 5-point Likert scale (1 = *rarely or never*, 3 = *sometimes, 5 =*

very often) is used to rate the frequency with which these emotions are experienced (e.g.,

"In your daily life, how often do you feel glad about something."). Norms are not

available for this scale. The DES-IV has well-established validity and reliability (.50 to

.78) for the various emotion scales (Izard, Dougherty, Bloxom, & Kotsch, 1974; Izard,

Haynes, Chisholm, & Baak, 1991). For this study, only the nine items pertaining to the

emotions of joy, interest, and pride were used. As measures employed in this study use

both the terms joy and happiness, it was decided that for consistency and ease of

communication, the term happiness would be used in place of joy, as the terms are generally used interchangeably.

Frequency and intensity of happiness and excitement were assessed using the How I Feel (HIF; Walden, Harris, & Catron, 2003) questionnaire. This self-report measure is composed of 30 items addressing the experience of both positive emotions (happiness and excitement) and negative emotions (anger and sadness) (e.g., "I was excited almost all of the time"), as well as children's ability to control or regulate these emotions (e.g., "When I felt happy, I could control or change how happy I felt."). Items are rated using a 5-point Likert scale (1 = *not at all true of me*, 3 = *somewhat true of me*, 5 = *very true of me*). Norms are not available for this scale. Convergent validity has been demonstrated between the HIF scale and other scales of positive and negative emotions including the PANAS and AERS, ranging from .30 to .62. Moderate stability of HIF scores have been shown over time, which is noteworthy because children undergo considerable development in their social and emotional functioning during elementary school. For the purposes of this study, only the 12 items pertaining to frequency and intensity of happiness and excitement were used.

To assess regulation of feelings of happiness, the Children's Emotion Management Scale for Happiness (CEMS-H) was administered. The 17-item questionnaire is based on the structure of the Children's Sadness Management Scale (CEMS-S; Zeman, Shipman, & Penza-Clyve, 2001), which includes three subscales to assess different aspects of emotion management. Items assess a child's knowledge of socially appropriate expressions of happiness and their ability to control their happiness in social situations (e.g., "There are times when it is not okay to show how happy I feel"),

the presence of disruptive or inappropriate expression of happiness (e.g., "When I feel happy, I can't help but smile and laugh, no matter where I am") and the suppression of expressions of happiness (e.g., "I hide how happy I feel"). Items are rated by respondents on a 3-point Likert scale (1= *hardly ever*, 2 = *sometimes*, 3= *often)*. Norms have not yet been developed for this scale.

Children's regulation of pride was assessed using the Children's Emotion Management Scale for Pride (CEMS-P; Zeman, Godlenberg-Bivens, Schlegelmilch, Butler, & Torterella, 2007), which is comprised of three subscales similar to those found in the CEMS-H. Four items measure the non-constructive expression of pride, referred to as dysregulation. Five items assess the inhibition of pride. Finally, two items describe the expression of pride. Only the inhibition and dysregulation scales will be examined in this study. Norms have not yet been developed for this scale.

Procedure

The questionnaire packet was group-administered at the children's school during the school day in one 45-minute session. Children who received permission from their parent or guardian to participate were taken to a separate classroom to complete the questionnaire. Eight questionnaires were administered altogether; however, for the aims of this study, responses from only six of the questionnaires were considered. All items of the questionnaire were read aloud by the principal investigator or a graduate research assistant, while the children followed along and filled in their answers. Other research assistants circulated throughout the classroom to aid individual children who seemed to have reading or comprehension difficulties or fell behind.

Analytic Strategy

Study aims were evaluated through a series of path models. Path analysis is a statistical technique that allows a set of relationships between one or more observed independent variables and one or more observed dependent variables to be examined simultaneously (Tabachnick & Fidell, 2007). As the current study examined the relationship of multiple independent variables (e.g., frequency, intensity, and management of specific positive emotions) to two dependent variables (e.g., anxiety and depressive symptoms), path analysis provided an effective method to examine these numerous relationships simultaneously. When multiple independent variables are included in the model, the results of path analysis reveal the unique relation between each independent and dependent variable by controlling for common variance among the independent variables.

Due to sample size limitations, path analyses were first computed to examine gender differences and a different set of analyses examined developmental differences (younger vs older age groups). Three path models were used to analyze the different facets of positive emotions (i.e., frequency, intensity, regulation). In the first full model, to examine positive emotion frequency effects for depressive and anxiety symptoms, we specified directional paths from each positive emotion frequency variable (e.g., joy, pride, and interest) to CDI and RCMAS scores. The second full model, examined the relationship of each positive emotion intensity variable (e.g., happiness and excitement) to symptoms of depression and anxiety with directional paths specified from each intensity variable to CDI and RCMAS scores. Finally, in the third full model, to examine positive emotion regulation effects for depressive and anxiety symptoms, we specified

directional paths from each positive emotion regulation variable (e.g., pride inhibition, pride dysregulation, happiness inhibition, happiness dysregulation) to CDI and RCMAS scores. When mentioned in the results, these models will be referred to as the "full model" for each positive emotion facet, with reference to figures of each model by gender and age group.

Following these analyses, we examined the relations of each positive emotion frequency, intensity, and regulation variable to symptoms of depression and anxiety in isolated path models. This was done in order to uncover significant relations that might have been obscured due to correlations among independent variables in the full model.

All path analyses were conducted using AMOS version 17.0 (AMOS Development Corporation, Chicago, IL). Each model analyzed was fully saturated, meaning that all possible paths were included in the model, which accounted for all correlations among the variables. As a result, the model fit for all analyses was perfect. Covariance matrices served as input for these analyses and maximum likelihood estimation was utilized. Chi-square difference tests were employed when necessary to determine if particular paths differed significantly between genders and age groups. Only significant findings are reported.

Preliminary analyses. The assumptions for path analysis were evaluated through SPSS version 16.0 (SPSS Inc., Chicago, IL). Means and standard deviations of variables by gender and age group are presented in Tables 4-7. Intercorrelations among variables by gender and age group are presented in Tables 8-11. There were complete data for 309 participants on the 11 variables of interest. One participant (.32%) was missing data on

pride inhibition and dysregulation. Thus, analyses employing these variables used complete cases only (N = 309).

There were no univariate outliers. There was evidence that univariate normality was violated. Nine of the measured variables (CDI total, RCMAS total, DES joy, DES interest, HIF happiness intensity, CEMS-H inhibition, CEMS-H dysregulation, CEMS-P inhibition, CEMS-P dysregulation) were found to be significantly univariately skewed, p < .01, when the standard error for skewness was used to compare the obtained skewness value to zero using the z distribution. These variables were transformed using square root transformation, which was found to be the method most appropriate for the degree of divergence from normal.

CHAPTER III

Results

The results are presented in two main sections, with the first section covering

findings by gender and the second examining results by age group. Within each section,

results regarding the relations of frequency of positive emotions to symptoms of

depression and anxiety will be reported first, followed by findings related to positive

emotion intensity. Results concerning positive emotion regulation variables will be

reported last. Within the text, the reader is referred to figures depicting the full models by

gender and age group with standardized path coefficients. Standardized path coefficients

for both full and individual models can be found in tables 11-14.

Gender Effects

 Frequency of positive emotion predicting symptoms of depression and anxiety

 Full model. The full path model for positive emotion frequency with standardized

path coefficients for boys and girls can be found in Figures 1 and 2 respectively. When

the three positive emotion frequency variables were analyzed together, they were found

to account for 22.8% of the variance in depressive symptoms for boys and 35.4% of the

variance for girls. The three frequency variables accounted for .9% of the variance in

anxiety symptoms for boys and 7.6% of the variance for girls. Joy frequency significantly

negatively predicted symptoms of depression for both boys ($\beta = -.40$, $p < .001$) and girls

($\beta = -.50$, $p < .001$) when analyzed within the full model. For girls, depressive symptoms

were also negatively predicted by pride frequency ($\beta = -.16$, $p < .05$). Further, it was

found that for girls, anxiety symptoms were negatively predicted by frequency of joy ($\beta =$

$-.22$, $p < .05$) and positively predicted by frequency of interest ($\beta = .22$, $p < .01$).

Joy frequency. In separate analyses, joy frequency accounted for 21.9% of the variance in reported depressive symptoms and 0% of anxiety symptoms for boys. For girls, joy frequency accounted for 32.9% of the variance of reported depressive symptoms and 3.2% of the variance in anxiety symptoms. Depressive symptoms continued to be negatively predicted by joy frequency for both boys ($\beta = -.47, p < .001$) and ($\beta = -.57, p < .001$) girls. For girls, anxiety symptoms were still negatively predicted by joy frequency ($\beta = -.18, p < .05$), but were not significantly positively predicted by interest frequency as found in the full model.

Pride frequency. Pride frequency, when analyzed separately, accounted for 9.4% of the variance in reported depressive symptoms and .6% of the variance in anxiety symptoms for boys. For girls, 19.5% of the variance of depressive symptoms and 1.1% of the variance of anxiety symptoms were accounted for by pride frequency. Pride frequency negatively predicted symptoms of depression for both boys ($\beta = -.31, p < .001$) and girls ($\beta = -.44, p < .001$). When compared with the full model, the relation between pride frequency and depressive symptoms significantly increased in strength for girls, and became significant for boys.

Interest frequency. In separate analyses, frequency of interest accounted for 6.7% of the variance in reported depressive symptoms and .4% of the variance in anxiety symptoms for boys. For girls, frequency of interest accounted for .2% of the variance in reported depressive symptoms and 2.7% of anxiety symptoms. Interest frequency continued to positively predict anxiety symptoms for girls ($\beta = .16, p < .05$) when analyzed separately. For boys, in contrast to the full model, interest frequency was now found to negatively predict depressive symptoms ($\beta = -.26, p < .001$).

In summary, lower frequency of joy and pride predicted increased depressive symptoms in both boys and girls. For boys, increased depressive symptoms were also predicted by lower frequency of interest. For girls, increased symptoms of anxiety were predicted by lower joy frequency and higher interest frequency.

Intensity of positive emotion predicting symptoms of depression and anxiety

Full model. The full path model for positive emotion intensity with standardized path coefficients for boys and girls can be found in Figures 3 and 4 respectively. When both intensity variables were analyzed in one model, they were found to account for 7.1% of the variance in depressive symptoms and 4.2% of the variance in anxiety symptoms for boys, whereas for girls they accounted for 14.5% of the variance in depressive symptoms and 1.8% in anxiety symptoms. Depressive symptoms were negatively predicted by happiness intensity for both boys ($\beta = -.32$, $p < .001$) and girls ($\beta = -.39$, $p < .001$). Additionally, for boys, anxiety symptoms were positively predicted by excitement intensity ($\beta = .22$, $p < .05$).

Happiness intensity. In separate analyses, happiness intensity accounted for 6.1% of the variance in depressive symptoms and .9% of the variance in anxiety symptoms for boys, whereas it accounted 14.5% for of the variance in depressive symptoms and 1.3% in anxiety symptoms for girls. Happiness intensity continued to negatively predict depressive symptoms for boys ($\beta = -.25$, $p < .01$) and girls ($\beta = -.38$, $p < .001$).

Excitement intensity. In separate analyses, excitement intensity accounted for .4% of the variance in depressive symptoms and 4.1% in anxiety symptoms for boys, whereas it accounted for of the variance in depressive symptoms and in anxiety symptoms for girls. Excitement intensity was found to negatively predict depressive symptoms for girls

(β = -.20, p < .05) when analyzed separately. For boys, excitement intensity positively

predicted anxiety symptoms (β = .20, p < .05).

In summary, decreased happiness intensity predicted increased depressive

symptoms for both boys and girls. Increased depressive symptoms for girls were also

predicted by decreased excitement intensity. Finally, increased anxiety symptoms were

predicted by increased excitement intensity for boys and girls.

Regulation of positive emotion predicting symptoms of depression and anxiety

Full model. The full path model for positive emotion regulation with standardized

path coefficients for boys and girls can be found in Figures 5 and 6 respectively. When

all positive emotion regulation variables were analyzed in one model, they were found to

account for 25.6% of the variance in depressive symptoms and 21.9% in anxiety

symptoms for boys. For girls, the regulation variables accounted for 15.5% of the

variance in depressive symptoms and 14.3% of the variance in anxiety symptoms for

girls. Depressive symptoms were positively predicted by happiness inhibition (boys: β =

.22, p < .01; girls: β = .27, p < .001) and pride dysregulation (boys: β = .20, p < .01; girls:

β = .22, p < .01) for both boys and girls. Pride inhibition was found to significantly

positively predict symptoms of depression in boys (β = .32, p < .001), but not girls.

Symptoms of anxiety were positively predicted by happiness inhibition for both boys and

girls (boys: β = .33, p < .001; girls: β = .30, p < .001). Finally, happiness dysregulation

positively predicted anxiety symptoms for boys (β = .26, p < .001), but not girls.

Happiness dysregulation. In separate analyses, happiness dysregulation accounted

for .5% of the variance in depressive symptoms and 3.3% of the variance in anxiety

symptoms for boys, whereas it accounted for 1.9% of the variance in depressive

symptoms and .7% in anxiety symptoms. Happiness dysregulation continued to significantly positively predicted anxiety symptoms for boys ($\beta = .18, p < .05$), but not girls.

Happiness inhibition. When analyzed in isolation, happiness inhibition accounted for 12.5% of the variance in depressive symptoms and 11.5% of the variance in anxiety symptoms for boys, whereas it accounted for 10.8% of the variance in depressive symptoms and 10.8% in anxiety symptoms for girls. For boys and girls, happiness inhibition continued to positively predict both symptoms of depression (boys: $\beta = .35, p < .001$; girls: $\beta = .33, p < .001$) and anxiety (boys: $\beta = .34, p < .001$; girls: $\beta = .33, p < .001$) when analyzed in isolation from other regulation variables.

Pride dysregulation. Pride dysregulation was found to account for 5.4% of the variance in depressive symptoms and 5% in anxiety symptoms for boys, and 2.7% and 1% of the depressive and anxiety symptoms for girls respectively. As in the full model, pride dysregulation continued to positively predict depressive symptoms for both boys and girls (boys: $\beta = .23, p < .01$; girls: $\beta = .16, p < .05$). For boys, separate analysis revealed a positive predictive relationship between pride dysregulation and anxiety symptoms ($\beta = .22, p < .01$) that was not observed in the full model.

Pride inhibition. Pride inhibition was found to account for 17% of the variance in depressive symptoms and 5.8% in anxiety symptoms for boys, whereas it accounted for 2.4% of the variance in depressive symptoms and 4% in anxiety symptoms for girls. As observed in the full model, pride inhibition continued to positively predict symptoms of depression for boys ($\beta = .41, p < .001$). A positive predictive relationship between pride inhibition and depressive symptoms emerged for girls ($\beta = .16, p = .05$) when this

variable was analyzed in isolation. Pride inhibition also maintained a positive predictive relationship with anxiety symptoms for both boys (β = .24, p < .01) and girls (β = .20, p < .05).

Developmental Effects

  Frequency of positive emotion predicting symptoms of depression and anxiety

  Full model. The full path model for positive emotion frequency with standardized path coefficients for younger and older children can be found in Figures 7 and 8 respectively. When the predictive effects of the frequency of joy, pride, and interest were considered within the same model, they accounted for 23.9% of the variance in depressive symptoms and 1%of the variance in anxiety symptoms for younger children. These variables accounted for 35.5% and 5.3% of the variance in depressive and anxiety symptoms respectively for older children. Frequency of joy significantly negatively predicted symptoms of depression in both younger (β = -.41, p < .001) and older children (β = -.56, p < .001). For older children, it was also found that frequency of interest significantly positively predicted anxiety symptoms (β = .22, p < .05). Pride did not significantly predict depression or anxiety symptoms for either age group.

  Joy frequency. In separate analyses, joy frequency accounted for 22.5% of the variance in reported depressive symptoms and 0% of the variance in anxiety symptoms for younger children. For older children, joy frequency accounted for 35% of the variance in depressive symptoms and .9% of the variance in anxiety symptoms. Separate analyses of joy frequency again revealed a significant negative relationship with symptoms of depression for both younger (β = -.47, p < .001) and older (β = -.59, p < .001) children.

Pride frequency. Pride accounted for 11.5% of the variance in depressive

symptoms and .4% of the variance in anxiety symptoms for younger children, and 18.1%

and 1.1% of the variance in depressive and anxiety symptoms for older children. In

contrast to the full model, when examined separately frequency of pride was found to

significantly negatively predict symptoms of depression in both younger ($\beta = -.34$, $p <$

.001) and older ($\beta = -.43$, $p < .001$) children.

Interest frequency. In separate analyses, interest frequency accounted for .5% of

the variance in reported depressive symptoms and 1.3% of the variance in anxiety

symptoms for younger children. For older, frequency of interest accounted for 3.7% of

the variance in reported depressive symptoms and 2.2% in anxiety symptoms. For

younger children, the predictive effect of interest frequency remained nonsignificant for

both symptoms of depression and anxiety. For older children frequency of interest by

itself was found to negatively predict depressive symptoms ($\beta = -.19$, $p < .05$), whereas it

only continued to positively predict anxiety symptoms at a marginal level ($\beta = .15$, $p =$

.07). This decrease in significance may reflect the occurrence of suppression in the full

model. Suppression can be described as "a situation in which the magnitude of the

relationship between an independent variable and a dependent variable becomes larger

when a third variable in included" (MacKinnon, Krull, & Lockwood, 2000). It may be the

case that pride or joy frequency is acting as a suppressor variable in the full model. A

suppressor variable is defined as "a variable which increases the predictive validity of

another variable (or set of variables) by its inclusion in a regression equation" (Tzelgov &

Henik, 1991).

In summary, lower frequency of happiness experience predicted increased depressive symptoms in both younger and older children. When examined separately from the other frequency variables, lower frequency of pride was also found to predict increased depressive symptoms across age groups. A developmental difference emerged in the relationship of interest frequency to depressive symptoms, with lower interest frequency predicting increased depressive symptoms in older, but not younger children.

Positive emotion intensity predicting symptoms of depression and anxiety

Full model. The full path model for positive emotion intensity with standardized path coefficients for younger and older children can be found in Figures 9 and 10 respectively. When both intensity variables were analyzed in one model, they accounted for .9% of the variance in depressive symptoms and 6.9% of the variance in anxiety symptoms for younger children, whereas they accounted for 16.4% and 3.1% of the variance in depressive and anxiety symptoms respectively for older children. Depressive symptoms were negatively predicted by happiness intensity for both younger ($\beta = -.28$, $p < .001$) and older ($\beta = -.48$, $p < .001$) children. Finally, for older children anxiety symptoms were positively predicted by excitement intensity ($\beta = .23$, $p < .05$).

Happiness intensity. In separate analyses, happiness intensity accounted for 6.8% of the variance in depressive symptoms and .1% of the variance in anxiety symptoms for younger children, and 15.3% and 0% of the variance in depressive and anxiety symptoms respectively for older children. Happiness intensity continued to negatively predict depressive symptoms for older ($\beta = -.39$, $p < .001$) and younger ($\beta = -.26$, $p < .001$) children.

Excitement intensity. When excitement intensity was analyzed in isolation, it

accounted for 1.1% of the variance in depressive symptoms and .9% of the anxiety

symptoms for younger children, whereas it accounted for 3% and 1.5% of the variance in

depressive and anxiety symptoms respectively for older children. A significant relation

emerged for older children such that depressive symptoms were negatively predicted by

excitement intensity (β = -.17, p < .05). It should be noted that the finding from the full

model that increased excitement intensity predicted increased anxiety did not persist in

the separate analysis. This suggests that the finding in the full model was probably due to

suppression and is likely not a reliable finding.

In summary, decreased happiness intensity predicted increased depressive

symptoms for both younger and older children. Additionally, decreased excitement

intensity predicted increased depressive symptoms for older children.

Positive emotion regulation predicting symptoms of depression and anxiety

Full model. The full path model for positive emotion regulation with standardized

path coefficients for younger and older children can be found in Figures 11 and 12

respectively. In analyses that included all four happiness and pride regulation variables, it

was found that these variables accounted for 14.2% of the variance in depressive

symptoms and 14.2% in anxiety symptoms for younger children, whereas they accounted

for 26.2% of the variance in depressive symptoms and 16.7% in anxiety symptoms for

older children. For both younger and older children depressive symptoms were

significantly positively predicted by happiness inhibition (younger: β = .20, p = .01;

older: β= .29, p < .001), pride inhibition (younger: β = .18, p < .05; older: β= .22, p < .05)

and pride dysregulation (younger: β = .21, p < .01; older: β = .24, p < .01). Further, for

both age groups, symptoms of anxiety were significantly positively predicted by happiness inhibition (younger: $\beta = .30, p < .001$; older: $\beta = .25, p < .01$) and happiness dysregulation (younger: $\beta = .21, p < .01$; older: $\beta = .22, p = .01$). Finally, for older children only, pride inhibition significantly positively predicted symptoms of anxiety ($\beta = .25, p < .01$).

Happiness dysregulation. In separate analysis, happiness dysregulation accounted for .3% of the variance in depressive symptoms and 3.4% of the variance in anxiety symptoms for younger children, whereas it accounted for 4.1% of the variance in depressive symptoms and .6% in anxiety symptoms for older children. A relation that was not observed in the full model emerged, with happiness dysregulation significantly negatively predicting depressive symptoms ($\beta = -.20, p < .05$). Happiness dysregulation was still found to significantly positively predict anxiety symptoms for younger children ($\beta = .18, p < .05$), but no longer predicted anxiety symptoms in older children. That happiness dysregulation failed to predict anxiety symptoms for older children when analyzed in isolation from the other regulation variables suggests that the finding from the full model could be attributable to suppression, making interpretations of the finding's significance ill advised.

Happiness inhibition. Happiness inhibition was found to account for 7.7% of the variance in depressive symptoms and 9.8% of the variance in anxiety symptoms for younger children, whereas it accounted for 18.3% and 9.2% of the variance in depressive and anxiety symptoms respectively for older children. For younger and older children, happiness inhibition continued to significantly positively predict depressive symptoms

(younger: $\beta = .28$, $p < .001$; older: $\beta = .43$, $p < .001$) and anxiety symptoms (younger: $\beta = .31$, $p < .001$; older: $\beta = .30$, $p < .001$).

Pride dysregulation. Pride dysregulation accounted for 3.9% of the variance in depressive symptoms and 2.7% of the variance in anxiety symptoms for younger children, whereas it accounted for 3.6% and 1.2% of the variance in depressive and anxiety symptoms respectively for older children. Pride dysregulation continued to significantly positively predict depressive symptoms in both younger ($\beta = .20$, $p < .05$) and older ($\beta = .19$, $p < .05$) children as found in the full model. Separate analyses revealed a significant positive relation between pride dysregulation and anxiety symptoms for younger children ($\beta = .16$, $p < .05$).

Pride inhibition. Pride inhibition accounted for 5.9% of the variance in depressive symptoms and 3.6% of the variance in anxiety symptoms for younger children, whereas it accounted for 11.8% and 7.6% of the variance in depressive and anxiety symptoms respectively for older children. Pride inhibition continued to significantly positively predict symptoms of depression for both younger ($\beta = .24$, $p < .05$) and older ($\beta = .34$, $p < .001$) children when analyzed in isolation. Pride inhibition also retained its positive predictive relationship with symptoms of anxiety for older ($\beta = .28$, $p < .001$) children, while a significant relationship between pride inhibition and anxiety that was not present in the full model emerged for younger children ($\beta = .19$, $p = .001$).

In summary, increased happiness dysregulation predicted decreased depression symptoms for older children, whereas it predicted increased anxiety symptoms in younger children. Increased happiness inhibition predicted both increased depression and anxiety for both age groups. Pride dysregulation positively predicted symptoms of

depression across age groups, and was also found to positively predict symptoms of

anxiety in younger children when analyzed separately. Finally, increased pride inhibition

predicted increased depression and anxiety for both age groups.

CHAPTER IV

Discussion and Conclusions

The current study sought to contribute to the literature concerning the application

of Clark and Watson's (1991) tripartite model of anxiety and depression to children by

exploring and uncovering the potentially complex relationship of specific facets of

positive emotions to depressive and anxiety symptomatology. Utilization of measures of

happiness, pride, and interest/excitement instead of one overarching measure of positive

emotion provided preliminary information regarding the relative contribution of these

specific positive emotions to depression and anxiety. An additional aim of this study was

to explore whether other facets of positive emotions, including intensity and regulation,

might serve to discriminate between depression and anxiety. The identification of age and

gender differences in these relationships was the final key component in this study.

The discussion focuses initially on findings pertaining to gender. The relation of

positive emotion frequency to depressive and anxiety symptoms is considered first,

followed by positive emotion intensity, and then regulation of positive emotions.

Discussion then turns to an examination of the results by age group. Again, discussion

begins by considering the relation of positive emotion frequency to depressive and

anxiety symptoms, followed by examination of positive emotion intensity, and finally

positive emotion regulation.

Gender Effects

Frequency of positive emotions. Examination of the relations between specific

positive emotions and symptoms of depression and anxiety by gender revealed potential

differences in the applicability of Clark and Watson's (1991) tripartite model of anxiety

and depression to boys and girls. For boys, all three positive emotions differentially predicted symptoms of depression in a manner consistent with and extending the tripartite model. Specifically, lower self-reported frequency of joy, pride, and interest predicted increased depressive symptoms, but were unrelated to symptoms of anxiety. In contrast, for girls, pride frequency was the only positive emotion to differentially predict depressive symptoms in the manner put forth by the tripartite model. The unique role of decreased pride experience in predicting depressive symptoms for girls might tie into research that suggests that girls tend to have poorer self-esteem than boys, and that self-esteem has more influence on the level of depressive mood in girls than in boys (Bolognini, Plancherel, Bettschart, & Halfon, 1996). The tendency to experience low self-esteem may be related to less frequent feelings of pride in girls.

Interestingly, frequency of happiness negatively predicted symptoms of both depression and anxiety for girls but happiness was more strongly predictive of depressive than anxiety symptoms. The significant predictive effect of happiness frequency for both depression and anxiety among girls but not boys may reflect the higher level of comorbid depression and anxiety in girls (Angold et al., 1999). Overall, these results suggest that for girls, decreased experience of positive emotions may not be specific to depressive symptoms as proposed by the tripartite model. Gender differences in the applicability of the tripartite model have not received a great deal of attention in the literature thus far; therefore, further research will be needed to confirm this finding.

Frequency of interest/excitement was found to differentiate between symptoms of depression and anxiety for boys. As stated above, lower frequency of interest predicted increased depressive symptoms for boys, which would seem to reflect anhedonia that is

common in depression. For girls, however, frequency of interest demonstrated a positive predictive relationship with anxiety symptoms. The emergence of relationships between interest/excitement and symptoms of both depression and anxiety might reflect these emotions' dual qualities of positive valence and arousal. Specifically, although moderate levels of interest/excitement can accompany enjoyment, a very high level of these emotions may reflect a hyper-active or hyper-vigilant quality that may actually inadvertently mask anxiety that could be driving these emotional responses. That is, to the outside observer, what may be appear to an excitable, under-regulated child could actually reflect anxiety that is "driving" the motor and producing agitation.

Intensity of positive emotion experience. Examination of the predictive effects of happiness and excitement intensity on symptoms of depression and anxiety revealed that across gender decreased happiness intensity differentially predicted increased depressive symptoms but had no relationship with anxiety. Given that depressed mood is a central symptom of depression, it makes intuitive sense that depressed individuals would not report experiencing intense feelings of happiness. This finding could also potentially provide more detail and depth to Clark and Watson's (1991) tripartite model of anxiety and depression, which proposes that low positive affect is a unique feature of depression that distinguishes it from anxiety. "Low positive affect" in this model refers to low frequency of experience of positive emotions, and does not specifically implicate other facets of emotion, such as intensity. The results of the current study suggest the possibility that the decreased intensity of positive emotion may also be important in distinguishing depression from anxiety.

Gender differences emerged in the relationships between happiness and excitement intensity to symptoms of depression and anxiety. First, the predictive effect of excitement intensity varied for girls and boys. For girls, decreased excitement intensity predicted increased depressive symptoms, mirroring the above results for happiness intensity. For boys, however, increased intensity of excitement predicted increased anxiety symptoms. This relationship could reflect the overlap between the element of anticipation that is part of the emotion of excitement and worrisome or nervous anticipation that is also present in anxiety. On a more general level, intense excitement might represent feelings of agitation or hyperarousal that are common to anxiety. Previous research has found that anxious children experience their negative emotions more intensely than children without anxiety disorders, which was attributed to the hyperarousal associated with anxiety (Suveg & Zeman, 2004).

Regulation of positive emotions. When examining two types of emotion regulation processes, the inhibition and dysregulation of pride and happiness, and their relations to depression and anxiety, the findings revealed a complex picture that varied by gender. Dyregulation of positive emotions will be discussed first followed by interpretation of the inhibition findings. Partial support for the tripartite model emerged for girls in which the dysregulated expression of pride differentiated between depression and anxiety with increased dysregulation only predicting increased depression, not anxiety. Dysregulation of pride also predicted symptoms of depression for boys, although this relationship was not specific to depression. The relationship between pride dysregulation and increased depressive symptoms seems counterintuitive, as depression is generally characterized by feelings of low self-esteem or worthlessness, feelings that

would not be expected to engender open expressions of pride. Further, the tripartite model posited that it would be low positive affect that would discriminate between depression and anxiety and not higher levels of expressed positive affect. As our earlier findings suggested that low pride frequency was associated with increased depressive symptoms, perhaps depressed children experience feelings of pride so infrequently that when they do, they feel the need to express this emotion with more fervor than children who experience feelings of pride more frequently. It also may be that children who suffer from depression have lower social competence skills (e.g., Kennedy, Spence, & Hensley, 1989; Stark, Humphrey, Laurent, Livingston, & Christopher, 1993) and thus, are not aware of the social implications of bragging (pride dysregulation) about their accomplishments or do so in order to gain attention and approval from others but are unaware of its unacceptability.

Dysregulation of positive emotions appeared to play a more important role in anxiety for boys than girls. That is, for boys, dysregulated expression of pride and happiness predicted anxiety symptoms. Additionally, the predictive effect of happiness dysregulation was specific to anxiety. No dysregulation variables predicted anxiety symptoms for girls. These findings were somewhat surprising as anxious children are generally thought to demonstrate shy and withdrawn behaviors and not exuberant, under-controlled types of behavior. However, previous research that examined anxious children's regulation of negative emotions also found that anxious children reported more dysregulated expression of negative emotions than children without an anxiety disorder (Suveg & Zeman, 2004). This preponderance of emotion dysregulation, and the dysregulation of positive emotion in particular, could reflect agitation (e.g., exuberance

that is unregulated happiness) that often accompanies anxiety. Suveg and Zeman also posited that perhaps children with an anxiety disorder work to contain their negative emotions, but reach a point where such suppression becomes too uncomfortable, resulting in the dysregulated release of these "bottled up" emotions. It is intriguing that such a pattern was only evident among boys but not girls in the current study.

This gender difference in the relation of positive emotion dysregulation to symptoms of anxiety may also be related to gender differences in the socialization of emotional expression. Research suggests that boys and girls are exposed to different covert and overt socialization pressures from parents and other socialization agents regarding the appropriateness of expressing certain emotions (e.g., Chaplin, Cole, Zahn-Waxler, 2005; Young & Zeman, 2003) Specifically, it has been found that both mothers and fathers may be more accepting of fear expression in girls than boys (Birnbaum & Croll, 1984). Further, research using adult retrospective reports found that fathers were more likely to punish the expression of fear by sons than daughters (Garside & Klimes-Dougan, 2002). Thus, through this process of socialization, boys may come to experience their anxiety as inconsistent with gender-appropriate norms. In light of this research, the under controlled expressions of positive emotions reported by boys in this study might represent a coping style that helps them to mask their anxiety. In contrast, such masking or over-compensation might be unnecessary for girls as it is generally more socially acceptable for girls to experience and express worry and anxiety.

Alternatively, these findings for boys could reflect the simultaneous under- and over-regulation of different emotion states as suggested by Cole, Michel, and Teti (1994), with the goal of avoiding the experience of an undesirable emotion. Cole et al.

hypothesized that a disruptive child who behaves in a silly, giddy manner (under-regulation) may in fact be consistently avoiding the experience of distress (over-regulation). Thus, anxious boys might under-regulate their positive emotions in order to avoid fully experiencing their feelings of anxiety.

Turning to inhibition of happiness and pride, it was found that inhibition generally did not differentiate between depression and anxiety. Given that depression and anxiety are both considered internalizing disorders, it is perhaps not surprising to find that the suppression of positive emotions is common to both. One exception to this trend was found for boys in which increased pride inhibition predicted increased depressive but not anxiety symptoms. That this differentiation occurred for boys but not girls seems related to the earlier discussion of the prominent role of dysregulation in anxiety for boys. In contrast, for girls, although inhibition of positive emotions did not demonstrate a unique relationship to anxiety symptoms as they also predicted depressive symptoms, it was found that anxiety symptoms were only predicted by inhibition of positive emotions. Specifically, increased pride and happiness inhibition predicted increased anxiety symptoms. Perhaps this decreased expression of positive emotions among anxious girls is related to findings that girls tend to co-ruminate (i.e., excessively discuss personal problems within a dyadic relationship and focus on negative feelings) more than boys (Rose, 2002). Although research suggests that co-rumination tends to be correlated with reported closeness of friendships, it has also been found to be associated with internalizing symptoms. Thus, anxious girls might focus on expressing their negative emotions in order to foster a sense of closeness in their friendships, at the expense of expressing positive emotions, which might not have the same bonding effect.

Increased depressive symptoms were predicted by both happiness and pride inhibition for boys and girls. As the suppression of positive emotions has been found to decrease an individual's subjective experience of these emotions (Gross & Levenson, 1997; Stepper & Strack, 1993), it could be that the utilization of inhibition as an emotion regulation strategy might put an individual at risk for developing depressive symptoms, such as sadness and worthlessness. Alternatively, this could be a style of regulation that develops in response to a tendency towards depression. Wood and his colleagues (2003) found that individuals with low self-esteem were more likely than individuals with high self-esteem to dampen their positive emotions, a finding that they connected with previous research suggesting that people are less likely to change a mood the more that they accept the mood as typical of themselves. Thus, if a person tends to feel depressed or worthless, feelings of happiness or pride might be perceived as incongruent with their sense of self and is therefore suppressed.

It is interesting to note that symptoms of depression were not only predicted by pride inhibition, but also pride dysregulation as discussed previously. Perhaps these findings reflect the heterogeneity of depression, and are suggestive of subtypes that are encouraged by or provoke varied ER strategies. For example, it could be argued that children who experience Dysthymic Disorder or more chronic low self-esteem might demonstrate different positive emotion regulation processes than a child who is experiencing an episode of MDD. As discussed previously, research suggests that people are less likely to change a mood the more that they accept the mood as typical of themselves (Mayer & Stevens, 1994 as cited by Wood et al., 2003); thus, it could be conjectured that a child with Dysthymic Disorder might perceive positive emotions as

incongruent with their sense of self and therefore seek to suppress or dampen these feelings. In contrast, children who were functioning well before experiencing an episode of MDD might be less likely to experience positive emotions as somehow atypical of theirselves and would therefore not use suppression as an ER strategy.

Finally, for both girls and boys, increased symptoms of anxiety were associated with increased suppression of happiness expression. For individuals who are anxious, the inhibition of happiness might stem not from a sense of incongruence as hypothesized for depression, but from a fear of positive emotions (Turk et al., 2005). Turk and his colleagues hypothesized that adults with Generalized Anxiety Disorder might fear their positive emotions due to the superstitious belief that if they allow themselves to feel good rather than worry, bad things might be more likely to happen. Thus, children who experience a more generalized type of anxiety might inhibit their expressions of happiness in the hopes of maintaining their vigilance and warding off negative events. In contrast, Turk and his colleagues suggested that individuals with Social Anxiety Disorder might fear positive emotions because if they are expressed, others may not reciprocate or validate them.

Developmental Effects

Frequency of positive emotions. Results of the current study suggest that joy and pride frequency differentiate between depressive and anxiety symptoms for both younger and older children in a manner consistent with and extending the model proposed by Clark and Watson's (1991) tripartite model of anxiety and depression. That is, regardless of age, self-reported decreased frequency of joy and pride predicted increased depressive symptoms, but were unrelated to symptoms of anxiety. As discussed earlier, research has

been mixed regarding the applicability of the tripartite model to young children, with some studies finding that positive affect was not differentially associated with depressive symptoms in young children (e.g., Crook, Beaver, & Bell, 1998; Lonigan, Hooe, David, & Kistner, 1999). Such findings have been used to support the position of viewing depression and anxiety as a single construct in young children. The results of the current study, however, provide additional support for both the applicability of the tripartite model across age groups and the conceptualization of depression and anxiety as separate constructs in young children. Further, it builds on the tripartite model by indicating that two different types of positive-valence emotions, one considered to be a basic emotion and the other conceptualized as a self-conscious emotion, operate in a similar, discriminating manner between depression and anxiety.

Developmental differences emerged in the role of interest/excitement frequency in the prediction of symptoms of depression and anxiety. Frequency of reported interest demonstrated significant predictive effects but only for older children. As would be expected based on the tripartite model, decreased interest/excitement frequency predicted increased depressive symptoms in older children. This relationship is consistent with the DSM-IV definition of depression that lists anhedonia as one of its symptoms. The finding that frequency of interest/excitement did not predict depressive symptomatology in young children broaches the hotly debated issue of whether depressive symptoms are isomorphic across development or whether phenomenological differences exist. In a meta-analysis of 15 studies that examined developmental differences in the experience of depression, anhedonia was found to be more prevalent in developmentally advanced participants, although Weiss and Garber (2003) cautioned that more research was needed

to confirm this intriguing finding. Certainly, the findings from this study add support to this notion and suggest perhaps that advanced cognitive skills and life history may be needed in order to experience a lack of interest.

A unique relationship between frequency of interest/excitement and anxiety symptoms was also observed for older children, with increased interest predicting increased anxiety. As discussed previously in relation to gender findings, a very high level of interest/excitement frequency may manifest itself as hypervigalence or hyperactivity, owing to the element of arousal that is characteristic of these emotions. This would be particularly notable in early adolescent-age youth who typically are exerting less exuberance and energy than their younger counterparts.

Intensity of positive emotional experience. Results suggested that for younger and older children, positive emotion intensity differentiated between depression and anxiety. This relationship appeared somewhat more robust for older children, as it was found that both decreased happiness and excitement intensity predicted increased depression, whereas only happiness intensity did so for younger children. That excitement intensity predicted depression for older but not younger children might again reflect the higher prevalence of anhedonia in older children discussed earlier. As discussed previously in the context of results based on gender, these findings indicate a way that the tripartite model's conceptualization of "low positive affect" could be articulated in a more comprehensive manner, as decreased positive emotion intensity also seems to be a specific feature of depression but not anxiety.

Regulation of positive emotions. Dysregulation of happiness and pride demonstrated the ability to discriminate between depression and anxiety, although these

relationships differed for older and younger children. Increased happiness dysregulation was found to predict increased anxiety but not depressive symptoms in young children. In general, the dysregulation of positive emotions appeared to play an important role in anxiety for younger children, as increased pride dysregulation also predicted increased anxiety symptoms for this group. In contrast, no dysregulation variables predicted anxiety symptoms for older children. It may be that younger children are not able to manage the agitation that is associated with anxiety as well as older children, and that this tension or nervous energy is then expressed as under-controlled positive emotions.

For older children, increased dysregulated expression of happiness predicted decreased depressive symptoms. This finding raises the question of whether the happiness dysregulation items could have been interpreted by participants in a more positive light then they were necessarily intended. It is possible that some of these items could have mistakenly captured the regulation process of capitalizing or savoring, as they describe open expression of happiness. Two items in particular seem susceptible to such interpretation: "I talk with everyone about how happy I am"; "When I feel happy, I can't help but smile and laugh, no matter where I am." If this were the case, then older children's reported decrease of depressive symptoms in the presence of increased dysregulation would fit with theory and previous research in the adult literature, which asserts that expression of positive emotions increase their experience (e.g., Kashdan & Breen, 2008, Langston, 1994).

However, it was also found that for older as well as younger children, increased dysregulation of pride predicted increased depressive symptoms. Thus, it appears that all overt or under-controlled expressions of positive emotion are not necessarily beneficial.

The under-controlled expression of pride, which likely represents bragging, could have negative social consequences for children, resulting in peer rejection and, consequently, increased symptoms of depression.

Inhibition of positive emotions did not demonstrate a specific relationship with anxiety or depressive symptoms for either group. Instead, it was observed that increased happiness and pride inhibition predicted both increased depression and anxiety for older and younger children. Thus, these findings mirror those found when analyzing these variables as a function of child gender and thus, the interpretations regarding these results are similar to those made previously.

Strengths

The current study possessed a few notable strengths. First, it examined specific positive emotions, as opposed to considering them as a single construct of general positive emotion, which is generally the case in existing literature (e.g., Chorpita et al., 2000; Joiner & Lonigan, 2000; Stark & Laurent, 2001). The study demonstrated the value of studying specific positive emotions, as it revealed that children and adolescents can and do differentiate between the experience of various positive emotions and manage these emotions in different ways. Although it has been noted that positive emotions are more difficult to define than negative emotions (Fredrickson, 1998), these results further support the contention that positive emotions are experientially distinct and can thus be differentiated.

Second, the current study explored facets of positive emotion (i.e., intensity, regulation) not typically studied in children. Previous research has generally examined only the frequency of positive emotion experience. Thus, this study represented a more

nuanced approach to the examination of positive emotion, affording it the same level of complexity attributed to negative emotions.

Finally, this study added a finer level of detail to the tripartite model by exploring the relationships among the various facets of specific positive emotions and symptoms of anxiety and depression. Again, existing research examining the relation of positive emotions to anxiety and depression have generally treated positive emotions as a unitary construct. The results of this study suggest that such an approach may be an oversimplification that could inadvertently obscure unique patterns of positive emotion experience and regulation associated with anxiety or depression.

Limitations

The current study was limited in several ways. First, as has been emphasized throughout, comparatively little research has focused on the exploration of positive emotion experience and regulation in children; as such the level of development among measures of positive emotions is somewhat uneven in comparison to those in use for assessing negative emotions. The lag in the development of measures of positive emotions may be due in part to the generally held belief that positive emotions tend to be diffuse and are more difficult to differentiate and define than negative emotions (Fredrickson, 1998). Although the validity of measures of positive emotion experience, such as the DES-IV and the HIF, have been established, scales used to measure the management of happiness and pride (e.g., CEMS-H and CEMS-P) have only undergone initial validation, leaving some question as to whether they are adequately assessing these constructs. Second, the use of self-report measures with children in elementary school may present problems in terms of the validity of their responses. Although steps were

taken during the administration of the questionnaires to try to ensure comprehension on the part of the young participants, there is no way to guarantee that all children fully understood all of the items presented. Additionally, as with all self-report measures, social desirability may have influenced the participants' responses. Finally, as self-report measures were exclusively used to assess study variables, it is possible that the shared method variance of these variables inflated the results obtained.

Third, the manner in which the data could be analyzed was constrained by the mid-range sample size recruited for this study. If the sample had been larger, analyses could have been completed for four groups based on age and gender (older boys, younger boys, older girls, and younger girls), which would have provided a higher level of detail to the results. Fourth, the generalizability of the results is somewhat limited by the socioeconomic homogeneity of the sample. For both age groups, the majority of participants fell in the middle to upper middle socioeconomic categories as defined by the Hollingshead (1975) *Four Factor Index of Social Status*. Therefore, it is not known whether the results apply equally to children whose families fall in the lower SES categories.

Future Directions

As the study of children's positive emotions is still a relatively new area of research, the significant findings uncovered by the current study suggest that this is a promising avenue for further exploration. The success of further research in this area, however, is dependent on the continued development and validation of measures or positive emotion experience and management in children, such as the Children's Emotion Management Scale for Happiness. Research should also continue to address the

suitability of the pre-existing constructs of emotion regulation for the experience of positive emotions. In particular, a clearer conceptualization is needed of what it means for a positive emotion to be dysregulated, as opposed to strong expressions of positive emotions that would still be considered within the realm of social acceptability. Making this distinction in relation to positive emotions seems somewhat more nuanced and challenging than making similar judgments of expressions of negative emotions.

The concept of savoring, described as the ability to generate, intensify, and prolong enjoyment through one's own volition (Bryant, 2003), has begun to garner attention in the adult positive emotion literature. Preliminary research with adults suggests that reported inability to savor positive events and feelings is correlated with low self-esteem. Future research could expand the study of savoring to children and explore how this form of positive emotion management might be related to symptoms of depression and anxiety.

Finally, future studies could explore the relationship of positive emotion experience and management to specific mood and anxiety disorders in clinical samples of children and adolescents. In the adult literature, researchers are beginning to emphasize the heterogenous nature various anxiety disorders, and explore how these disorders might differ from one another in their phenomenology. One line of research in this area suggests that there may be variation in the experience and regulation of positive emotions among individuals with GAD and social anxiety disorder (Turk et al., 2004). Thus, further exploration of positive emotion experience in clinical child populations would help to increase understanding of the qualitative nature of these disorders, and might also

shed light on how ways in which the presentation of these disorders differ between adults and children.

Conclusion

In conclusion, the results of the current study provided mixed support for the applicability of the tripartite model of anxiety and depression with children. In particular, it does appear that in most cases decreased positive emotion frequency and intensity differentially predict symptoms of depression and anxiety. Gender differences also emerged, with the tripartite model fitting the data of boys slightly better than girls. It was observed that in some instances, decreased positive emotion frequency predicted not only depression, but also increased anxiety symptoms for girls, violating the basis of the tripartite model. Interesting relations between interest frequency and excitement intensity and symptoms of anxiety were also observed, suggesting that at high levels, these positive emotions might represent agitation and hyper-arousal that often accompany anxiety. Increased excitement intensity was found to predict increased anxiety symptoms in boys, whereas increased frequency of interest predicted anxiety symptoms in girls. Further, the tripartite model seems to apply somewhat better to older children, as more positive emotion experience variables were found to significantly predict symptoms of depression for older than younger children. Finally, this initial examination of the relationship of happiness and pride regulation to symptoms of depression and anxiety indicated that these regulation variables do not differentiate in a consistent manner between depression and anxiety in children. However, the findings did suggest that these regulation processes work differently for boys and girls and younger and older children in the role that they play in symptoms of depression and anxiety.

The findings of this study highlight the value of examining specific positive emotions and their facets, as they do appear to have varied roles in symptoms of depression and anxiety for different groups of children. Although it is often thought that positive emotions are undifferentiated and difficult to define (Frederickson, 1998), these results suggest that children can report on their experience of specific positive emotions and their regulation, and that these emotions do operate in unique ways.

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Table 1

Frequency of Demographics

Race/Ethnicity	Total		Younger Boys		Younger Girls		Older Boys		Older Girls	
	N	%	N	%	N	%	N	%	N	%
Caucasian	203	66	58	63	44	61	42	68	59	70
African American	50	16	19	21	13	18	5	8	13	16
Hispanic	11	4	5	5	4	6	2	3	0	0
Asian	10	3	2	2	2	3	4	7	2	2
Native American	5	2	3	3	0	0	1	2	1	1
Bi/Multi-racial	27	8	5	6	8	11	7	11	7	9
Missing	4	1		0	1	1	1	1	2	2
Total		310		92		72		62		84

Table 2

Positive Emotion Constructs Assessed by Each Measure

Positive emotion construct	Measure
Happiness	
Frequency	DES-IV
Intensity	HIF
Inhibition	CEMS-H
Dysregulation	CEMS-H
Interest/Excitement	
Frequency	DES-IV
Intensity	HIF
Pride	
Frequency	DES-IV
Inhibition	CEMS-P
Dysregulation	CEMS-P

Note. DES-IV = Discrete Emotion Scale –IV; HIF = How I Feel scale;

CEMS-H = Children's Emotion Management Scale for Happiness;

CEMS-P = Children's Emotion Management Scale for Pride.

Table 3

Cronbach's Alpha Coefficients for All Scales Used

Measure	*Overall*	*Boys*	*Girls*	Younger	Older
CDI total	.87	.86	.90	.90	.87
RCMAS total	.83	.82	.83	.81	.83
DES					
Joy frequency	.79	.65	.77	.66	.79
Pride frequency	.68	.57	.61	.51	.68
Interest frequency	.58	.46	.58	.46	.59
HIF					
Excitement intensity	.75	.70	.72	.64	.75
Happiness intensity	.71	.62	.66	.61	.74
CEMS-H					
Inhibition	.28	.28	.27	.27	.28
Dysregulation	.62	.60	.59	.58	.62
CEMS-P					
Inhibition	.68	.72	.66	.70	.68
Dysregulation	.49	.56	.51	.45	.49

Note. DES-IV = Discrete Emotion Scale –IV; HIF = How I Feel scale; CEMS-H = Children's Emotion Management Scale for Happiness; CEMS-P = Children's Emotion Management Scale for Pride; Children's Depression Inventory = CDI; Revised Children's Manifest Anxiety Scale = RCMAS.

Table 3

Descriptive Table of Variable Characteristics for Boys

Variable	*n*	*M*	*SD*	Skewness	Kurtosis
DES joy frequency	154	3.43	.85	-.45	.42
DES pride frequency	154	3.45	.81	-.17	-.29
DES interest frequency	154	3.62	.99	-.63	-.03
HIF excitement intensity	154	3.31	1.22	-.14	-.93
HIF happiness intensity	154	3.52	1.12	-.50	-.55
CEMS-H inhibition	153	1.65	.36	.97	.57
CEMS-H dysregulation	154	1.86	.48	.13	-.69
CEMS-P inhibition	153	1.53	.51	.99	.57
CEMS-P dysregulation	153	1.57	.50	.74	.08
CDI total	154	7.86	6.36	.99	.43
RCMAS total	154	13.8	5.58	.10	-.64

Note. DES-IV = Discrete Emotion Scale –IV; HIF = How I Feel scale; CEMS-H = Children's Emotion Management Scale for Happiness; CEMS-P = Children's Emotion Management Scale for Pride; Children's Depression Inventory = CDI; Revised Children's Manifest Anxiety Scale = RCMAS.

Table 4

Descriptive Table of Variable Characteristics for Girls

Variable	n	M	SD	Skewness	Kurtosis
DES joy frequency	156	3.58	.91	-.46	-.37
DES pride frequency	156	3.40	.83	-.22	-.20
DES interest frequency	156	3.55	.91	-.26	-.53
HIF excitement intensity	156	3.40	1.12	-.29	-.84
HIF happiness intensity	156	3.65	1.09	-.57	-.42
CEMS-H inhibition	156	1.61	.32	.82	.66
CEMS-H dysregulation	156	1.97	.44	-.06	-.64
CEMS-P inhibition	156	1.57	.44	.75	.46
CEMS-P dysregulation	156	1.52	.49	.70	-.13
CDI total	156	7.88	6.52	.97	.36
RCMAS total	156	15.23	5.32	-.22	-.50

Note. DES-IV = Discrete Emotion Scale –IV; HIF = How I Feel scale; CEMS-H = Children's Emotion

Management Scale for Happiness; CEMS-P = Children's Emotion Management Scale for Pride; Children's

Depression Inventory = CDI; Revised Children's Manifest Anxiety Scale = RCMAS.

Table 5

Descriptive Table of Variable Characteristics for Younger Children

Variable	n	M	SD	Skewness	Kurtosis
DES joy frequency	164	3.41	.92	-.31	-.21
DES pride frequency	164	3.38	.85	-.05	-.29
DES interest frequency	164	3.51	1.02	-.32	-.47
HIF excitement intensity	164	3.41	1.23	-.25	-.91
HIF happiness intensity	164	3.52	1.17	-.46	-.62
CEMS-H inhibition	164	1.65	.36	.61	.08
CEMS-H dysregulation	164	2.00	.48	-.18	-.73
CEMS-P inhibition	164	1.55	.50	.94	.42
CEMS-P dysregulation	164	1.58	.52	.59	-.51
CDI total	164	8.33	6.84	.88	.01
RCMAS total	164	14.63	5.43	.14	-.48

Note. DES-IV = Discrete Emotion Scale –IV; HIF = How I Feel scale; CEMS-H = Children's Emotion

Management Scale for Happiness; CEMS-P = Children's Emotion Management Scale for Pride; Children's

Depression Inventory = CDI; Revised Children's Manifest Anxiety Scale = RCMAS.

Table 6

Descriptive Table of Variable Characteristics for Older Children

Variable	*n*	*M*	*SD*	Skewness	Kurtosis
DES joy frequency	146	3.61	.83	-.54	.23
DES pride frequency	146	3.48	.79	-.38	-.11
DES interest frequency	146	3.66	.86	-.60	-.02
HIF excitement intensity	146	3.28	1.09	-.20	-.89
HIF happiness intensity	146	3.65	1.02	-.60	-.40
CEMS-H inhibition	146	1.62	.32	.90	.82
CEMS-H dysregulation	146	1.83	.42	.16	-.45
CEMS-P inhibition	146	1.55	.44	.78	.24
CEMS-P dysregulation	146	1.50	.46	.89	.81
CDI total	146	7.34	5.76	1.11	1.04
RCMAS total	146	12.90	5.63	.09	-.86

Note. DES-IV = Discrete Emotion Scale –IV; HIF = How I Feel scale; CEMS-H = Children's Emotion

Management Scale for Happiness; CEMS-P = Children's Emotion Management Scale for Pride; Children's

Depression Inventory = CDI; Revised Children's Manifest Anxiety Scale = RCMAS.

Table 7

Intercorrelations Between Variables for Boys

Variable	1	2	3	4	5	6	7	8	9	10	11
1. CDI total	-	.47**	-.47**	.70**	-.31**	-.11	-.25**	.40**	-.12	.44**	.25**
2. RCMAS total		-	.02	.08	.06	.20*	.10	.34**	.18*	.25**	.22**
3. DES joy frequency			-	.55**	.40**	.32**	.42**	-.16	.32**	-.32**	.03
4. DES pride frequency				-	.31**	.29**	.41**	-.08	.26**	-.32**	.28**
5. DES interest frequency					-	.16	.31**	-.14	.27**	-.22**	.09
6. HIF excitement intensity						-	.59**	-.01	.45**	-.08	-.19*
7. HIF happiness intensity							-	-.25**	.47**	-.19*	.14
8. CEMS-H inhibition								-	-.21*	.38**	.07
9. CEMS-H dysregulation									-	-.21**	.17*
10. CEMS-P inhibition										-	.05
11. CEMS-P dysregulation											-

Note. *p<.05, ** p<.01; Children's Depression Inventory = CDI; Revised Children's Manifest Anxiety Scale = RCMAS; DES-IV = Discrete Emotion Scale –

IV; HIF = How I Feel scale; CEMS-H = Children's Emotion Management Scale for Happiness; CEMS-P = Children's Emotion Management Scale for Pride.

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Table 8

Intercorrelations Between Variables for Girls

Variable	1	2	3	4	5	6	7	8	9	10	11
1. CDI total	-	-.46**	-.57**	-.44**	-.04	.00	-.38**	.33**	-.14	.16	.16*
2. RCMAS total		-	-.18*	-.10	-.16*	.00	-.11	.32**	.09	.20*	.11
3. DES joy frequency			-	.60**	.23**	.43**	.58**	-.30**	.29**	-.24**	.02
4. DES pride frequency				-	.17*	.29**	.44**	-.10	.22**	-.27**	.18*
5. DES interest frequency					-	.21**	-.24**	.14	.10	.12	-.04
6. HIF excitement intensity						-	.53**	-.13	.40**	-.17*	.23**
7. HIF happiness intensity							-	-.20*	.41**	-.20*	.04
8. CEMS-H inhibition								-	-.18*	.41**	.01
9. CEMS-H dysregulation									-	-.22**	.28**
10. CEMS-P inhibition										-	-.25**
11. CEMS-P dysregulation											-

Note. *p<.05; ** p<.01; Children's Depression Inventory = CDI; Revised Children's Manifest Anxiety Scale = RCMAS; DES-IV = Discrete Emotion Scale –IV;

HIF = How I Feel scale; CEMS-H = Children's Emotion Management Scale for Happiness; CEMS-P = Children's Emotion Management Scale for Pride.

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Table 9

Intercorrelations Between Variables for Younger Children

Variable	1	2	3	4	5	6	7	8	9	10	11
1. CDI total	-	-.42**	-.48**	-.34**	-.12	-.10	-.26**	.28**	-.06	-.24	.20*
2. RCMAS total		-	-.00	.07	-.08	.10	.04	.30**	.18*	.20*	.17*
3. DES joy frequency			-	.51**	.25**	.37**	.45**	-.18**	.34**	-.27**	.03
4. DES pride frequency				-	.22**	.25**	.36**	-.02	.28**	-.24**	.22**
5. DES interest frequency					-	.10	.00	.21	.00	.09	.87
6. HIF excitement intensity						-	.51**	-.06	.43**	-.11	.20*
7. HIF happiness intensity							-	-.15	.39**	-.13	.04
8. CEMS-H inhibition								-	-.15	.33**	.06
9. CEMS-H dysregulation									-	-.11	.21**
10. CEMS-P inhibition										-	-.03
11. CEMS-P dysregulation											-

Note. *p<.05; ** p<.01; Children's Depression Inventory = CDI; Revised Children's Manifest Anxiety Scale = RCMAS; DES-IV = Discrete Emotion Scale –IV;

HIF = How I Feel scale; CEMS-H = Children's Emotion Management Scale for Happiness; CEMS-P = Children's Emotion Management Scale for Pride.

Table 10

Intercorrelations Between Variables for Older Children

Variable	1	2	3	4	5	6	7	8	9	10	11
1. CDI total	-	-.48**	-.57**	-.44**	-.16	-.18*	-.39**	.46**	-.23**	.39**	.23**
2. RCMAS total		-	-.09	-.10	.15	.11	-.03	.31**	.09	.26**	.1
3. DES joy frequency			-	.65**	.38**	.40**	.57**	-.31**	.34**	-.29**	.34**
4. DES pride frequency				-	.28**	.34**	.16	-.17*	.21*	-.38**	.27**
5. DES interest frequency					-	.26**	.29**	-.34**	.15	.03	.11
6. HIF excitement intensity						-	.65**	-.09	.42**	-.13	.25**
7. HIF happiness intensity							-	-.34**	.56**	-.28**	.16
8. CEMS-H inhibition								-	-.18*	.48**	.03
9. CEMS-H dysregulation									-	-.36**	.21*
10. CEMS-P inhibition										-	-.18*
11. CEMS-P dysregulation											-

Note. *p<.05, ** p<.01; Children's Depression Inventory = CDI; Revised Children's Manifest Anxiety Scale = RCMAS; DES-IV = Discrete Emotion Scale –IV;

HIF = How I Feel scale; CEMS-H = Children's Emotion Management Scale for Happiness; CEMS-P = Children's Emotion Management Scale for Pride.

Table 11

Path Coefficients of Full Models for Boys and Girls

Variable	Boys		Girls	
	Depression Symptoms	Anxiety Symptoms	Depression Symptoms	Anxiety Symptoms
Positive Emotion Frequency				
Happiness	-.40***	-.06	-.50***	-.22*
Pride	-.06	.10	-.16*	-.01
Interest/excitement	-.08	.05	.10	.22*
Positive Emotion Intensity				
Happiness	-.32***	-.04	-.39***	-.16
Interest/excitement	.13	.22*	.01	.08
Positive Emotion Regulation				
Happiness inhibition	.22**	.33***	.27***	.30***
Happiness dysregulation	.01	.26***	-.13	.14
Pride inhibition	.32***	.14	.07**	.13
Pride dysreuglation	.20**	.14	.22	.09

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

Table 12

Path Coefficients of Individual Models for Boys and Girls

Variable	Boys		Girls	
	Depression Symptoms	Anxiety Symptoms	Depression Symptoms	Anxiety Symptoms
Positive Emotion Frequency				
Happiness	-.47***	.01	-.57***	-.18*
Pride	-.31***	.08	-.44***	-.11
Interest/excitement	-.26***	.06	-.04	.16*
Positive Emotion Intensity				
Happiness	-.25**	.09	-.38***	-.11
Interest/excitement	-.06	.20*	-.20*	.00
Positive Emotion Regulation				
Happiness inhibition	.35***	.34***	.33***	.33***
Happiness dysregulation	-.07	.18*	-.14	.08
Pride inhibition	.16***	.20	.16*	.20*
Pride dysreuglation	.23**	.22**	.16*	.10

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

Table 13

Path Coefficients of Full Models for Younger and Older Children

Variable	Younger		Older	
	Depression Symptoms	Anxiety Symptoms	Depression Symptoms	Anxiety Symptoms
Positive Emotion Frequency				
Happiness	-.41***	-.06	-.56***	-.13
Pride	-.14	.08	-.08	-.08
Interest/excitement	.02	.07	.04	.22*
Positive Emotion Intensity	-.09	-.81		
Happiness	-.28**	-.01	-.48**	-.17
Interest/excitement	.04	.10	.14	.23*
Positive Emotion Regulation				
Happiness inhibition	.20*	.30***	.29***	.25**
Happiness dysregulation	-.05	-.21*	-.09	.22*
Pride inhibition	.18*	.11	.22*	.25**
Pride dysreuglation	.21**	.10	.24**	.10

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

Table 14

Path Coefficients of Individual Models for Younger and Older Children

Variable	Younger		Older	
	Depression Symptoms	Anxiety Symptoms	Depression Symptoms	Anxiety Symptoms
Positive Emotion Frequency				
Happiness	-.47***	.00	-.59***	-.10
Pride	-.34***	.07	-.43***	-.10
Interest/excitement	-.12	.07	-.19*	.15
Positive Emotion Intensity				
Happiness	-.26***	.04	-.39***	-.02
Interest/excitement	-.10	.09	-.17*	.12
Positive Emotion Regulation				
Happiness inhibition	.28***	.31***	.43***	.30***
Happiness dysregulation	-.06	.18*	-.20*	.08
Pride inhibition	.24*	.19**	.34*	.28*
Pride dysreuglation	.20*	.16*	.19*	-.20

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

Figure Captions

Figure 1. Full path analysis model used to test the predictive effects of positive emotion frequency on depressive and anxiety symptoms for boys, with significant path coefficients both italicized and bold.

Figure 2. Full path analysis model used to test the predictive effects of positive emotion frequency on depressive and anxiety symptoms for girls, with significant path coefficients both italicized and bold.

Figure 3. Full path analysis model used to test the predictive effects of positive emotion intensity on depressive and anxiety symptoms for boys, with significant path coefficients both italicized and bold.

Figure 4. Full path analysis model used to test the predictive effects of positive emotion intensity on depressive and anxiety symptoms for girls, with significant path coefficients both italicized and bold.

Figure 5. Full path analysis model used to test the predictive effects of positive emotion regulation on depressive and anxiety symptoms for boys, with significant path coefficients both italicized and bold.

Figure 6. Full path analysis model used to test the predictive effects of positive emotion regulation on depressive and anxiety symptoms for girls, with significant path coefficients both italicized and bold.

Figure 7. Full path analysis model used to test the predictive effects of positive emotion frequency on depressive and anxiety symptoms for younger children, with significant path coefficients both italicized and bold.

Figure 8. Full path analysis model used to test the predictive effects of positive emotion frequency on depressive and anxiety symptoms for older children, with significant path coefficients both italicized and bold.

Figure 9. Full path analysis model used to test the predictive effects of positive emotion intensity on depressive and anxiety symptoms for younger children, with significant path coefficients both italicized and bold.

Figure 10. Full path analysis model used to test the predictive effects of positive emotion intensity on depressive and anxiety symptoms for older children, with significant path coefficients both italicized and bold.

Figure 11. Full path analysis model used to test the predictive effects of positive emotion regulation on depressive and anxiety symptoms for younger children, with significant path coefficients both italicized and bold.

Figure 12. Full path analysis model used to test the predictive effects of positive emotion regulation on depressive and anxiety symptoms for older children, with significant path coefficients both italicized and bold.
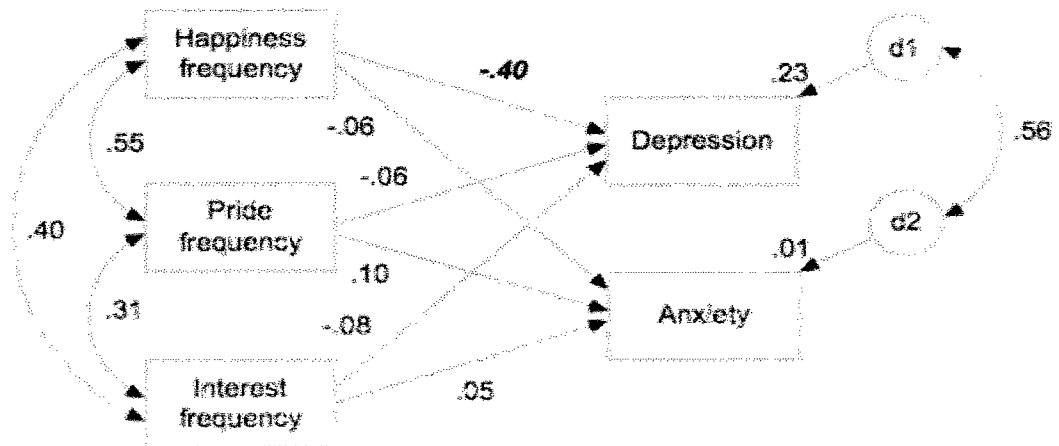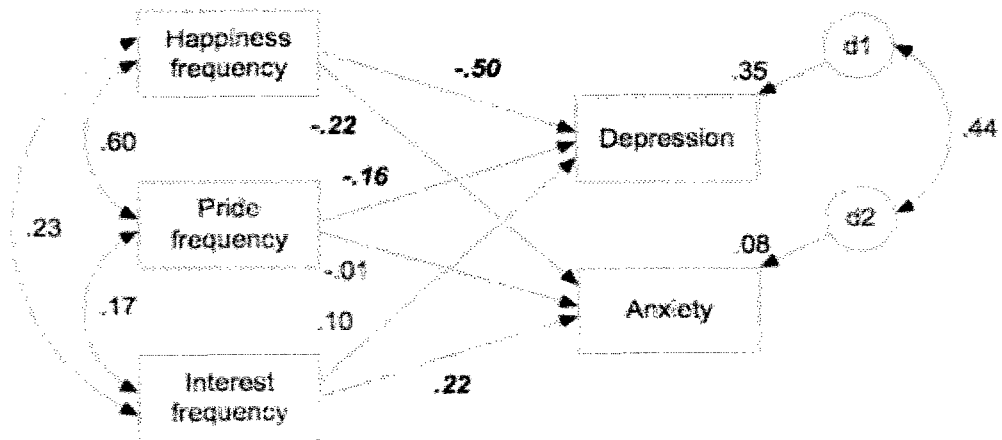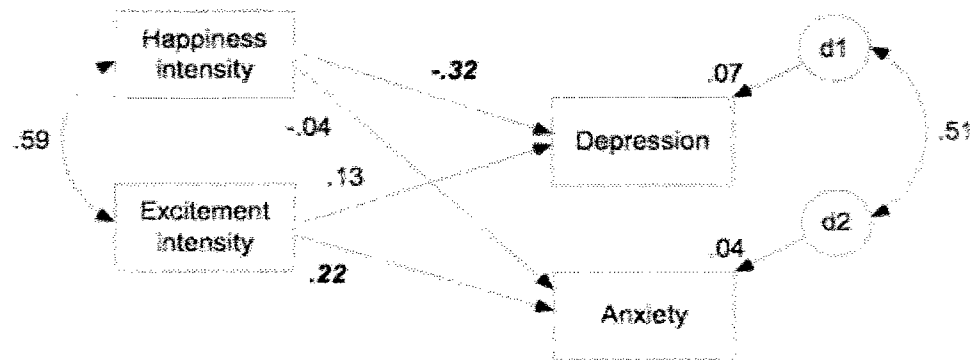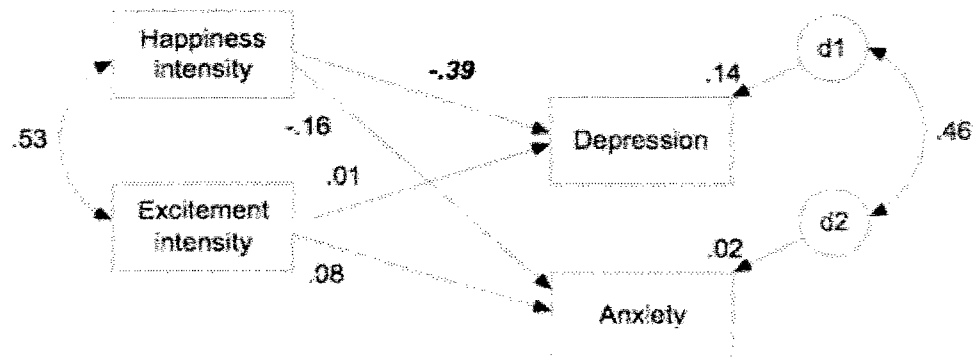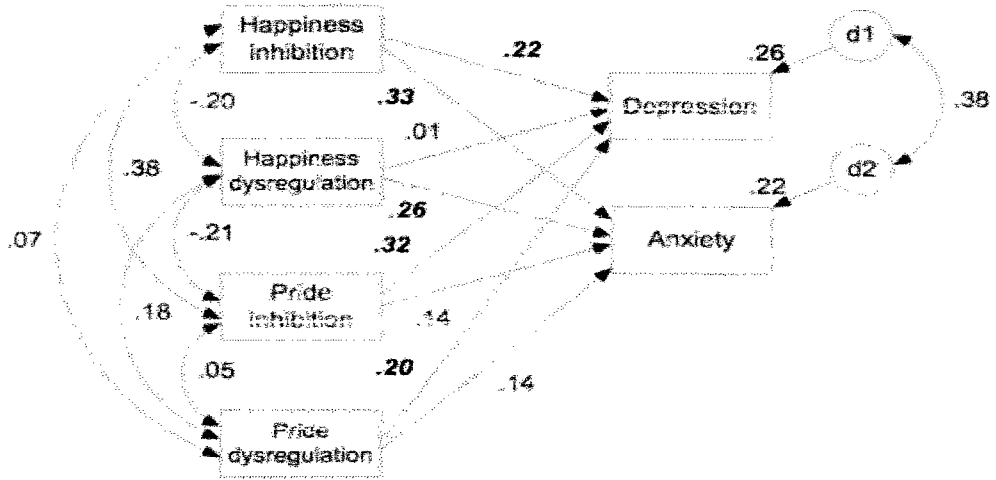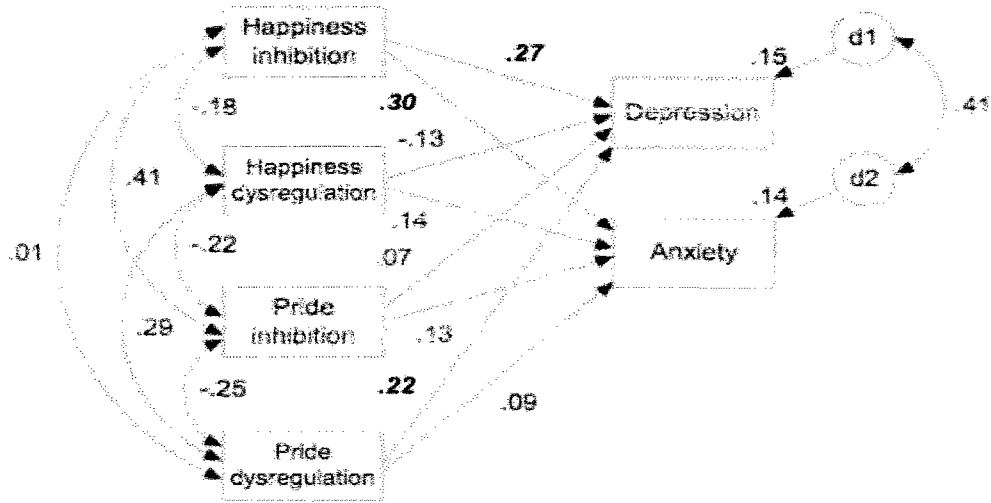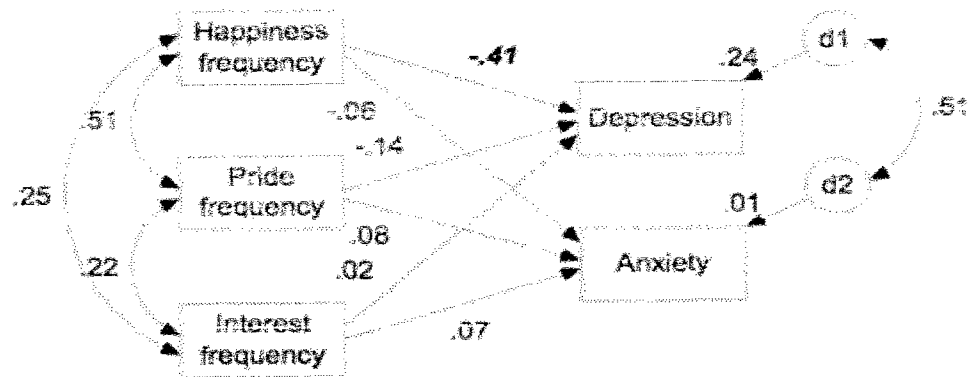
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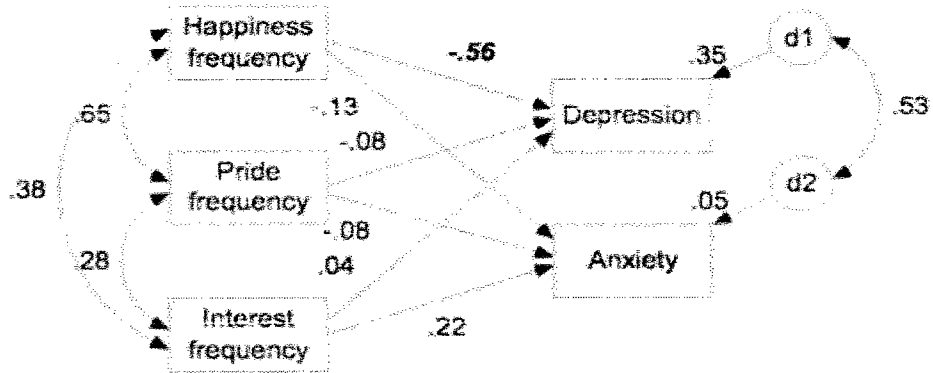*Figure 2.*

Figure 3.

Figure 4.

Figure 5.

Figure 6.

Figure 7.

Figure 8.

Figure 9.
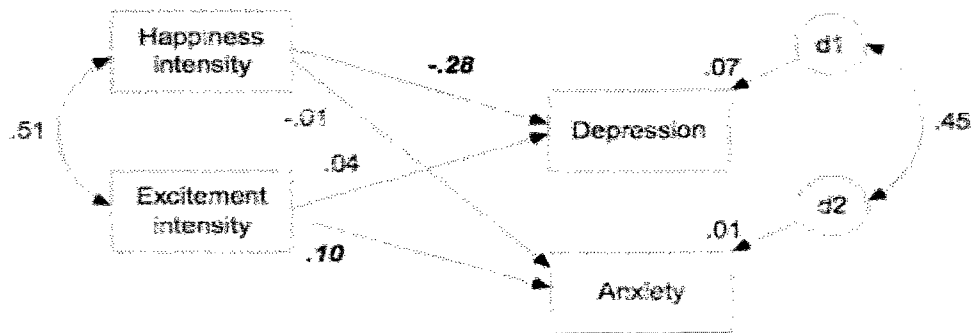
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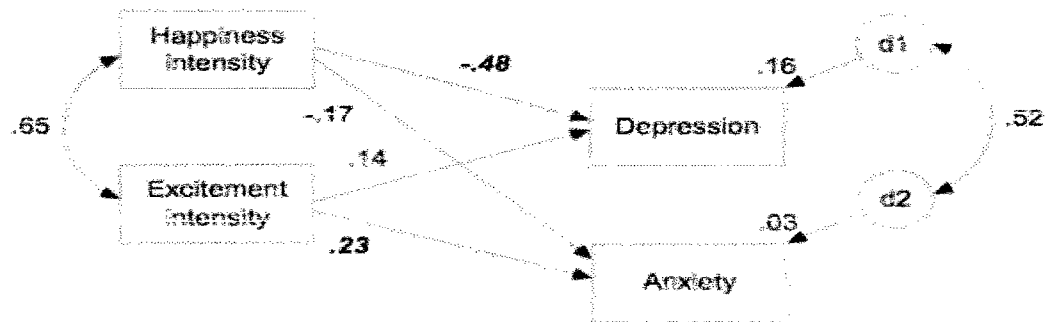
Figure 11.
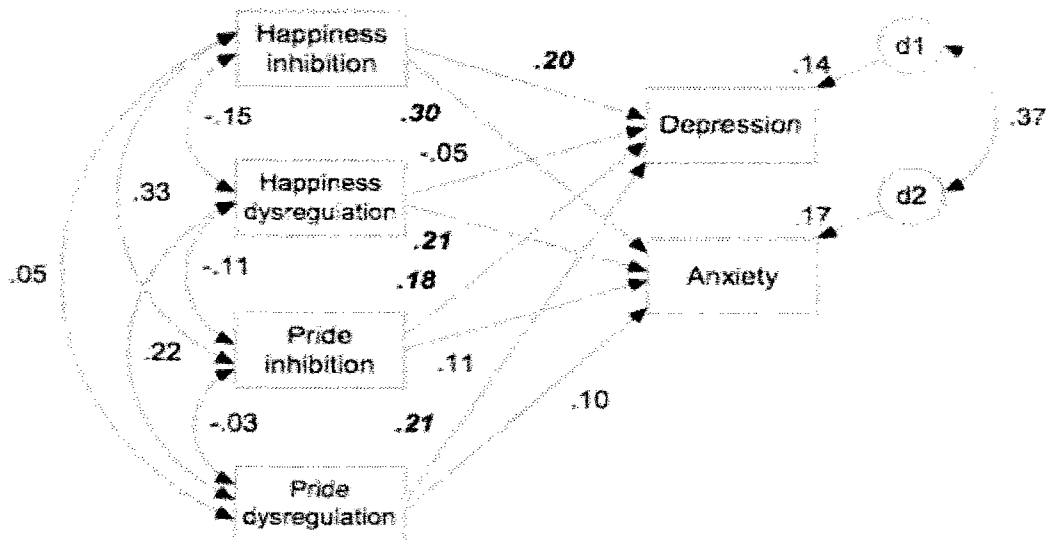
Figure 12.
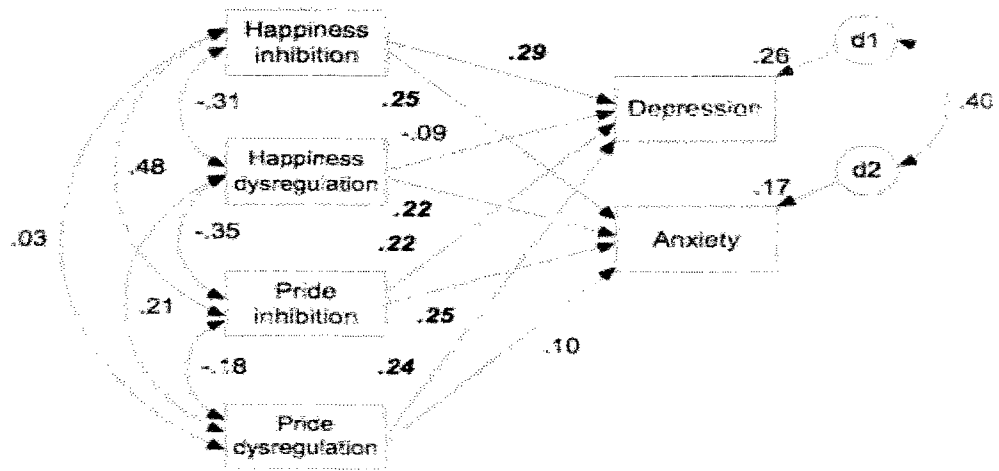
APPENDIXES

APPENDIX A

DIAGNOSTIC CRITERIA OF RELEVANT DSM-IV DEPRESSIVE AND ANXIETY DISORDERS

Major Depressive Disorder:

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

    1) depressed mood most of the day, nearly every day, as indicated by either subjective report or observation made by others. Note: In children and adolescents, can be irritable mood.

    2) markedly dimished interest or pleasure in all, or almost all, activities most of the day, nearly every day.

    3) significant weight loss when not dieting or weight gain, or deacrease or increase in appetite nearly every day. Note: In children, consider failure to make expected weight gains.

    4) insomnia or hypersomnia nearly every day

    5) psychomotor agitation or retardation nearly every day

    6) fatigue or loss of energy nearly every day

    7) feelings of worthlessness or excessive or inappropriate guilt nearly every day

    8) diminished ability to think or concentrate, or indecisiveness, nearly every day

    9) recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide

Generalized Anxiety Disorder (includes Overanxious Disorder of Childhood):

A. Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).

B. The person finds it difficult to control the worry.

C. The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms present for more days than not for the past 6 months). Note: Only one item is required in children.

    1) restlessness or feeling keyed up or on edge

    2) being easily fatigued

    3) difficulty concentrating or mind going blank

    4) irritability

    5) muscle tension

    6) sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep)

D. The focus of the anxiety and worry is not confined to features of an Axis I disorder and the anxiety and worry do not occur exclusively during Posttraumatic Stress Disorder

Separation Anxiety Disorder:

A. Developmentally inappropriate and excessive anxiety concerning separation from home or from those to whom the individual is attached, as evidenced by three (or more) of the following:
    1) recurrent excessive distress when separation from home or major attachment figures occurs or is anticipated
    2) persistent and excessive worry about losing, or about possible harm befalling, major attachment figures
    3) persistent and excessive worry that an untoward event will lead to separation from a major attachment figure
    4) persistent reluctance or refusal to go to school or elsewhere because of fear of separation
    5) persistently and excessively fearful or reluctant to be alone or without major attachment figures at home or without significant adults in other settings
    6) persistent reluctance or refusal to go to sleep without being near a major attachment figure or to sleep away from home
    7) repeated nightmares involving the theme of separation
    8) repeated complaints of physical symptoms (such as headaches, stomachaches, nausea, or vomiting) when separation from major attachment figures occurs or is anticipated
B. The duration of the disturbance is at least 4 weeks.
C. The onset is before age 18 years.
D. The disturbance causes clinically significant distress or impairment in social, academic (occupational), or other important areas of functioning.

Social Phobia:

A. A marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing. Note: In children, there must be evidence of the capacity for age-appropriate social relationships with familiar people and the anxiety must occur in peer settings, not just in interactions with adults.
B. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed Panic Attack. Note: In children, the anxiety may be expressed by crying, tantrums, freezing, or shrinking from social situations with unfamiliar people.
C. The person recognizes that the fear is excessive or unreasonable. Note: In children, this feature may be absent.

D. The feared social or performance situations are avoided or else are endured with intense anxiety or distress.

E. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.

F. In individuals under age 18 years, the duration is at least 6 months.

APPENDIX B

FREQUENTLY USED RATING SCALES OF DEPRESSIVE AND ANXIETY SYMPTOMS IN CHILDREN

Children's Depression Inventory (CDI): A 27-item self-report instrument intended to measure a variety of symptoms associated with depression in children ages 7 to 17. Each item consists of three self statements that range from what would be considered an asymptomatic response, to statements indicating mild to moderately intense depressive symptoms, and are scored as a 0, 1, or 2 with higher numbers denoting endorsement of more intense depressive symptomatology. Respondents choose the item that is believed to best describe their experience; items are summed to obtain a total score.

Revised Children's Manifest Anxiety Scale (RCMAS): A 49-item self-report instrument designed to assess the level and nature of anxiety in children from 6 to 19 years old. The instrument may be administered either to an individual to to a group ore respondents. A child responds to each statement by indicating a *Yes* or *NO* answer. The RCMAS yields scores for the following six scales: Inconsistent Responding; Lie; Total Anxiety; Physiological Anxiety; Worry; Social Concerns/Concentration.

State-Trait Anxiety Inventory for Children (STAIC): A self-report instrument designed to be used with upper elementary or junior high school aged children and consists of two twenty-item scales, one measuring general proneness to anxious behavior rooted in the personality and anxiety as a fleeting emotional state. On the State Anxiety scale, a child chooses one of three emotional descriptors that best fits how they feel at the current moment. On the Trait Anxiety scale, a child responds to statements regarding how they usually feel by endorsing "hardly ever," "sometimes," or "often."

APPENDIX C

CONTACT LETTERS AND CONSENT FORMS

C.1. Parent/Guardian Letter
C.2. Parent/Guardian Consent Form

APPENDIX C.1

PARENT/GUARDIAN LETTER

The College of William & Mary
Department of Psychology
PO Box 8795   Williamsburg VA 23187-8795
757-221-3870   fax 757-221-3896

Chartered 1693

Dear Parents/Guardians,   November 2006

       You and your child are invited to be part of a study looking at children's expressions of different feelings. Janice Zeman, Ph.D. and graduate student, Raychul Goldenberg-Bivens, are in the Department of Psychology at the College of William and Mary. We are interested in how children deal with anger, sadness, happiness, and pride, and how these feelings affect their day to day lives. To help us understand how children show feelings, we need to view it from several angles. For this reason, we are also interested in getting parents'/guardians' ideas about their child's emotional expressions as well as the child's viewpoint.

<u>What will we be asked to do?</u>

Child part: Children will complete the following 7 surveys at school in their classroom with our help. This will take about 20-30 minutes.
1.   how they like to show their feelings (e.g., "I prefer to keep my feelings to myself.")
2.   how often they feel different emotions (e.g., "I was excited almost all of the time.")
3.   how they usually feel (e.g., "In your daily life, how often do you feel happy?")
4.   how well they know what they feel (e.g., "I have no idea how I'm feeling.")
5.   how well they control their feelings (e.g., "When I'm feeling mad, I can control my temper.")
6.   how often they feel sad or down (e.g., "I am sad all the time.")
7.   how much they worry (e.g., "I worry a lot of the time.")

Parent/guardian part: Your surveys will be mailed to you. The packet will include questionnaires and a stamped, self-addressed envelope, so you can mail the forms back to us at no cost. If you decide that you don't want to do your forms, your child can still take part in the study.
You will be asked to do 5 surveys, which will take about 20-30 minutes.
1.   basic information about your family (e.g., level of education)
2.   how your child manages his or her feelings (e.g., "My child hides his/her sadness.")
3.   your child's ability to control his or her feelings (e.g., "My child is easily frustrated.")
4.   any behavior problems your child experiences (e.g., " Disobedient at school.")
5.   your child's emotional style (e.g., "My child does not calm down easily.")

<u>Will our responses be confidential?</u>

       All information from the questionnaires will be confidential. All questionnaires as well as the list that links the I.D. #s to names will be stored in a file cabinet in a locked office with only Dr. Zeman having access to this information. In addition to having your permission, your child will be able to make the final decision about whether or not to participate. Confidentiality will only be broken if

you indicate that your child is a danger to self or to others, or if your child is experiencing a high level of worry and/or sadness. If this happens, we will speak to the school's guidance counselor or the Principal.

<u>What are the risks and benefits?</u>

There are no known risks to participating in this study. You and your child's participation in the study is *voluntary*. You and your child will be able to skip any questions that bother either of you, and you and your child have the option of stopping at any time without any penalty. The benefit is that this research will help us to better understand how children cope with their feelings and how emotions affect other parts of their lives.

To express our appreciation for helping with the project, you and your child will receive a small compensation. Your child will receive a small present, such as a folder, small toy, or candy bar. You will receive a $5 Target card or we can donate the $5 on your behalf to your child's school grade team.

<u>What if I have a question?</u>

If you have any additional concerns or questions about the study or would like feedback or learn the results, please feel free to contact Dr. Janice Zeman at the following address and phone number:

College of William and Mary
Department of Psychology
P.O. Box 8795
Williamsburg, VA 23187
757.221.3877
jlzema@wm.edu

What's the next step?

Please complete the permission slip on the next page and return it with your child to school by November 17.

Thanks so much for your help!

_____   _____
Janice Zeman, Ph.D.   Raychul Goldenberg-Bivens

APPENDIX C.2

PARENT/GUARDIAN CONSENT FORM

Children's Feelings Study
Permission Slip

Please check all that apply.

_____ My child has permission to participate in the study.

_____ I agree to participate in the study.

_____ Neither my child nor I will participate in the study.

Child's Name:_____

Child's Gender: Male   or   Female

Child's Birthday:_____

Grade:_____

School:_____

Parent/Guardian's name:_____

Relationship to child: _____

Phone number:_____

Mailing Address:_____

_____

Parent/Guardian Signature: _____

APPENDIX D

EXCLUDED CDI AND RCMAS ITEMS

CDI	RCMAS
I cannot make up my mind about things.	I have trouble making up my mind.
I worry that bad things will happen to me.	I often worry about something bad happening to me.
I have trouble sleeping every night.	It is hard for me to get to sleep at night
I feel alone all the time.	I feel alone even when other people are with me.
I am tired all the time.	I am tired a lot.

APPENDIX E

CHILD MEASURES

E.1.   Demographic Information
E.2.   Children's Emotion Management Scale for Happiness
E.3.   Children's Emotion Management Scale for Pride
E.4.   Discrete Emotion Scale – IV
E.5.   How I Feel Questionnaire
E.6.   Children's Depression Inventory
E.7.   Revised Children's Manifest Anxiety Scale

APPENDIX E.1

DEMOGRAPHIC INFORMATION

ID#_____

Demographics

Please tell us a little bit about yourself.

1. What is your <u>age</u>? _____

2. When were you <u>born</u>? Please write the month, day, and year. For example, March 17, 1994 would look like this: 3/17/94

   ____/____/____

3. Gender (please check one):

   ____ Boy

   ____ Girl

4. Race (please check one):

   ____ White or Caucasian

   ____ African American or Black

   ____ Latino/a or Hispanic

   ____ Asian

   ____ Native American or American Indian

   ____ Other (please tell us):_____

APPENDIX E.2

CHILDREN'S EMOTION MANAGEMENT SCALE FOR HAPPINESS

Children's Emotion Management Scale: **Happiness**

<u>Instructions</u>: Please circle the response that best describes your behavior when you are feeling happy.

	Hardly Ever	Sometimes	Often
1. When I feel happy inside, I have a hard time showing it..................	1	2	3
2. It is hard for me to calm down when I am feeling happy.............. 1		**2**	**3**
3. I only share my happy feelings with certain people......................	1	2	3
4. I hide how happy I feel...	**1**	**2**	**3**
5. I can't help but jump up and down or move around when I feel happy..	1	2	3
6. There are times when it is not okay to show how happy I feel....... 1		**2**	**3**
7. I talk with everyone about how happy I am.................................	1	2	3
8. When I feel happy, I pretend not to be..................................... 1		**2**	**3**
9. I show how happy I feel..	1	2	3
10. When I feel happy, I can't help but smile and laugh, ... 1		**2**	**3**
no matter where I am.			
11. I try not to show how happy I feel...	1	2	3
12. I pretend to be happy even when I'm not................................ 1		**2**	**3**
13. I lose control of myself when I feel really happy...........................	1	2	3
14. There are times when I show how happy I feel, and times I don't... 1		**2**	**3**
15. I don't like to show others how happy I feel................................	1	2	3
16. I can control how much happiness I show................................ 1		**2**	**3**
17. I can calm myself down when I feel really happy...........................	1	2	3

APPENDIX E.3

CHILDREN'S EMOTION MANAGEMENT SCALE: PRIDE

Instructions: Please circle the response that best describes your behavior when you are feeling **proud**.

1.	When I am proud of myself, I keep it to myself.	Hardly Ever 1	Sometimes 2	Often 3
2.	When I am proud, I am careful not to brag about it.	Hardly Ever 1	Sometimes 2	Often 3
3.	When I am proud of myself, I only share it with certain people.	Hardly Ever 1	Sometimes 2	Often 3
4.	When I feel proud, I don't care who knows about it.	Hardly Ever 1	Sometimes 2	Often 3
5.	When I am proud of myself, I am careful who I tell.	Hardly Ever 1	Sometimes 2	Often 3
6.	When I feel proud, I can control how much I talk about it.	Hardly Ever 1	Sometimes 2	Often 3
7.	I try not to show how proud I feel.	Hardly Ever 1	Sometimes 2	Often 3
8.	I hide my proud feelings.	Hardly Ever 1	Sometimes 2	Often 3
9.	I share my proud feelings with everyone.	Hardly Ever 1	Sometimes 2	Often 3
10.	I can control how much I show that I am proud of myself.	Hardly Ever 1	Sometimes 2	Often 3
11.	I can stop myself from talking about how proud I feel.	Hardly Ever 1	Sometimes 2	Often 3
12.	I don't like to show how proud I feel.	Hardly Ever 1	Sometimes 2	Often 3
13.	I brag and boast about why I am proud of myself.	Hardly Ever 1	Sometimes 2	Often 3
14.	Sometimes I feel proud, but I pretend not to be.	Hardly Ever 1	Sometimes 2	Often 3
15.	I have a hard time showing others how proud I feel.	Hardly Ever 1	Sometimes 2	Often 3
16.	I can't stop telling everyone about how proud I feel.	Hardly Ever 1	Sometimes 2	Often 3
17.	I try not to boast or brag when I feel proud, but I just can't help it.	Hardly Ever 1	Sometimes 2	Often 3
18.	I can pretend to be proud even when I'm not.	Hardly Ever 1	Sometimes 2	Often 3

APPENDIX E.4

DISCRETE EMOTION SCALE-IV

ID#_____

DES-IV

Emotions and Feelings

In your daily life, how often do you...

	Rarely or Never	Hardly Ever	Sometimes	Often	Very Often
1. Feel glad about something.................................	1	2	3	4	5
2. Feel surprised, like when something suddenly happens you had no idea........................ would happen.	1	2	3	4	5
3. Feel like what you are doing................................. or watching is interesting.	1	2	3	4	5
4. Feel proud.	1	2	3	4	5
5. Feel so interested in what you are doing you get caught up in it............................	1	2	3	4	5
6. Feel amazed, like you can't............................. believe what's happened, it was so unusual.	1	2	3	4	5
7. Feel joyful, like everything is............................. going your way, everything is rosy.	1	2	3	4	5
8. Feel like you did something............................. really well.	1	2	3	4	5
9. Feel alert, curious, kind of............................. excited about something unusual.	1	2	3	4	5
10. Feel happy...	1	2	3	4	5

11. Feel the way you do when..   1 2   3   4   5
something unexpected happens.

12. Feel like you are the best at........................ 1   2   3   4   5
something you do.

APPENDIX E.5

HOW I FEEL SCALE

Instructions:
Please rate the sentences below for how true each was of you in the past three months.

Rating Scale:
1 = not at all true of me
2 = a little true of me
3 = somewhat true of me
4 = pretty true of me
5 = very true of me

1.	I was unhappy very often.	1	2	3	4	5
2.	When I felt sad, my sad feelings were very strong.	1	2	3	4	5
3.	I was in control of how often I felt mad.	1	2	3	4	5
4.	I was excited almost all of the time.	1	2	3	4	5
5.	When I felt scared, my scared feelings were very powerful.	1	2	3	4	5
6.	When I felt happy, I could control or change how happy I felt.	1	2	3	4	5
7.	I was sad very often.	1	2	3	4	5
8.	When I felt mad, my mad feelings were very strong.	1	2	3	4	5
9.	I was in control of how often I felt excited.	1	2	3	4	5
10.	I was scared almost all the time.	1	2	3	4	5
11.	When I felt happy, my happy feelings were very positive.	1	2	3	4	5
12.	When I felt sad, I could control or change how sad I felt.	1	2	3	4	5
13.	I was mad very often.	1	2	3	4	5
14.	When I felt excited, my excited feelings were very strong.	1	2	3	4	5

ID # _____

15.	I was in control of how often I felt scared.	1	2	3	4	5
16.	I was happy almost all the time.	1	2	3	4	5
17.	When I felt sad, my sad feelings were very powerful.	1	2	3	4	5
18.	When I felt mad, I could control or change how mad I felt.	1	2	3	4	5
19.	I was excited very often.	1	2	3	4	5
20.	When I felt scared, my scared feelings were very strong.	1	2	3	4	5
21.	I was in control of how often I felt happy.	1	2	3	4	5
22.	I was sad almost all the time.	1	2	3	4	5
23.	When I felt mad, my mad feelings were very powerful.	1	2	3	4	5
24.	When I felt excited, I could control or change how excited I felt.	1	2	3	4	5
25.	I was scared very often.	1	2	3	4	5
26.	When I felt happy, my happy feelings were very strong.	1	2	3	4	5
27.	I was in control of how often I felt sad.	1	2	3	4	5
28.	I was mad almost all the time.	1	2	3	4	5
29.	When I felt excited, my excited feelings were very powerful.	1	2	3	4	5
30.	When I felt scared, I could control or change how scared I felt.	1	2	3	4	5

APPENDIX E.6

CHILDREN'S DEPRESSION INVENTORY

CDI

ID # _____

Item 1
☐ I am sad once in a while
☐ I am sad many times.
☐ I am sad all the time.

Item 2
☐ Nothing will ever work out for me.
☐ I am not sure if things will work out for me.
☐ Things will work out for me O.K.

Item 3
☐ I do most things O.K.
☐ I do many things wrong.
☐ I do everything wrong.

Item 4
☐ I have fun in many things.
☐ I have fun in some things.
☐ Nothing is fun at all.

Item 5
☐ I am bad all the time.
☐ I am bad many times.
☐ I am bad once in a while.

Item 6
☐ I think about bad things happening to me once in a while.
☐ I worry that bad things will happen to me.
☐ I am sure that terrible things will happen to me.

Item 7
☐ I hate myself.
☐ I do not like myself.
☐ I like myself

Item 8
☐ All bad things are my fault.
☐ Many bad things are my fault.
☐ Bad things are not usually my fault.

ID # _____

Item 10
- ☐ I feel like crying every day.
- ☐ I feel like crying many days.
- ☐ I feel like crying once in a while.

Item 11
- ☐ Things bother me all the time.
- ☐ Things bother me many times.
- ☐ Things bother me once in a while.

Item 12
- ☐ I like being with people
- ☐ I do not like being with people many times.
- ☐ I do not want to be with people at all.

Item 13
- ☐ I cannot make up my mind about things.
- ☐ It is hard to make up my mind about things.
- ☐ I make up my mind about things easily.

Item 14
- ☐ I look O.K.
- ☐ There are some bad tings about my looks.
- ☐ I look ugly.

Item 15
- ☐ I have to push myself all the time to do my schoolwork.
- ☐ I have to push myself many times to do my schoolwork.
- ☐ Doing schoolwork is not a big problem.

Item 16
- ☐ I have trouble sleeping every night.
- ☐ I have trouble sleeping many nights.
- ☐ I sleep pretty well.

Item 17
- ☐ I am tired once in a while.
- ☐ I am tired many days.
- ☐ I am tired all the time.

Item 18
- ☐ Most days I do not feel like eating.
- ☐ Many days I do not feel like eating.
- ☐ I eat pretty well.

ID # _____

Item 19
- ☐ I do not worry abut aches and pains.
- ☐ I worry about aches and pains many times.
- ☐ I worry about aches and pains all the time.

Item 20
- ☐ I do not feel alone.
- ☐ I feel alone many times.
- ☐ I feel alone all the time.

Item 21
- ☐ I never have fun at school.
- ☐ I have fun at school only once in a while.
- ☐ I have fun at school many times.

Item 22
- ☐ I have plenty of friends.
- ☐ I have some friends but I wish I had more.
- ☐ I do not have any friends.

Item 23
- ☐ My schoolwork is alright.
- ☐ My school work is not as good as before.
- ☐ I do very badly in subjects I used to be good in.

Item 24
- ☐ I can never be as good as other kids.
- ☐ I can be as good as other kids if I want to.
- ☐ I am just as good as other kids.

Item 25
- ☐ Nobody really loves me.
- ☐ I am not sure if anybody loves me.
- ☐ I am sure that somebody loves me.

Item 26
- ☐ I usually do what I am told.
- ☐ I do not do what I am told most times.
- ☐ I never do what I am told.

Item 27
- ☐ I get along with people.
- ☐ I get into fights many times.
- ☐ I get into fights all the time.

APPENDIX E.7

REVISED CHILDREN'S MANIFEST ANXIETY SCALE

ID#_____

RCMAS

Yes	No	1.	I have trouble making up my mind.
Yes	No	2.	I get nervous when things do not go the right way for me.
Yes	No	3.	Others seem to do things easier than I can.
Yes	No	4.	I like everyone I know.
Yes	No	5.	Often I have trouble getting my breath.
Yes	No	6.	I worry a lot of the time.
Yes	No	7.	I am afraid of a lot of things.
Yes	No	8.	I am always kind.
Yes	No	9.	I get mad easily.
Yes	No	10.	I worry about what my parents will say to me.
Yes	No	11.	I feel that others do not like the way I do things.
Yes	No	12.	I always have good manners.
Yes	No	13.	It is hard for me to get to sleep at night.
Yes	No	14.	I worry about what other people think about me.
Yes	No	15.	I feel alone even when there are other people with me.
Yes	No	16.	I am always good.
Yes	No	17.	Often I feel sick in my stomach.
Yes	No	18.	My feelings get hurt easily.
Yes	No	19.	My hands feel sweaty.
Yes	No	20.	I am always nice to everyone.
Yes	No	21.	I am tired a lot.
Yes	No	22.	I worry about what is going to happen.
Yes	No	23.	Other people are happier than I.
Yes	No	24.	I tell the truth every single time.
Yes	No	25.	I have bad dreams.
Yes	No	26.	My feelings get hurt easily when I am fussed at.
Yes	No	27.	I feel someone will tell me I o things the wrong way.
Yes	No	28.	I never get angry.
Yes	No	29.	I wake up scared some of the time.

Yes	No	30.	I worry when I go to bed at night.
Yes	No	31.	It's hard for me to keep my mind on my schoolwork.
Yes	No	32.	I never say things I shouldn't.
Yes	No	33.	I wiggle in my seat a lot.
Yes	No	34.	I am nervous.
Yes	No	35.	A lot of people are against me.
Yes	No	36.	I never lie.
Yes	No	37.	I often worry about something bad happening to me.

VITA

Name:

Ann C. Schlegelmilch

Department Address:

Virginia Consortium Program in Clinical Psychology
Virginia Beach Higher Education Center
1881 University Drive, Suite 239
Virginia Beach, VA 23453

Education:

2003   B.A., Wesleyan University, Middletown, CT
Major in Psychology and Women's Studies

2008   M.A., Norfolk State University, Norfolk, VA
Degree in Community/Clinical Psychology

2010   Psy.D., Virginia Consortium Program in Clinical Psychology, Virginia Beach,VA
Degree in Clinical Psychology

Clinical Experience:

o   Predoctoral Internship (2009 - 2010). Virginia Treatment Center for Children, Richmond, VA
o   Practicum (2008 - 2009). Tidewater Child Development Clinic, Norfolk, VA
o   Practicum (2008). Virginia Beach City Public Schools, Virginia Beach, VA
o   Practicum (2007-2008). Response Sexual Assault Support Services, Norfolk, VA
o   Practicum (2007). Carol Pritchard and Associates, Virginia Beach, VA
o   Practicum (2007). Virginia Beach City Public Schools, Virginia Beach, VA
o   Practicum (2006). Colonial Community Services Board, Williamsburg, VA

Honors and Awards:

o   Gregg Scholarship for Outstanding Scholarship in the Preparation of a Child-Related Dissertation, 2008
o   Eastern Virginia Medical School Health Professions Scholar, 2007-2009
o   The College of William and Mary Arts and Sciences Graduate Research Grant
o   Frank W. Finger Graduate Paper Award, The Virginia Psychological Association, May 2007