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Nicole Lynn Moody

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The Dissertation Committee for Nicole Lynn Moody Certifies that this is the approved version of  
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**Individual and Family Protective Factors for Depression in Pre- and Early  
Adolescent Girls**

**Committee:**

---

Kevin D. Stark, Supervisor

---

Janay B. Sander, Co-Supervisor

---

Cindy I. Carlson

---

Edmund T. Emmer

---

Arlene K. Montgomery

**Individual and Family Protective Factors for Depression in Pre- and Early  
Adolescent Girls**

**by**

**Nicole Lynn Moody, B.A.; M.A.**

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## DEDICATION

This project is dedicated to my grandparents, Robert and Jane Deering. You always said I could be a neurosurgeon if I wanted - I have simply chosen to tend to the mind instead of the brain.

Thank you for always celebrating my achievements, but keeping my feet on the ground; encouraging me to reach higher, but catching me when I fell. You provided me with the unconditional love and support largely responsible for my own resilient outcome.

And in loving memory of Hank Gallagher, who always believed I could do no wrong.

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# **Individual and Family Protective Factors of Depression in Pre- and Early Adolescent Girls**

Nicole Lynn Moody, Ph.D.

The University of Texas at Austin, 2013

Supervisor: Kevin D. Stark

Co-Supervisor: Janay B. Sander

Research has documented the age of first onset of depression is commonly in adolescence and young adulthood and that prepubertal onsets are occurring at an increasing rate. Thus, targeting interventions prior to this period of increased risk would maximize the opportunity to reduce the incidence of depression. To date, however, the limited research that has been done on protective factors has lacked some consensus and generalizability. This study focused on investigating potential individual and family protective factors and their roles in the development of depressive symptoms in early adolescent girls. More specifically, optimism was investigated as a possible mediator of the relationship between attributional style and depression. Furthermore, attributional style and family environment were hypothesized to moderate the effect of stress on depressive symptomatology. The participants of this study were 120 girls that were part of a school based cognitive behavioral group treatment study for girls with depression aged 9-14. Based on the ratings of symptoms by the girls and their caregivers, on a semi-

structured diagnostic interview, two groups were identified: 1) girls that met the diagnostic criteria for a depressive disorder (n= 81), and 2) those that did not (control group; n= 39). Both samples also completed self-report measures of attributional style and family environment (i.e., cohesion, communication, and sociability), in addition to a projective measure which was coded for dispositional optimism. The results of this study suggested higher levels of optimism and more positive attributional styles independently predicted lower levels of depressive symptom severity; however, optimism did not impact the relationship between attributional style and depression. The results also demonstrated that girls who reported their families engage in more social/recreational activities had lower levels of depressive symptoms. Finally, increased life stress was not associated with increased levels of depression. The study's limitations, implications of the results, and recommendations for future research were discussed.

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## CHAPTER 1

### Introduction

Among mental disorders, major depressive disorder (MDD) is startlingly prevalent, with nearly one in six Americans experiencing an episode during the course of his or her lifetime (Kessler et al., 2003). In fact, in 2004 the World Health Organization reported that depressive disorders are rated as the third leading cause of disease burden worldwide, and is expected to rank first by 2030 (World Health Organization, 2004). It is true depression occurs less frequently in young children compared to adults; however, MDD appears to be on the rise in this population with about 4-8% of adolescents experiencing depression in any given year (Costello et al., 2002; National Institute of Mental Health [NIMH], 2000); making young people today much more likely to suffer from depression than their parents or grandparents were, and at younger ages (Lewinsohn, Rohde, Seeley, & Fischer, 1993). Prevalence rates of MDD in preschool children have been reported at about 1%; and, among school-age children the rate is approximately 2% (Costello et al., 2002; Son & Kirchner, 2000). By adolescence the prevalence rates become comparable to adults, with two large-scale studies of youth reporting lifetime prevalence rates for MDD of over 20% by age 18 (Hankin et al., 1998; Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993). In addition, adolescent depression appears to be especially prevalent in girls, with the data suggesting that despite similar rates of depression in childhood, once girls and boys reach adolescence, twice as many girls experience clinical depression (Hankin et al., 1998; Saluja et al., 2004).

Thus, research suggests that many adults' mood disorders begin during middle to late adolescence, and that this might be an especially vulnerable period for the development of MDD particularly in girls (Hankin et al., 1998; Saluja et al., 2004). In addition, depression in young people is associated with considerable and persistent functional impairment, comorbid disorders, poor social adjustment, academic difficulties (Kovacs, 1989; Lewinsohn, Rohde, Seeley, Klein, & Gotlib, 2003), and an increased risk for recurrence through adulthood (Fergusson, Horwood, Ridder, & Beautrais, 2005). Taken together these points make a strong case for the development and implementation of interventions to prevent the emergence of depression in youth. Targeting interventions to youth prior to a period of significantly heightened risk would maximize the opportunity to reduce the incidence of major depression, and practical considerations make child and adolescent samples particularly appropriate for preventative interventions. That is, from a practical sense, the use of school for recruiting and implementing an intervention allows for a streamlined process of conducting research.

The need and usefulness of preventative efforts has been well documented, and significant strides have been made towards developing successful interventions since 1990 (Sutton, 2007). Unfortunately, meta-analyses of preventative interventions have consistently yielded small effect sizes in the short-term prevention of depression, and extended follow-ups have not demonstrated consistent intervention effects (Sutton, 2007). The 2003 publication of *Breaking Ground, Breaking Through: The Strategic Plan for Mood Disorders Research* (NIMH, 2003) addressed this issue, and suggested that research priorities relevant to prevention of mood disorders in children and adolescents

should include examining specific mediators and moderators of intervention outcomes. To date, however, research concerning mediators and moderators has focused on the risk factors associated with depression. That is, there is a large body of research that has studied the pathways that lead to vulnerability for and emergence of depression. There is considerable evidence, for instance, that gender (Hankin et al., 1998; Nolen-Hoeksema, 2002), parental depression (Beardslee, Versage, & Gladstone, 1998; Goodman & Gotlib, 1999), stressful life events (Kessler, 1997), and a negative attributional style (Abramson, Metalsky, & Alloy, 1989; Garber, Robinson, & Valentiner, 1997) are strongly related with depressive symptoms. Accordingly, some of the major theories that have come out of this research include biological models (genetics and neurochemistry), cognitive models, behavioral/interpersonal models, family models, and life stress models (Hammen & Rudolph, 2003).

The major cognitive models are stress-diathesis models in which cognitive variables are assumed to interact with stressful life events to produce depression. These theories propose that certain styles of thinking and information processing interact with perceived stressful events to produce depression (Abramson et al., 1989; Abramson, Seligman, & Teasdale, 1978; Beck, 1987). More specifically, cognitive theories of depression assert that when important life events occur, individuals with negative inferences about themselves, world, future, and the causes of events are more likely to become depressed than are individuals who do not have these beliefs (Abramson et al., 1989; Beck; 1987). The hopelessness theory of depression focuses on individuals' attributional styles, and postulates that three types of interpretations can put an individual



at risk for depression following a negative event. Vulnerable individuals are proposed to have (a) the tendency to make negative inferences about the causes of negative events (stable, global attributions); (b) the tendency to infer negative or catastrophic consequences for the negative event; and (c) the tendency to make negative inferences about themselves following the occurrence of negative events (Abramson et al., 1989). Multiple studies have supported negative attributional style, alone and in interaction with stress, as a predictor of depression (Abela, 2001; Hilsman & Garber, 1995). Research has also suggested that the impact of this interaction is mediated by hopelessness (Abramson, Alloy, & Hogan, 1998; Metalsky & Joiner, 1992). Furthermore, the variability in the negativity of content and process of these cognitive factors suggest they can serve as either vulnerability factors or protective factors.

The environmental and biological influences of the family are perhaps the best-studied predictors of youth outcomes (Beam, Gil-Rivas, Greenberger, & Chen, 2002). Thus, a large body of research exists that suggests that impaired family environments contribute to the risk for depression among youth. More specifically, families of depressed youth have been found to have more conflict, less cohesion, less communication, and fewer social recreational activities than families of non-depressed children (Fenrich, Warner, & Weismann, 1990; Garrison, Jackson, Marsteller, McKeown, & Addy, 1990; Stark, Humphrey, Crook, & Lewis, 1990). Further research is needed to explore other variables that may mediate this relationship between family environment and depression. In addition, few studies have examined family environmental factors as moderators, but research suggests that the interactions of children and adolescents with

their family can serve as either a vulnerability or protective factor in relation to the development of depressive symptoms (Toth & Cicchetti, 1996).

In contrast to the wealth of research regarding risk factors, and the implications that cognitive and family variables in particular can act as both vulnerability and protective factors, investigators have noted that much less is known about protective factors (Fombonne, 1995; Gillham, Shatté, & Freres, 2000). Moreover, as protective factors are associated with a decrease in the probability of negative outcomes or an increase in the likelihood of favorable outcomes (Kazdin, Kraemer, Kessler, Kupfer, & Offord, 1997), a focus on malleable protective factors is crucial for successful intervention. From the relatively few studies that have explored potential moderators, research suggests that factors such as positive family environments, high self-esteem, positive emotionality, optimism, humor, adaptive attributional style, ability to reframe stressors, acceptance, spirituality, altruism, social support, and active coping style protect against adverse outcomes (Compas, 1995; Peterson, Maier, & Seligman, 1993). More specifically, empirical evidence is beginning to emerge that suggests that dispositional optimism, in particular, is an important variable to consider in relation to resilience (Scheier & Carver, 1987, 1992; Peterson & Seligman, 1984).

Dispositional optimism, or for the purposes of this investigation – optimism (Abramson, Dykman, & Needles, 1991), has been defined in the literature as a characterological predisposition toward expecting favorable outcomes (Carver & Scheier, 1985). As mentioned earlier, multiple studies have supported the assertion of cognitive diathesis-stress models that cognitive factors interact with environmental stress to predict

depression (Abela, 2001; Abela & Seligman, 2000; Hankin, Abramson, Miller, & Haefffel 2004; Hankin, Fraley, & Abela, 2005; Hilsman & Garber, 1995; Metalsky & Joiner, 1992); and that this interaction is mediated by hopelessness (Abramson et al., 1998; Metalsky & Joiner, 1992). Dispositional optimism then, as defined by Carver and Scheier (1985), represents the positive alternative to Abramson and colleagues' (1989) construct of hopelessness. A number of studies that have explored the impact of optimism on depression, and the manner in which people cope with stress, have found that optimism is a predictor of psychological well-being (Ben-Zur, 2003; Ey et al., 2005; Scheier & Carver, 1985, 1992, 1993). More recently, it has been hypothesized that dispositional optimism may also act as a mediator between attributional style and depression, and potentially moderate the affect of stressful life events on depressive outcomes (Dixon, Heppner, & Burnett, 1993; Fincham, 2000; Lazarus, Kanner, & Folkman, 1980; Metalsky & Joiner, 1992; Schou et al., 2004; Vickers & Vogeltanz, 2000).

Many hypotheses have been proposed by investigators regarding the various mediators and moderators of the cognitive diathesis-stress model of depression; however, as mentioned earlier, there has been little direct research of these variables (Fombonne, 1995; Gillham et al., 2000). In addition to the limited number of studies on protective factors, the literature has also lacked some consensus and generalizability (Sutton, 2007). This study then, aims to add to this resilience literature by further investigating a few of the potential individual and family protective factors for depression that have been identified in previous studies. More specifically, this investigation seeks to clarify the

complex role optimism, family environment, and attributions play in the development of depressive symptoms in early adolescent girls.

## CHAPTER 2

### Review of the Literature

#### *Youth and Depression*

Depression in youth is a significant problem. Research has demonstrated young people today are much more likely to suffer from depression than previous generations and at younger ages (Lewinsohn, Rohde et al., 1993), with 4-8% of adolescents experiencing depression in any given year (Costello et al., 2002; NIMH, 2000). Indeed, by age 18 prevalence rates become comparable to adults, with two large-scale studies of youth reporting lifetime prevalence rates for MDD of over 20% (Hankin et al., 1998; Lewinsohn, Hops et al., 1993). Furthermore, depression in children and adolescents is associated with significant, chronic functional impairment (Lewinsohn et al., 2003) and an increased likelihood for future episodes of depression that may reoccur into adulthood (Fergusson et al., 2005). In fact, longitudinal evidence suggests that early-onset internalizing disorders have greater and longer lasting effects than adult-onset depression (Kessler, Foster, Saunders, & Stand, 1995; Woodward & Fergusson, 2001).

#### *Clinical Presentation*

According to the Diagnostic and Statistical Manual of Mental Disorders- Fourth Edition-Text Revision (DSM-IV-TR; American Psychiatric Association, 2000), to be given a diagnosis of MDD, an individual must experience at least two-weeks of a depressed or irritable mood, or the loss of interest or pleasure in nearly all activities. The individual must also experience at least four additional symptoms, including significant

changes in appetite or weight, sleep, and psychomotor activity; decreased energy; feelings of worthlessness or guilt; difficulty thinking, concentrating, or making decisions; or recurrent thoughts of death or suicidal ideation, plans or attempts (APA, 2000). The symptoms must represent a change from previous functioning, and persist for most of the day, nearly every day, for at least two weeks. In addition, the symptoms must produce clinically significant distress or impairment in social, occupational, or other important areas of functioning (APA, 2000; See Appendix A).

For the most part, the clinical picture of MDD in childhood parallels the symptoms of adult MDD. There is only one minor variation in the diagnostic criteria: in children and adolescents, dysphoric mood may manifest as irritability (APA, 2000). Other developmental differences exist within this demographic, however. For instance, children usually show more symptoms of anxiety, somatic complaints, and auditory hallucinations (Ryan et al., 1987). In addition, children may express irritability and frustration with temper tantrums or behavioral problems instead of verbalizing their feelings. Adolescents, on the other hand, tend to display more sleep and appetite disturbances, delusions, suicidal ideation and attempts, and impairment in functioning (Garber, 2000a).

The problems associated with depression extend beyond those meeting diagnostic criteria for MDD. Many children and adolescents suffer from a chronic, low-grade depression known as Dysthymic Disorder (DD). To receive this diagnosis, individuals must experience this change in mood for most of the day, more days than not, for at least two years. Again, the diagnostic criterion differs slightly for youth, allowing irritable

mood to replace sadness, and the required minimum duration is only one year (APA, 2000; See Appendix B). Another possible diagnosis for those individuals experiencing significant depressive symptoms that do not meet the criteria for MDD or DD, may be Depressive Disorder Not Otherwise Specified (DDNOS; See Appendix C). These disorders have often been found to be as detrimental to healthy development in children and adolescents as MDD (Gotlib, Lewinsohn, & Seeley, 1995). In addition, research suggests approximately 70% of individuals with early-onset DD or DDNOS will eventually develop MDD (Kovacs, Akiskal, & Gatsonis, 1994; Lewinsohn, Rohde, & Seeley, 1991).

### *Epidemiology*

It is true that depression occurs less frequently in young children compared to adults; however, MDD appears to be on the rise among this population. That is, depressive disorders have been found to be relatively higher among those born more recently (Burke, Burke, Rae, & Regier, 1991). Burke et al. (1991) compared cohorts of individuals born between 1953 and 1966 with those born between 1937 and 1952, and between 1917 and 1936, and found an increase in depression in each young group over the older ones. Current prevalence rates of MDD in preschool children have been reported at about 1%; and, among school-age children the rate is approximately 2% (Costello et al., 2002; Son & Kirchner, 2000). In addition, approximately 2-5% of adolescents meet diagnostic criteria for major depression at a given point in time, with around 20% reporting lifetime prevalence rates for MDD by age 18 (Hankin et al., 1998;

Lewinsohn, Hops et al., 1993). Thus, the rates become comparable to adults by middle adolescence.

This research suggests that many adults' mood disorders begin during adolescence, which might be a particularly vulnerable period for first episodes of MDD (Hankin et al., 1998). In fact, epidemiological studies have found that first depressive episodes usually occur in late childhood or early adolescence, with a mean age of onset of 15 years old (Lewinsohn, Clarke, & Seeley, 1994). An earlier age of onset has been associated with clinical sample and children of depressed parents (Beardslee et al., 1998; Goodman & Gotlib, 1999). Furthermore, adolescent depression appears to be especially prevalent in girls, with the data suggesting that despite similar rates of depression in childhood, once girls and boys reach adolescence, twice as many girls experience clinical depression (Hankin et al., 1998). As far as DD is concerned, the usual age of onset among school-age children has been reported to range from 6 to 13 years (Kovacs et al., 1994).

To account for the rapid increase in rates of depression and the change in the sex ratio from the pre- to postpubertal period, Rutter (1986) proposed several possible mechanisms, including 1) hormonal change accompanying puberty, 2) genetic regulatory processes, 3) alterations in the frequency of environmental stressors, 4) developmental changes in the availability of either vulnerability or protective factors such as social support, 5) the possible role of cognitive processes such as learned helplessness and attributional style, and 6) developmental changes in children's experience and expression of emotions.

*Course*



Among the early literature, childhood depression was regarded as a mild and transient developmental disturbance. It is now understood that children and adolescents are not only at risk for recurrent and pervasive mood disorders into adulthood; but, in fact, an earlier onset is often correlated with a more chronic course, and therefore, more negative outcomes (Kessler, Foster, Saunders, & Stand, 1995; Woodward & Fergusson, 2001).

Kovacs and colleagues (Kovacs, 1996; Kovacs et al., 1994) have conducted the most extensive studies regarding the course of mood disorders in children. They showed that in clinical samples, childhood major depressive disorder tends to be acute with a mean length of episode of about 32 weeks. In community samples, a median duration of a major depressive episode is from 4 to 8 weeks (Emslie, Rush, & Weinberg, 1997; Kovacs, 1996; Lewinsohn et al., 1994). The maximal recovery rate of 92% is reached at approximately 18 months from onset (Emslie et al., 1997; Kovacs, 1996; Lewinsohn et al., 1994). For dysthymia, approximately 91% of children recover over the course of 9 years, with a median episode length of 4 years (Kovacs, 1994).

With regard to a longer-term prognosis, the clinical and empirical literatures indicate that major depression is recurrent over the life span (Lewinsohn et al., 1994). In children, short-term follow-up studies have shown that early-onset depressions tend to recur. Both clinical and community samples of depressed youth have shown that the probability of recurrence reaches 20% to 60% by 1 to 2 years after remission (Emslie et al., 1997; Kovacs, 1996; Lewinsohn et al., 1994). Kovacs (1996) found that the cumulative probability of a recurrent episode climbs to 72% over the course of 5 years

from the onset of the disorder. Such relapse rates are comparable to what has been found in adults. Research has found that predictors of recurrence include earlier age at onset, increased number of previous episodes, severity of initial episode, psychosis, psychosocial stressors, comorbid disorders, and lack of compliance with treatment (Emslie et al., 1997; Kovacs, 1996)

### *Female Vulnerability to Depression*

Epidemiological studies across cultures have repeatedly found approximately twice the rate of depression in women compared to men (Weissman & Olfson, 1995). In fact, major depression is the leading cause of disability in 15-44-year-old women (Murray & Lopez, 1996). Prior to adolescence, however, this 2:1 ratio does not exist. In prepubertal children, the rate of MDD is about equal in girls and boys, and in some cases, higher among boys (Fleming & Offord, 1990; Ryan et al., 1987). In fact, Ryan et al. (1987) reported that 62% of their depressed prepubertal patients were boys, whereas 54% of their depressed adolescents were girls. Research indicates that during early to middle adolescence is when the rate of depressive symptoms and disorders in girls rises to two or three times that of boys (Ge, Lorenz, & Conger, 1994; Hankin et al., 1998), and this is consistent within different ethnic groups (Weissman & Olfson, 1995) and with different sampling methods such as community-based and high-risk samples.

The literature suggests, however, it is not just prevalence rates that differ in the manifestation of depression in males and females. Initial episodes of depression are more severe and longer in duration for girls than for boys (McMauley et al., 1993). Depression

in adolescent females is also associated with hospitalization, abuse of tranquilizers, school dropout, and future marital distress (Kandel & Davies, 1986).

Explanations for this gender difference have included theories related to hormonal changes, increased stress, difference in interpersonal orientation, tendencies toward rumination and other maladaptive responses to stress, and differing socialization experiences (Cyranowski, Frank, Young, & Shear, 2000; Hankin & Abramson, 2001; Nolen-Hoeksema & Girgus, 1994). The most salient of these theories, in the context of this study, is an integrated, cognitively based transactional theory provided by Hankin and Abramson (2001). Building upon previous theory (Nolen-Hoeksema & Girgus, 1994; Cyranowski et al., 2000), Hankin and Abramson (2001) proposed that a causal chain beginning with negative events contribute to negative affect. More specifically, certain cognitive vulnerabilities are believed to increase the likelihood of depression, and research with adults and adolescents has suggested that females have more negative cognitive styles than do males (Hankin & Abramson, 2001). Little and Garber (2000) also found that girls tend to report more life stress, particularly interpersonal, peer, and family related stress. Together, these findings may explain later sex differences in depression; however, the evidence for this prospective relation between cognitive vulnerabilities, such as attributional style, and the development of depression in young girls has been mixed.

#### *Summary of Youth and Depression*

A broad review of the literature indicates that there are several distinct trends in the epidemiology and course of depressive disorders among children and adolescents.

The first of these trends is that an early onset of depression is associated with a prolonged course and more negative outcomes. Second, research indicates that the transition from childhood to adolescence is associated with a significant increase in the rates of depressive disorders; and finally, this developmental period is also associated with a drastic increase in the prevalence ratio of depression amongst females and males. Taken together these points make a strong case for the development and implementation of interventions to prevent the emergence of depression in adolescence. In order to do so, however, research must elucidate the mechanisms and moderators of risk and resilience.

#### *Pathways of Risk and Resilience*

Various psychological and psychosocial factors have been associated with the etiology of depression in children and adolescents including, biological, cognitive, emotional, and interpersonal variables (Muris, Schmidt, & Lambrichs, 2001). Based on the complexity of the disorder, and the host of etiological pathways, researchers are striving to create multi-dimensional developmental models that integrate the various theories. For instance, the experience of stressful life events is a well-established risk factor included in most current theories regarding the development of depressive problems in childhood and adolescence (Hammen, 2005; Kessler, 1997; Rutter, 2000); however, the amount of variance in maladjustment explained by stressful life events alone has been relatively small (Compas et al., 1993). This suggests that not all youth who are exposed to stressful life experiences develop depression. Therefore, an important question is why some children and adolescents are more resilient to stress than others. One factor in particular that has received considerable attention is attributional style. The

basic idea is that people who explain the causes of negative events as external, ever changing and temporary (Abramson et al., 1978) are less likely to develop depressive symptoms in the face of adversity (Gladstone & Kaslow, 1995).

Another factor that has been implicated in the etiology of depression is family environment. Research has found that non-depressed youth consistently report their families are more cohesive, less controlled and conflictual, communicate more, and engage in more pleasant activities than families with depressed children (Cook, Asarnow, & Goldstein, 1990; Fenrich et al., 1990; Stark et al., 1990). In addition, it has been postulated that a healthy family environment may moderate the impact of stressful life events on depressive outcomes (Bouma et al., 2008).

In sum, for the purposes of this study, theories relevant to cognitive variables and family environment will be reviewed and discussed. Each of these theories identifies distinct factors that vary in the negativity of their content and processes; thus, they can serve as vulnerability factors, or protective factors, as individuals experience their environment. Furthermore, to date most studies have investigated the potential role of isolated factors in the etiology of youth depression. Little is known about the interplay of various protective and vulnerability factors (Muris et al., 2001).

#### *Cognitive Factors: Cognitive Diathesis-Stress Theories*

Cognitive models of depression emphasize the critical importance of enduring patterns or styles of thinking. Traditionally, research has focused on examining cognitive vulnerabilities to depression (Gotlib & Hammen, 2002). As a result, the major cognitive models examined have been cognitive diathesis- , or cognitive vulnerability- , stress

models. These theories propose that certain styles of thinking and information processing interact with perceived stressful events to produce depression (Abramson et al., 1989; Beck, 1987). Two of the most theoretically and empirically sound of these cognitive diathesis-stress models are the reformulated learned helplessness theory (Abramson et al., 1978) and the hopelessness theory of depression (Abramson et al., 1989). It is important to note, however, that while the historic conceptualizations of depression were developed from the perspective of risk, each of these theories identifies distinct cognitive factors that vary in the negativity of their content and processes; thus, they can serve as vulnerability factors, or on the other hand protective factors, as individuals experience their environment.

*Reformulated Learned Helplessness Theory.* The reformulated learned helplessness theory (RLHT; Abramson et al., 1978) began with Seligman's (1975) behavioral studies with animals. The original learned helplessness model was unable to account for the losses of self-esteem, the generalization of helplessness across situations, and individual differences in the persistence of depression. As a result, Abramson and colleagues (1978) introduced a cognitive component to the model: attributions. It was proposed that when individuals encounter an uncontrollable, aversive event they make inferences regarding the hows and whys of the event. The theorists claimed that three causal attributions were important: stable versus unstable; global versus specific; and, internal versus external. Accordingly, the manner in which individuals routinely explain events in their lives determines their vulnerability or resilience to depression.

Depressotypic explanations for negative events are those that are more internal, stable, and global. That is, a depressed individual tends to attribute negative events to personal characteristics, factors that are likely to endure through time, and circumstances that affect many domains of their life. Thus, these individuals will be vulnerable to feelings of helplessness in the face of adversity. Adaptive explanations, on the other hand, show the reverse pattern – i.e., negative events do not have global implications and are attributed to environmental or situational factors that are temporary. Individuals who attribute negative events to unstable or specific causes will expect to exert more control in the future, and hence, will be more resilient.

*Hopelessness Theory.* Much later, Abramson and colleagues (1989) suggested that the stable and global dimensions of attributional style have a stronger impact on motivation and depression than does the internal dimension. Thus, in their hopelessness theory (HT) of depression they revised the RLHT to make the interpretation of events a cornerstone. According to the HT, three types of interpretations can put an individual at risk for depression following a negative event. Vulnerable individuals are proposed to have (a) the tendency to make negative inferences about the causes of negative events (stable, global attributions); (b) the tendency to infer negative or catastrophic consequences for the negative event; and (c) the tendency to make negative inferences about themselves following the occurrence of negative events. When these interpretations become a pattern, this leads individuals to have negative expectations about future positive outcomes and their ability to change the likelihood of unwanted outcomes. Subsequently, as a result of their belief that he or she is unable to affect their

environment, individuals begin to develop negative views of their own worth, abilities, and personalities.

In contrast, people with more positive cognitive styles typically attribute negative events to unstable and specific causes, infer that negative consequences will not follow from a current negative event, and believe that the occurrence of a negative event in their lives does not mean that they are flawed in some way. Thus, according to the HT, people with positive cognitive styles are more likely to remain hopeful and thus less likely to develop episodes of depression when they are confronted by negative life events than people with negative cognitive styles.

There is considerable evidence that individuals with such positive cognitive styles are less vulnerable to depression than individuals with more negative cognitive styles. The Cognitive Vulnerability to Depression Project (CVD Project; Alloy & Abramson, 1999; Alloy et al., 2000), in particular, has provided a stream of research examining cognitive invulnerability in the context of both RLHT and the hopelessness theory of depression. For instance, two studies examined the incidence of depressive symptoms (Hankin, et al., 1998) and lifetime prevalence rates (Alloy et al., 2000) of depressive disorders in individuals with positive cognitive styles versus negative cognitive styles. Overall, those with more positive cognitive styles were less likely to develop first onset of depression in high school (Hankin et al., 1998) or college, and demonstrated half the rate of lifetime major depression when compared to individuals with negative cognitive styles (Alloy et al., 2000). Support for the cognitive diathesis-stress model of depression, in general, has also been reported in several studies involving adults (Alloy, Reilly-



Harrington, Fresco, Whitehouse, & Zechmeister, 1999), children, and adolescents (Dixon & Ahrens, 1992). That is, cross-sectional and prospective studies have supported attributional style, alone and in interaction with stress, as a predictor of depression (Abela, 2001; Abela & Seligman, 2000; Hankin et al., 2004; Hankin et al., 2005; Hilsman & Garber, 1995; Metalsky & Joiner, 1992). Furthermore, there is evidence that the impact of this interaction is mediated by optimism for adults and adolescents (Abramson et al., 1998; Metalsky & Joiner, 1992).

*Summary of Cognitive Factors.* Psychological research on depression has focused on the potential role of maladaptive cognitive patterns as vulnerability factors for depression. Both the HT (Abramson et al., 1989) of depression, as well as its predecessor, the RLHT (Abramson et al., 1978) of depression, contain a cognitive vulnerability hypothesis in which individuals who exhibit dysfunctional explanatory styles are hypothesized to be at increased risk for onset of depression when they experience stress. In contrast, resilient individuals tend to possess a specific explanatory style that allows them to persevere, embrace challenges, and grow from failure. Seligman and colleagues (1988) have proposed that explanatory style has two critical dimensions: permanence and pervasiveness. When faced with difficult problems, resilient individuals do not automatically blame themselves or others for the problem, imagine that the problem is unsolvable, or worry that the problem will affect all areas of their life. Instead, they tend to place the blame where it realistically belongs, they assess the difficulty as temporary and usually solvable, and they view the problem as affecting only limited areas of their life (Southwick, Vythilingam, & Charney, 2005).

### *Family Factors*

The family's influence on the development and maintenance of depression is just as complex as the disorder itself. The interplay among genetic, biological, cognitive, interpersonal, and contextual factors has made the family a fertile area for depression researchers. In fact, family factors are perhaps the best-studied predictors of youth outcomes (Beam et al., 2002). Researchers have long recognized that family environments contribute to a child's risk or resilience to depression. Indeed, family and marital conflict, divorce, inattention, rejection, aggressiveness, and stress consistently characterize the family environments of depressed children and adolescents (see Kaslow, Deering, & Racusin, 1994 for review). Depressed children also consistently perceive their families to be significantly less cohesive, less supportive, less democratic, and engaged in fewer pleasant activities than nondepressed children (Avenevoli & Merikangas, 2006; Fenrich et al., 1990; Klein & Forehand, 2000; Nomura, Wickramaratne, Warner, Mufson, & Weissman, 2002; Stark et al., 1990). Furthermore, studies of community youth with diagnosed depression report these disturbed family relationships prior to, during, and subsequent to major depressive episodes (Garrison et al., 1997; Lewinsohn et al., 1994).

Conversely, longitudinal studies of competent children and adolescents who have experienced severe adversity also strongly validate the importance of family relationships for successful adaptation (Masten & Coatsworth, 1998). Thus, as research begins to move toward prevention, elucidating environmental mechanisms and moderators of familial risk is important for identifying practical factors that can be modified in prevention programs. Few high-risk studies, however, have examined family environmental factors

as mediators or moderators of risk for depression. Three family variables, in particular, that have proven to be important predictors of depression, and that could be easily fostered as part of intervention/prevention programs, are cohesion (Avenevoli & Merikangas, 2006; Fenrich et al., 1990; Klein & Forehand, 2000; Nomura et al., 2002), communication (Cook et al., 1990; Stein et al., 2000; Sheeber, Hops, & Davis, 2001), and to a lesser extent, sociability (i.e., involvement in social/recreational activities; Stark et al., 1990).

*Cohesion.* Cohesion involves the emotional bonds that family members have toward each other. Thus, levels of family cohesion and support often reflect the nature and quality of the attachment bonds within the family. In general, research indicates that families of children who report depressive symptoms are characterized by less cohesion (Avenevoli & Merikangas, 2006; Fenrich et al., 1990; Garrison et al., 1990; Nomura et al., 2002). Depressed adolescents with poor relationships with their parents have also been found to be more likely to have poorer peer relationships and school performance than nondepressed adolescents with more open, supportive, and cohesive parent-child relationships (McFarlane, Bellissimo, & Norman, 1994).

High levels of family cohesion and supportive mother-child relationships have also been found to ameliorate the impact of stressful life events on youth and protect against the development of depression (Au, Lau, & Lee, 2009; Klein & Forehand, 2000; McKeown, Garrison, & Jackson, 1997; Sheeber & Sorensen, 1998; Shirk Gudmundsen, & Burwell, 2005). Two studies, in particular, have provided support for this stress-buffering model. Shirk, Gudmundsen, and Burwell (2005) assessed 168 young adolescents, and

their perceptions of maternal availability and youth support-seeking. According to Shirk et al., in times of higher stress, mothers' availability was important as a buffer for depression in youth. More recently, a study completed by Au, Lau, and Lee (2009), with children and adolescents in Hong Kong, demonstrated family cohesion had a significant moderating effect not only on depression, but also suicide ideation. Research suggests these warm, supportive relationships between parents and their children protect against depression because they foster prosocial coping strategies and positive self-esteem (Sheeber & Sorensen, 1998).

*Communication.* Certain patterns of communication within families have also been implicated in the etiology of depression (see Kaslow et al., 1994 for review). In general, families of depressed children are characterized by lower frequencies (Stark et al., 1990) and more negative patterns of communication (Sheeber et al., 2001). Some of the most well-known research in this area was completed by Puig-Antich et al. (1985a & 1985b); and, demonstrated that mothers of depressed children reported less communication with their children in general (Puig-Antich et al., 1985a), and what little mother-child communication occurred was characterized as hostile, tense, and punitive (Puig-Antich et al., 1985a). More recently, in a study by Stein et al. (2000), the authors found that both mothers and fathers of depressed children evidenced lower levels of adaptive communication than did the parents of nondepressed or at-risk youth. This is also consistent with the work of Cook and colleagues (1990) who found that depressed children, compared to children with schizophrenia spectrum disorders, communicated with their mothers in less positive and more negative ways. Furthermore, parents of

depressed children were observed to respond to positive behaviors from their child with negative behaviors such as ignoring, disapproval, and criticism (Cook et al., 1990). This last finding is significant given that Jaenicke, Hammen, and Zupan (1987) found that maternal criticism was correlated with child's tendency to make internal attributions for negative events.

In their review of this research, however, Kaslow and colleagues (1994) suggested the communication patterns between depressed youth and those around them are more complex than just a pervasive negative communication style. Based on Sacco and Macleod's (1990) research on the relationships between depressed pregnant adolescents and their primary caregivers, Kaslow et al. (1994) explained that in addition to the many negative behaviors directed toward a depressed individual, others in that person's life will retain feelings of concern and a desire to provide concrete support comparable to that offered to nondepressives. Thus, they posited depressed adolescents are likely to feel confused by these mixed messages of anger and rejection on the one hand, and care and concern on the other (Kaslow et al., 1994).

Perhaps the most important findings from early research is that the negative communication patterns in families of depressed youth improved upon remission of the child's depressive episode (Puig-Antich et al., 1985b). Given the apparent complex nature of parent-child communications and implications for use in successful intervention there is a surprising lack of research currently examining familial communication patterns more closely.

*Sociability.* For the purposes of this study, sociability is defined as the degree to which a family is involved in social/recreational activities. Again, Puig-Antich et al.'s (1985a & 1985b) work with the mothers of depressed youth indicated that these dyads engaged in significantly less activities together. Similarly, Stark et al.'s (1990) study on depressed and/or anxious children and their mothers found that children in the control group perceived their family to be significantly more involved in social/recreational activities than their depressed and/or anxious counterparts did. Stark et al. posited this difference may be related to the reinforcement obtained by family members through participation in pleasurable activities of a social nature and the distraction from daily stresses they provide. These findings are important for several reasons. While family factors in general are arguably the most frequently studied predictors of youth outcomes (Beam et al., 2002), to date there has been very little research on this aspect of family environment despite the demonstration of significance in the early literature. In response to this dearth of research, sociability should be examined further as a possible moderator of depressive outcomes and as a useful tool to include as part of preventative interventions or treatment for depression.

*Summary of Family Factors.* Researchers have long recognized the important role family environment plays in childhood outcomes. Research has found that non-depressed youth consistently report their families are more cohesive (Avenevoli & Merikangas, 2006; Fenrich et al., 1990; Klein & Forehand, 2000; Nomura et al., 2002), communicate more (Cook et al., 1990; Stein et al., 2000; Sheeber et al., 2001), and engage in more pleasant activities than families with depressed children (Stark et al., 1990). It has also

been proposed that these family environmental factors moderate the impact of stressful life events on depressive outcomes (Bouma et al., 2008); however, few high-risk studies have examined this hypothesis. Thus, as research begins to move toward prevention, elucidating environmental mechanisms and moderators of familial risk is important for identifying practical factors that can be modified in prevention programs.

### *Optimism*

It is a commonly held belief that positive thinking can help a person triumph over adversity—recover from illness, endure a personal hardship, overcome whatever obstacle may be confronted. Historically, the scientific community has viewed such claims with skepticism (e.g., Angell, 1985). Yet, within the last two decades, personality constructs that are based on the central role of positive cognitions have increasingly generated a great deal of research interest in the areas of personality and social psychology (Abramson et al., 2000; Carver, Scheier, & Segerstrom, 2010; Gillham, Shatté, Reivich, & Seligman, 2001; Kashdan & Rottenberg, 2010). Specifically, much of this work is conducted in an area called “positive psychology”, which includes, among other topics, the study of subjective experiences (e.g., well-being, satisfaction, flow, happiness), individual traits or dispositions (e.g., capacity for love, courage, hope, gratitude, patience, forgiveness, creativity, spirituality, wisdom, humor), and interpersonal/group level virtues (e.g., civility, sense of community, altruism; Seligman & Csikszentmihalyi, 2000). Moreover, empirical evidence is beginning to emerge that suggests dispositional optimism, in particular, is an important variable to consider in relation to resilience (Scheier & Carver, 1987, 1992; Peterson & Seligman, 1984).

### *Attributions versus Expectancies*

The two most prominent models of the positive personality are the attributional style model (Peterson & Seligman, 1984) and the dispositional optimism model (Carver & Scheier, 1985). Positive attributional style and dispositional optimism have often been used interchangeably; however, they presumably play different roles in the onset of depression. Optimistic attributional style is a method of explaining the causes and implications of events; and, represents the positive alternative to the negative attributional style that was discussed earlier in the context of the hopelessness theory of depression (Abramson et al., 1989). Dispositional optimism, on the other hand, refers to a general and stable positive attitude about the future and a tendency to anticipate a favorable outcome to life situations (Carver & Scheier, 1985; Gillham et al., 2001). More simply, attributional style is based on the *attributions* individuals make about events that have already occurred; and dispositional optimism is based on the pattern of *expectancies* individuals have for events in the future.

Research has demonstrated optimistic attributional style is only modestly correlated with dispositional optimism, indicating that attributions are distinct from expectancies (Hjelle, Busch, & Warren, 1996; Scheier & Carver, 1992); however, theorists of each construct have commented on the conceptual link between dispositional optimism and optimistic attributional style (Carver & Gaines, 1987; Scheier & Carver, 1992; Peterson & Bossio, 1991). For example, both are described by Peterson and Bossio (1991) as cognitive constructs related to the “vigor or passivity” with which individuals face the demands of life. Within the context of RLHT, it is posited that after an individual



experiences a negative event they attribute this event to a cause. In turn, this attribution predicts future expectations; however, an individual's expectations of their future ultimately determine their level of resilience or risk for developing depressive symptoms (i.e., a sense of helplessness; Abramson et al, 1978). Similarly, the HT (Abramson et al., 1989) explicitly states that attributions are distal, contributing factors, and negative expectations are the proximal cause of depression. Garber (2000b), on the other hand, suggested attributional processes are more central to the onset of depression, but explained expectations play a large role in its maintenance and are an essential component to successful intervention.

In sum, after years of examining the possible impact of negative factors such as stressful life events, negative attributional style, family conflict, and parental psychopathology, researchers are now turning their attention to the possible protective effects of positive psychological factors (reviewed in Chesney, Darbes, & Hoerster, 2005). Furthermore, although attributional style and optimism have been studied independently as important predictors of psychological well-being, dispositional optimism has received far less study than the related factor of attributional style, whose relationship with depression has been called one of the best established in all of psychological literature (Peterson & Bossio, 1991). Thus, while the term optimism has been used to refer to attributional style and general expectancies, for the purposes of this study, optimism is reserved for the construct of dispositional optimism.

### *Early Optimism Research*

According to Carver and Scheier (1985), the construct of dispositional optimism refers to individuals' generalized positive expectancies about events in the future; and, it is considered to be a stable characteristic that the individual will display consistently across time and context (Carver & Scheier, 1985). The duo first addressed the concept of dispositional optimism in the context of their theoretical model of behavioral self-regulation (see, e.g., Carver & Scheier, 1981,1985). Self-regulation is the process through which people control and direct their behavior in the service of meeting their goals; and, according to Carver and Scheier (1981), dispositional optimism influences self-regulation when people encounter difficulties in making progress toward their goals. When their progress is impeded, people reassess their expectations of meeting their goals. If their expectations are favorable, people usually continue to exert effort to attain their goal, even when doing so is difficult or painful. Conversely, if their expectations are unfavorable (whether because of personal inadequacies or through externally imposed impediments), they are predicted to disengage from the goal, either physically or mentally.

Hence, dispositional optimism is thought to play a central role in decisions about persistence versus disengagement. That is, because optimists typically make more favorable appraisals of their expected success, they are more likely to continue to pursue their goals. This notion, of course, has had a long history in psychological theories of motivation (see, e.g., Bandura & Cervone, 1986). It is important to note, however, that dispositional optimism should not be confused with self-efficacy. While having positive

expectations about the future surely influences an individual's confidence in his or her ability to accomplish tasks and vice versa, the two are distinct constructs (Aspinwall & Brunhart, 2000). According to Scheier and Carver (1987), a person may hold favorable expectancies for any number of reasons—because of self-efficacy, belief in luck, learned ways of coping, or because of spiritual beliefs and religious faith. Along these lines, the tendency to see things favorably has led some researchers to speculate that optimists may be vulnerable to persisting with lost causes. That is, some researchers believe that an individual's dispositional optimism can make him or her overestimate his or her abilities; but, there is increasing evidence that optimists may in fact be better at deciding which goals are worth their effort and which are not (Aspinwall & Brunhart, 2000). Furthermore, these positive expectancies are believed to influence optimists' affective experiences (i.e., negative versus positive mood state; Scheier & Carver, 1985).

In consideration of its role in self-regulation, it has been suggested that dispositional optimism may have implications for the manner in which people deal with negative events and the general stresses of life (Carver & Scheier, 1985). For example, in one study (Scheier & Carver, 1985, Study 3), college undergraduates were asked to complete a measure of dispositional optimism in addition to a measure of physical symptoms at two points in time, separated by a presumably stressful period (the last four weeks of their school semester). A negative correlation emerged between dispositional optimism (measured at Time 1) and symptom reporting (measured at Time 2), which remained significant even when initial symptom levels were accounted for. Nor is this the only study to report beneficial effects of dispositional optimism on reports of physical

well-being (see also Reker & Wong, 1983; Scheier & Carver, 1987). In fact, numerous studies with varying populations have found a significant relationship between dispositional optimism and physical and mental health (for reviews see Scheier & Carver, 1987, 1992).

Conceptually similar results have been reported for behavioral outcomes (Strack et al., 1987), as well as psychological well-being (Carver & Gaines, 1987; Humphries, 1986). Carver and Gaines (1987), for example, had a group of pregnant women complete a measure of dispositional optimism and a measure of depression in the third trimester of their pregnancies. Depression was then reassessed several weeks postpartum. The results showed that dispositional optimism was negatively associated with depression over time, and that this association remained significant when initial levels of depression were accounted for. Effects similar to these have also been obtained by Humphries (1986), who studied the effects of office automation on the development of depression among office personnel.

Based upon these investigations, dispositional optimism appears to be an important causal determinant of physical and psychological well-being in adults; and although optimism and pessimism are hypothesized to develop early in life, historically, few studies have examined how and when these expectations emerge in children. One early study completed by Gudas, Koocher, and Wypij (1991) suggested that optimism may serve as an important source of resiliency among ill and healthy children. That is, similar to findings with adult medical patients, youth with chronic illness were more compliant with medical treatment and medication if, during an interview, they described

themselves as optimistic about the future (Gudas et al., 1991). More recently, there has been mounting empirical evidence showing similar associations between optimism and positive outcomes in children and adolescents (Ben-Zur, 2003; Carvajal, Clair, Nash, & Evans, 1998; Ey et al., 2005; Puskar, Ren, Bernardo, Haley, & Stark, 2008; Roberts, Roberts, & Chen, 1998; Yarcheski, Mahon, & Yarcheski, 2004).

### *Optimism and Depression*

Historically, dispositional optimism has often been studied as a predictor of physical health; however, increasingly investigators have shown that dispositional optimism is also an important predictor of decreased depressive symptoms and negative affect (Ahrens & Haaga, 1993; Andersson, 1996; Scheier, Carver & Bridges, 1994; Hirsch, Wolford, LaLonde, Brunk, & Morris, 2007; Fontane & Seal, 1997; Sweetman, Munz, & Wheeler, 1993). For example, optimistic men undergoing coronary artery bypass surgery reported less depression before surgery, greater relief and happiness one week post-surgery, and a more favorable quality of life at six-month follow-up than did the pessimistic group (Scheier, Matthews, & Owens, 1989). As mentioned earlier, in the study of the development of postpartum depression, dispositional optimism prior to childbirth was inversely correlated with postpartum dysphoria (Carver & Gaines, 1987). Dunn (1996) examined dispositional optimism, positive meaning, and perceived control as predictors of depression and self-esteem in adults following limb amputation. Dispositional optimism was predictive of fewer depressive symptoms and higher levels of self-esteem. In addition, research has demonstrated optimism begins to play an important role in the psychosocial well-being and resilience of even elementary-aged

children. For instance, children's optimism was related to less anxiety during dental visits (Neverlien, Backer, & Johnsen, 1991), and youth who were optimistic about peer relationships were also more likely to be viewed positively by their peers and less likely to be rejected or victimized (Deptula, Cohen, Phillipsen, & Ey, 2006). In contrast, pessimistic children report more depressive symptoms and feelings of hopelessness (Ey et al., 2005). Youth who are more pessimistic also report less positive and more negative affect (Ben-Zur, 2003), suicidal ideation (Roberts, Roberts, & Chen, 1998), substance abuse (Carvajal, Clair, Nash, & Evans, 1998), anger (Puskar, Ren, Bernardo, Haley, & Stark, 2008), and worse health-care practices (Yarcheski, Mahon, & Yarcheski, 2004). In addition, several prospective studies, done with youth and middle-aged patients, linked dispositional optimism to lower future depressive symptoms (Carver & Gaines, 1987; Schou et al., 2004; Vickers & Vogeltanz, 2000). This suggests that dispositional optimism not only predicts lower levels of current depressive symptoms, but also protects against future depression.

Furthermore, it has been suggested that dispositional optimism might moderate the relationship between perceived stress and wellbeing (Lazarus et al., 1980; Reker & Wong, 1985). This possibility was derived from a consideration of Carver and Scheier's (1981) model of behavioral self-regulation that was outlined earlier, which describes the processes that underlie purposive, goal-directed activities. It is proposed that individuals with an optimistic disposition make more realistic appraisals of stressful situations; and, subsequently use creative problem solving (Aspinwall & Brunhart, 2000) and effective coping strategies, or they are able to disengage successfully without ruminating about the

negative event (Scheier & Carver, 1992). Indirect evidence for this view comes from previous research on hopelessness depression (Abramson et al., 1989). Specifically, studies on hopelessness depression have found that the influence of negative life stress is partially moderated by measures that assess for extreme pessimism (Metalsky & Joiner, 1992; Dixon et al., 1993).

Based on theory and recent empirical evidence, dispositional optimism may, however, simply be a mediator of the relationship between attributional style and depression. As mentioned earlier, the RLHT posits that after an individual experiences noncontingency “they attribute their helplessness to a cause” (Abramson, et al., 1978, p.49). This attribution then “predicts the recurrence of the expectations but the expectation determines the occurrence of the helplessness deficits” (Abramson et al., 1978, p. 59). More simply, Abramson and colleagues (1978) suggested that optimism is a mediator of attributional style’s affect on depressive symptomatology as related to helplessness. Furthermore, the hopelessness model suggests that negative expectations are also the proximal cause of depression, whereas attributions are only distal, contributing factors. Recent research has supported this notion, and found that the expectations of future events may be more important in the development of depression than the beliefs about their causes (Chang & Sanna, 2003; Fincham, 2000; Hawkins & Miller, 2003; Metalsky & Joiner, 1992). More specifically, investigations have found support for the mediating role of expectations between attributions and depression. Metalsky and Joiner (1992) showed that the interaction of attributions and stress significantly predicted depressive symptoms, and this relation was mediated by optimism.

In the domain of marriage, Fincham (2000) similarly found that the relation between attributions and marital satisfaction was mediated by expectations.

### *Underlying Processes*

The findings just described indicate dispositional optimism is a predictor, a mediator, and potentially a moderator of how effectively people adapt to stress. What is less clear is the nature of the mechanisms that underlie the effect. Presumably, optimists are doing something differently from pessimists to allow these better outcomes to occur. But what? As mentioned briefly earlier, one pathway hypothesized is through cognitive processes (Hayden, Klein, Durbin, & Olin, 2006). A few studies have found that a positive disposition appears to promote greater cognitive flexibility and to expand thought-behavior repertoires (Fredrickson, 2000). Optimists appear to be more adept at cognitive reappraisal, reframing, and finding positive meaning in negative events.

Another possibility is that the differences in well-being between optimists and pessimists are due to differences in the kinds of strategies they use to cope with stressful encounters. Lazarus and his colleagues (e.g., Lazarus et al., 1980; Lazarus & Folkman, 1984) have described two general ways in which people cope with stressful situations. The first, called problem-focused coping, is action that has the goal of removing or circumventing the source of the stress. The second strategy, termed emotion-focused coping, is the attempt to reduce or eliminate the emotional distress associated with, or cued by, the stressful situation. A number of studies have shown that optimists are more likely to rely on problem-focused coping strategies, whereas pessimists seem to have a preference for emotion-based coping strategies (Scheier, Weintraub, & Carver, 1986).



For example, Scheier et al. (1986, Study 1) asked subjects to write a brief description of the most stressful event they had experienced during the past two months. They then completed the Ways of Coping Checklist (Lazarus & Folkman, 1984). Dispositional optimism proved to be positively associated with the use of problem-focused coping and negatively correlated with the use of distancing and denial (Scheier et al., 1986).

This last finding is important, as some researchers in the past have suggested dispositional optimism “works” via denial. That is, optimists have been characterized by some as “blind,” “naïve,” or defensive in the face of negative information or stressful events. Consistent with Scheier et al. (1986), Aspinwall and Brunhart (2000) found no evidence that optimists maintain their positive beliefs by tuning out negative information. Instead, the results from their studies added to the host of empirical literature that indicates dispositional optimism in fact predicts lower levels of self-reported denial, avoidant coping strategies, and disengagement (Carver et al., 1993; Scheier et al., 1986). Thus, it is not that optimists ignore or avoid negative information; instead, they attend only to relevant and useful negative information (Aspinwall & Brunhart, 2000). These findings take on additional significance in light of meta-analytic findings by Suls and Fletcher (1985) that denial tends to be associated with poorer long-term outcomes.

The appreciation and use of humor also characterizes an optimistic disposition. Humor has been identified as one of the most mature defense mechanisms, and it is suggested that when it is used as a coping strategy it may lessen the likelihood of developing stress-induced depression. For example, in a study of the mothers of children undergoing bone marrow transplantations, Manne and colleagues (2003) found that

humor was associated with reductions in maternal depressive symptoms. Similarly, Thorson and Powell (1994) reported a negative relationship between sense of humor and depression. It has been suggested that humor may lessen depressive symptoms by reframing a situation as less threatening and thereby fostering a positive perspective on challenging circumstances, reducing tension and discomfort, and by attracting social support (Thorson & Powell, 1994). In fact, in studies of at-risk children (Werner & Smith, 1992), humor was identified as an important coping mechanism that reduced the threatening nature of stressful situations through cognitive reappraisal (Martin, 2003).

#### *Measures of Optimism*

Despite years of research in the area of dispositional optimism, the way to accurately measure this construct has been a source of constant debate, especially with regard to children (Garber, 2000b; Lemola et al., 2010). In its infancy, most assessment devices considered to be adequate measures of dispositional optimism tended to confound expectancies with related but distinguishable variables—such as morale, meaningfulness, satisfaction, and most notably, attributions of causes for the expectancies. Even then, only two measures existed that were widely used and thought to adequately measure dispositional optimism: The Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974) and the Generalized Expectancy for Success Scale (Fibell & Hale, 1978). Scheier and Carver (1985), however, believed that both of these measures were still too general and included other variables such as affective tone and motivation. As a result, they developed their own scale called the Life Orientation Test (LOT; Scheier & Carver, 1985; LOT-Revised: Scheier, Carver, & Bridges, 1994). The LOT is a

self-report questionnaire, that has individuals indicate their agreement to statements (e.g., “In uncertain times, I usually expect the best” and “If something can go wrong for me, it will”) along a 5-point Likert scale. Psychometrically, the LOT scale has been found to be reasonably sound (Scheier & Carver, 1985; Scheier et al., 1994); and, since its inception it has been the most widely used measure of dispositional optimism (Burke, Joyner, Czech, & Wilson, 2000). One problem that has been identified is the LOT yields a single factor, which implies optimism and pessimism are opposite poles of the same dimension. However, Marshall, Wortman, Kusulas, Hervig, and Vickers (1992) conducted a factor analysis of the LOT that yielded a two-factor model in which optimism and pessimism were correlated, but somewhat distinct dimensions. Moreover, pessimism was primarily associated with neuroticism and negative affect (Marshall et al., 1992). Consistent with this, Chang and colleagues (Chang, 1996; Chang, D’Zurilla, & Maydeu-Olivares, 1994) also found evidence that measures of dispositional optimism contain two factors: one that includes positive expectancy items and a second that includes negative expectancy items. Hence, there is at least some empirical support for the notion that optimism and pessimism are related, but are not necessarily unidimensional. It has also been recommended such research should pay attention to some of the more finely differentiated optimism-pessimism constructs that have been proposed (Garber, 2000b), including naïve optimism (Drach-Zahavya & Somech, 1999; Epstein & Meier, 1989). Finally, a second problem with the LOT, and with self-report measures in general, includes the confounding of both private and public self-consciousness and social desirability (Ben-Porath, 2003; Viglione & Rivera, 2003). Thus, use of self-reports makes

it difficult to evaluate whether optimists actually expect better outcomes or simply report expecting better outcomes.

The assessment of optimism is further challenged with regard to children and adolescents by the fact existing measures have lower reliabilities, and are arguably less developmentally appropriate, for youth (Lemola et al., 2010). For instance, the internal consistency for the total LOT was 0.57 in a sample of 10-17-year-old Americans (Roberts et al., 1998) and 0.60 in 13-year-old Singaporeans (Chong, Huan, Yeo, & Ang, 2006); and, for the total LOT-R the internal consistency was 0.60 in 13-year-old Americans (Soliday, Garofalo, & Rogers, 2004). Furthermore, current self-report measures assume children have developed the literacy skills, introspection, and reasoning of abstract questions necessary to complete such questionnaires (Lemola et al., 2010).

*Measuring Optimism in Youth.* The impact and development of optimism in youth has not been investigated to the same extent it has in adults. Ey and colleagues (2005) argue this is due to the availability of fewer appropriate measures that specifically address positive expectations in this age group. Due to the developmental issues discussed previously, traditional self-report measures may not be the optimal mode of assessing optimism in younger populations (Lemola et al., 2010). Many have noted, however, that projective tests are best utilized for situations like this – i.e., contexts in which an individual may be unwilling or, in this case, unable to provide the sought-after information through more direct means (see Viglione & Rivera, 2003 for review).

In projective procedures like the Thematic Apperception Test (TAT; Murray, 1943), individuals respond to pictures by providing a narrative; this creative, open-ended

format explores the individual's unique perceptions in a way that self-reports cannot. With children as with adults, employing pictures such as those in the TAT helps to capture the individual's internal dialogue. From the psychoanalytic perspective, people are often more comfortable, freer in projecting deeply held feelings and beliefs on pictures that are not obviously about them (Viglione & Rivera, 2003). This idea has its roots in Freud's projective hypothesis, in which he describes the disguised meanings uncovered in the fantasy characters and plots of his patient's dreams. With regard to the TAT, story themes are thought to reveal information about an individual's relationships, life view, self-concept, and characteristic coping style (Gieser & Stein, 1999). In addition, cognitive research indicates that people tend to describe and interpret situations, ergo pictures of situations, in a manner that reflects their own past experiences, beliefs and *expectations* (Viglione & Rivera, 2003). Thus, exploration of assessing positive expectations (i.e., dispositional optimism) through projective methods appears promising.

### *Summary of Optimism*

The two most prominent models of the positive personality are the attributional style model (Peterson & Seligman, 1984) and the dispositional optimism model (Carver & Scheier, 1985). While conceptually similar, positive attributional style and dispositional optimism are distinct constructs, and presumably play different roles in the onset of depression (Hjelle et al., 1996; Scheier & Carver, 1992). Simply put, attributional style is based on the *attributions* individuals make about events that have already occurred; and dispositional optimism is based on the *expectancies* individuals have for events in the future (Abramson et al., 1989).

Historically, dispositional optimism has been studied as a predictor of physical health in adult populations (for reviews see Scheier & Carver, 1987, 1992); however, a mounting number of studies have now explored the impact of optimism on psychological well-being, and the manner in which children and adolescents cope with stress (Ben-Zur, 2003; Carvajal et al, 1998; Deptula et al., 2006; Ey et al., 2005; Puskar et al., 2008; Neverlien & Backer-Johnsen, 1991; Roberts et al., 1998; Yarcheski et al., 2004).

Some of this research has employed the LOT (Scheier & Carver, 1985) as a measure of dispositional optimism, and some of it has relied on other indices. Taken together, these studies converge on the following conclusions: individuals who score high on measures of dispositional optimism report (a) fewer physical symptoms, (b) fewer depressive symptoms, (c) the use more effective coping strategies, and (d) fewer perceived stressors (Strack et al., 1987; Carver & Gaines, 1987; Humphries, 1986; Chang & Sanna, 2001; Fredrickson, 2000; Scheier & Carver, 1987, 1992). Thus, dispositional optimism is an important causal determinant of physical and psychological well-being. Recent research suggests, however, that dispositional optimism may also act as a mediator between attributional style and depression (Lazarus et al., 1980; Reker & Wong, 1985; Metalsky & Joiner, 1992; Dixon et al., 1993; Abramson et al., 1978; Hammen & Cochran, 1981; Hammen & DeMayo, 1982).

#### *Statement of Problem*

Depression is no longer seen primarily as a disorder of adulthood. Research has clearly documented the age of first onset of MDD is commonly in adolescence and young adulthood and that prepubertal onsets are occurring at an increasing rate (Costello et al.,

2002; Lewinsohn, Rohde et al., 1993; NIMH, 2000). It is also clear that depression in youth is a chronic, recurrent, and serious illness associated with many negative outcomes (Fergusson et al., 2005; Kovacs, 1989; Lewinsohn et al., 2003). Females are especially at risk for depression with lifetime prevalence rates being twice that of males (Hankin et al., 1998; Saluja et al., 2004). Furthermore, research has suggested this gender difference first appears in early adolescence (Hankin et al., 1998) and the overall rate of depression increases rapidly during this time period (Saluja et al., 2004). Thus, targeting interventions prior to this period of increased risk would maximize the opportunity to reduce the incidence of MDD. To date, however, preventative interventions have consistently yielded small effect sizes in the short-term and demonstrated inconsistent intervention effects in the long-term (Sutton, 2007). It has been suggested that further investigation of the specific mediators and moderators of depressive outcomes is warranted to address these issues (NIMH, 2000). As a result, the risk factors associated with depression have been well researched; however, much less attention has been focused on protective factors that may mediate or moderate the effect of negative life events (Fombonne, 1995; Gillham et al., 2000). Overall, this information supports the need to increase our understanding of malleable protective factors associated with resilience to depression in pre- and early adolescent girls.

One such factor that has received considerable research attention is attributional style, which has been examined primarily within the context of cognitive diathesis-stress models of depression (Muris et al., 2001). The basic idea is that individuals who attribute the causes of negative events to specific environmental or situational factors that are

temporary will be more resilient (Abramson et al., 1989). To date, however, the results of research testing these cognitive models in youth have lacked some consensus and generalizability (Sutton, 2007). Furthermore, most research has focused on adults and adolescents, with fewer studies investigating the role of attributional style as a moderator of depression in younger populations (Gillham et al., 2006).

Another factor that has been identified as a potential protective factor is family environment. Three family variables, in particular, that have proven to be directly related to depression are cohesion (Avenevoli & Merikangas, 2006; Fenrich et al., 1990; Klein & Forehand, 2000; Nomura et al., 2002), communication (Cook et al., 1990; Stein et al., 2000; Sheeber et al., 2001), and sociability (i.e., involvement in social/recreational activities; Stark et al., 1990). Research has found that non-depressed youth consistently report their families are more cohesive, communicate in more positive ways, and engage in more social/recreational activities than families with depressed children (Cook et al., 1990; Fenrich et al., 1990; Stark et al., 1990). Few high-risk studies, however, have examined how family environmental factors interact with life stress to determine an individual's risk or resilience to depression. Thus, the question still remains if a healthy family environment in fact moderates the impact of stressful life events on depressive outcomes.

Finally, a factor that has received far less attention than the other variables discussed is dispositional optimism. Dispositional optimism has been defined in the literature as a characterological predisposition toward expecting favorable outcomes (Carver & Scheier, 1985). A number of studies that have explored the impact of optimism



on depression, and the manner in which people cope with stress, have found that it is a predictor of psychological well-being (Ben-Zur, 2003; Ey et al., 2005; Scheier & Carver, 1985, 1992, 1993). More recently, it has been suggested that dispositional optimism may also act as a mediator between attributional style and depression; however, there is little empirical data directly supporting this hypothesis (Dixon, et al., 1993; Fincham, 2000; Lazarus et al., 1980; Metalsky & Joiner, 1992; Schou et al., 2004; Vickers & Vogeltanz, 2000). Furthermore, the impact and development of optimism in youth has not been investigated to the same extent it has in adults due to the availability of fewer appropriate measures that specifically address positive expectations in this age group (Ey et al., 2005). To address this limitation, this study utilized projective measures to assess dispositional optimism.

In conclusion, the need and usefulness of preventative interventions for depression in youth has been well documented (Sutton, 2007). Risk factors associated with depression have been researched thoroughly; and, attributional style, family environmental variables, and optimism have consistently been identified as predictors of depression. Much less is known about these variables as potential protective factors and their interaction within the context of the cognitive diathesis-stress model of depression, particularly in younger populations (Gillham et al., 2006). Besides the limited number of studies, the research has also lacked some consensus and generalizability (Sutton, 2007). This study then, aims to add to the resilience literature by further investigating the complex role optimism, family functioning, and attributions play in the development of depressive symptoms in pre- and early adolescent girls.

## *Hypotheses*

*Question 1:* Does optimism mediate the relationship between attributional style and depression?

*Hypothesis 1a.* Optimism will have a statistically significant effect on amount of depressive symptoms, after controlling for attributional style, life stress, and family environment factors (communication, cohesion, and sociability). More specifically, girls with higher levels of optimism, as determined by coding stories from the Thematic Apperception Test (TAT; Murray, 1943), will have less severe depressive symptoms, as measured by the composite depressive symptoms scale of The Schedule for Affective Disorders and Schizophrenia for School Age Children (K-SADS-IVR; Ambrosini & Dixon, 2000).

*Hypothesis 1b.* Negative attributional style will have a statistically significant effect on amount of depressive symptoms, after controlling for optimism, life stress, and family environment factors (communication, cohesion, and sociability). More specifically, girls with a more negative attributional style, as measured by the negative composite scale of the Children's Cognitive Style Questionnaire (CCSQ; Mezulis, Hyde, & Abramson, 2006), will more severe depressive symptoms.

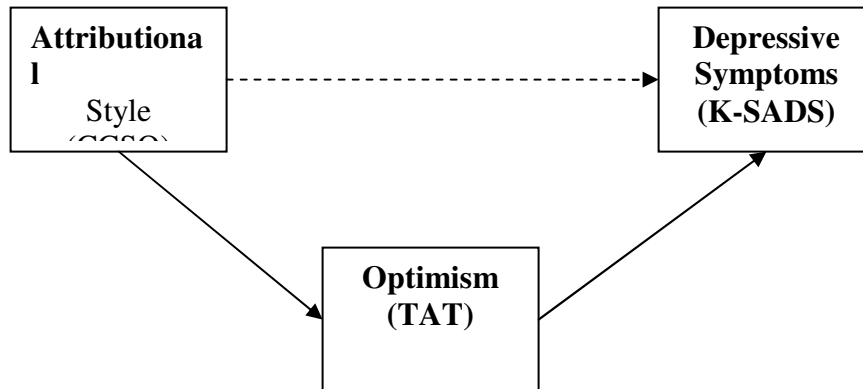
*Hypothesis 1c.* If support is found for Hypotheses 1a and 1b, it is further hypothesized that the relationship between attributional style and depressive symptomatology will be mediated by optimism. That is, the effect of attributional style on depressive symptomatology will be reduced when optimism is included in the

regression analysis and it will be greater if optimism is excluded from the analysis (See Figure 1).

*Rationale.* This hypothesis is in line with both RLHT and HT's assertion that individuals with negative attributional styles are more vulnerable to depression than individuals with positive attributional styles (Abramson et al., 1978; Abramson, et al., 1989). RLHT, in particular, suggests that depressotypic explanations for negative events are those that are more internal, stable, and global. That is, a depressed individual tends to attribute negative events to personal characteristics, factors that are likely to endure through time, and circumstances that affect many domains of their life. Individuals become hopeless then based upon their inferred inability to affect their environment (Abramson et al., 1989) There is considerable empirical evidence to support both of these theories, and the assertion that children and adolescents with negative attributional styles are more vulnerable to depression than youth who tend to make more positive inferences about the causes, consequences, and controllability of events (Abela, 2001; Abela & Seligman, 2000; Hankin et al., 2004; Hankin et al., 2005; Hilsman & Garber, 1995; Metalsky & Joiner, 1992). The CVD Project, in particular, has provided a stream of cross-sectional and prospective studies that have supported negative attributional style as a predictor of depression (Alloy & Abramson, 1999; Alloy et al., 2000).

Furthermore, Abramson and colleagues (1978, 1989) posit that while attributions predict recurring helpless/hopeless expectations, "the expectations determine the occurrence of the [psychological] deficits" (Abramson et al., 1978, p. 59). More simply, Abramson and colleagues (1978, 1989) suggested that optimism is a mediator of

attributional style's affect on depressive symptomatology. Recent research has supported this notion, and found that the expected consequences of events may be more important in the development of depression than the beliefs about their causes (Hawkins & Miller, 2003; Vaillant, 2003; Metalsky & Joiner, 1992). Thus, these hypotheses will not only lend credence to past research, it will establish dispositional optimism as an important mediator of depressive symptomatology.



*Figure 1.* Optimism as a proposed mediator of the relationship between attributional style and depressive symptomatology.

*Question 2:* Does attributional style moderate the affect of stressful life events on depressive symptomatology?

*Hypothesis 2a.* Life stress, as measured by higher total scores on the Life Events Checklist (LEC; Johnson & McCutcheon, 1980), will have a statistically significant effect on severity of depressive symptoms, after controlling for optimism, attributional style, and family environment factors (communication, cohesion, and sociability). In other

words, girls with higher levels of life stress will have a greater severity of depressive symptoms.

*Hypothesis 2b.* If supporting evidence is found for Hypothesis 3a, it is further hypothesized that attributional style will moderate the effect of life stress on depressive symptomatology. More specifically, life stress will have a greater effect on girls with more negative attributional styles, as they will demonstrate more depressive symptomatology than girls with less negative attributional styles (See Figure 2).

*Rationale.* The two most influential models of depression are cognitive diathesis-stress models. Substantial evidence indicates that the cognitive theories of depression accurately characterize thinking during depressive episodes, and studies also suggest that cognitive factors generate vulnerability for, or resilience against, the onset and recurrence of depression (Alloy et al., 1999; Ingram, Miranda, & Segal, 1998). However, the origins of depressotypic cognitive styles appear complex and have proven difficult to elucidate. Life stress has been a factor investigated by depression researchers for decades; and, in fact, negative life events are used to define cognitive vulnerability in these models. That is, a depressotypic cognitive style is characterized by global and stable attributions following negative life events, catastrophizing the consequences of the negative events, and viewing the self as flawed following the occurrence of the negative life event (Abramson et al., 1989; Beck, 1987; Abela, 2001). To date, the results of studies testing cognitive diathesis-stress models of depression in youth have not adequately answered the question of whether cognitive style moderates the relationship between stressful life events and depression for children and adolescents. This hypothesis is meant to address

these unanswered questions regarding the role of attributional style in the cognitive diathesis-stress model of depression.

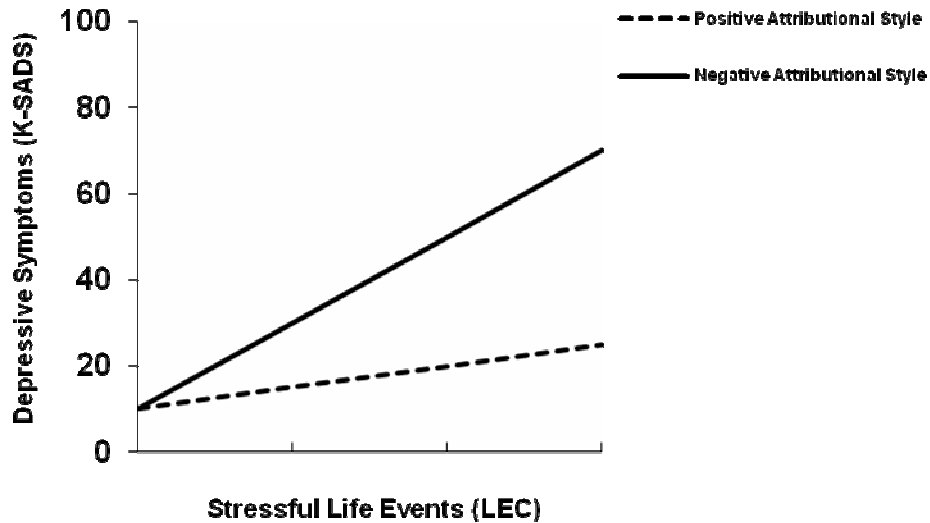


Figure 2. The proposed interaction of stressful life events and attributional style to predict depressive symptomatology.

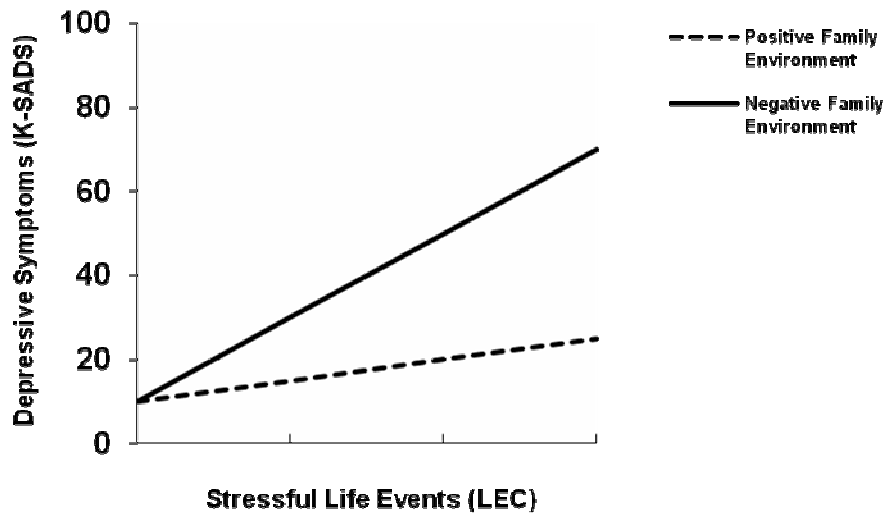
Question 3: Does family environment moderate the effect of stress on depressive symptomatology?

Hypothesis 3a. Family environment factors (communication, cohesion, and sociability), as measured by the Communication, Cohesion, and Social/Recreational subscales of the Self-Report Measure of Family Functioning-Children Revised (SRMFF-CR; Stark, 2002), will have a statistically significant effect on severity of depressive symptoms, after controlling for optimism, and attributional style. It is hypothesized that girls with higher scores on the family environment factors (which indicate a more

positive family environment) will demonstrate lower severity ratings of depressive symptomatology.

*Hypothesis 3b.* If support is found for hypotheses 2a and 3a, it is further hypothesized that family environment variables will moderate the effect of life stress on depressive symptomatology. That is, for girls' with more positive family environments, the effect of stressful life events on depressive symptoms will be reduced (See Figure 3).

*Rationale.* Family factors are perhaps the best-studied predictors of youth outcomes (Beam et al., 2002), and researchers have long recognized that impaired family environments contribute to the risk for depression among youth. Depressed children consistently perceive their families to be significantly less cohesive, less supportive, more controlled and conflictual, and engaged in fewer pleasant activities than nondepressed children (Stark et al., 1990; Fenrich et al., 1990; Garrison et al., 1990). Furthermore, studies of community youth with diagnosed depression also found that these disturbed family relationships are present prior to, during, and subsequent to major depressive episodes (Garrison et al., 1990; Lewinsohn et al., 1994). Thus far, research has not specifically examined family environmental factors as moderators of risk for depression, however. Thus, this hypothesis is expanding on prior research, and aims to elucidate the environmental moderators of depression.



*Figure 3.* The proposed interaction of stressful life events and family environment to predict depressive symptomatology.



## CHAPTER 3

### Method

#### *Ethical Considerations*

This study complied with the ethical issues and standards of research set forth by the American Psychological Association and the Institutional Review Board of the University of Texas at Austin.

#### *Participants*

The sample includes 120 girls, between the ages of 9 to 14 ( $M=10.80$ ,  $SD=1.35$ ) who were enrolled in grades 4 through 7 ( $M=5.54$ ,  $SD=1.13$ ) in two suburban, central Texas school districts. The participants are from a larger study evaluating the effectiveness of cognitive-behavioral therapy (CBT), with and without a parent-training component, for pre- and early adolescent girls diagnosed with a depressive disorder. Eighty-one of the girls were identified as having a depressive disorder including Major Depressive Disorder (MDD;  $n = 62$ ), and MDD in Partial Remission ( $n = 10$ ), Dysthymic Disorder ( $n = 5$ ), Depressive Disorder Not Otherwise Specified ( $n = 4$ ) as their primary diagnosis. Thirty-nine girls are from a control sample that were also enrolled in grades 4 through 7 and ranged in age from 9 to 14 years old. The non-depressed control participants were recruited from the same schools as the depressed participants. Control participants were recruited on a volunteer basis. The demographic information for the participants is presented in Table 1. Refer to Table 2 for a summary of the number of participants who met criteria for each psychiatric diagnosis.

Table 1

*Summary of Participant Demographic Variables (N=120)*

Variable	Frequency	Percent
<b>Age</b>		
9	23	19.2
10	33	27.5
11	27	22.5
12	22	18.3
13	12	10.0
14	3	2.5
<b>Grade</b>		
4	27	22.5
5	35	29.2
6	24	20.0
7	34	28.3
<b>Race/Ethnicity</b>		
African American	15	12.5
Asian American	3	2.5
Biracial/Multi-ethnic	13	10.8
Caucasian	55	45.8
Latina	32	26.7
Missing	2	1.7
<b>Highest Parental Education Attainment</b>		
Some high school	4	3.3
Finished high school	12	10
Some college/junior college	23	19.2
Finish four-year college	16	13.3
Advanced degree	5	4.2
Unknown/missing	60	50

Table 2

*Summary of Participant Diagnoses (N=120)*

Diagnosis	Frequency	Percent
Major Depressive Disorder	64	31.4
Major Depressive Disorder in Partial Remission	15	7.4
Dysthymia	14	6.9
Depressive Disorder – Not Otherwise Specified	6	2.9
Generalized Anxiety Disorder	40	19.6
Specific Phobia	20	9.8
Separation Anxiety	6	2.9
Post-Traumatic Stress Disorder	4	2.0
Panic Disorder	2	1.0
Social Phobia	5	2.5
Obsessive Compulsive Disorder	1	0.5
Anxiety Disorder – Not Otherwise Specified	2	1.0
Eating Disorder	3	1.5
Oppositional Defiant Disorder	8	3.9
Attention Deficit Disorders	14	6.9

Exclusionary criteria for the larger study included: a) the presence of an additional psychological disorder that presented as a primary diagnosis due to its severity and impact on the child's life, b) the presence of psychotic symptoms, c) active suicidal or homicidal thoughts or behaviors, d) current treatment for depression through an outside therapist or psychiatrist, e) an IQ below 85 or a learning disability that would prevent them from validly completing research measures, or f) the presence of a severe medical disability that would prevent them from regularly attending meetings or completing

activities. Non-depressed participants were excluded only if they had an IQ below 85 or a learning disability that would prevent them from validly completing research measures.

### *Instrumentation*

#### *Measure of Depression (See Appendix D)*

*The Schedule for Affective Disorders and Schizophrenia for School Age Children* (K-SADS-IVR; Ambrosini & Dixon, 2000) is a semi-structured clinical interview that is designed to assess the presence, absence, and severity of symptoms according to DSM-IV criteria in six major areas: major depression, mania, eating disorder, anxiety disorders, behavioral disorders, substance abuse, and psychotic disorders (Ambrosini, 2000; APA, 2000). The entire interview was administered during the screening process of the larger study; however, only the depression section was analyzed.

The K-SADS-IVR was modified from its previous version to be compatible with DSM-IV diagnostic criteria (Ambrosini, 2000; APA, 2000) and can be utilized with children and adolescents aged 6 to 18 with a normal cognitive profile. Administration of the K-SADS-IVR was completed by trained, clinical interviewers and took approximately 180 minutes for both the child and parent interviews – i.e., 90 minutes each. Participants were asked screening questions at the onset of each section; and, for all but depression, an entire section was administered only if the participant endorsed the initial screening questions (Ambrosini, 2000). Severity ratings were assigned for each symptom for the highest severity of the symptom during the present episode and during the past week. Most of the items ranged from zero to four or from zero to six; however, two items were scored to seven, and several of the items that assessed only the presence

or absence of a symptom were scored zero to two. Higher scores indicated greater severity and symptoms were deemed clinically significant if they received a rating of four or greater on the zero to six scales or of three or greater on the zero to four scales. Interviewers then created summary severity ratings by incorporating information obtained separately from the children and their caregivers. Summary ratings of the presence and severity of symptoms in the present episode and the past week were utilized in order to determine if a participant met criteria for a diagnosis based on DSM-IV criteria (Ambrosini, 2000; APA, 2000).

It is possible to obtain a continuous total depression score from the KSADS interview, consisting of a summation of 17 items, ranging in score from 17 to 97 (Ambrosini, Metz, Prabucki, & Lee, 1989; Ambrosini, Metz, Bianchi, Rabinovich, & Undie, 1991). This total depression score includes severity ratings for the following symptoms: depressed mood, irritability, diurnal mood variation (morning only), excessive guilt, anhedonia, fatigue, diurnal variation of fatigue (morning only), difficulty concentrating, psychomotor agitation, psychomotor retardation, insomnia, hypersomnia, loss of appetite, increased appetite, hopelessness, avoidant behavior when depressed, and suicidal ideation. Since the anhedonia item has two components (loss of pleasure and loss of interest), the larger of the severity ratings is computed in the total score. For symptoms with multiple items measuring the same symptom (e.g., psychomotor agitation, psychomotor retardation, insomnia), the overall severity rating for the symptom is entered. Ambrosini and colleagues (1991) reported this total score correlated with the Beck Depression Inventory in a sample of outpatient adolescent girls. The total

depression scale score has also been found to be internally consistent, with Cronbach alphas ranging from .80 to .89 in one study (Ambrosini et al., 1989) and a Cronbach alpha of .72 in another study (Chambers et al., 1985). In addition, the test-retest reliability has been reported to be good ( $r = .81$ ) for this total scale score (Chambers et al., 1985).

A slightly modified version of the continuous total depression score described above was used in this study. An item measuring self-esteem pulled from the rating of negative self-image in the Overanxious Disorder section was added to the depression score. Although this item is not in the depression section of the K-SADS-IVR, low self-esteem has to be assessed when considering a diagnosis of Dysthymia making it necessary to include this symptom. The two anhedonia symptoms (loss of interest and loss of pleasure) were also added to the score. Social withdrawal was not included since this item was not included in the KSADS-IVR. These modifications made the scale more consistent with the diagnostic criteria for depression in youth. Summary score ratings for the last week ratings of the symptoms were used to create the total score. Previous research using a sample of girls from the same, larger study found that this modified total depression score had high internal consistency reliability  $R = .74$  to  $.92$ , an inter-rater reliability of  $.91$ , and a correlation with the BDI-Y from  $.52$  to  $.61$  (Graves, 2007; Gray, 2006; Hamilton, 2009; Fisher, 2010).

With the current sample, the K-SADS-IVR depression scale had good internal consistency reliability ( $\alpha = .92$ ), and inter-rater reliability for the total score from the Last Week ratings was computed on 32 randomly selected interviews using Pearson correlation ( $r = .91$ ). Similarly, Ambrosini (2000) found perfect inter-rater agreement for

the diagnoses of MDD, Minor Depression/Dysthymic Disorder, Generalized Anxiety Disorder, Separation Anxiety Disorder, and Oppositional Defiant Disorder; and, they found a kappa of .8 for Attention Deficit Hyperactivity Disorder.

Additional psychometric information from other versions of the interview is consistent with these findings. For instance, the K-SADS IIR has been found to have high inter-rater reliability when identifying depressive and anxiety disorders (Last & Strauss, 1990), good test-retest reliability (Apter, Orvaschel, Laseg, Moses, & Tyano, 1989), and high internal consistency (Ambrosini et al., 1989). Internal consistency has been reported to be at least .68 and test-retest reliabilities have been reported to be above .67 for the K-SADS IIR depression summary scales (Chambers et al., 1985). Ambrosini et al. (1989) found that the depression scales had intraclass coefficients from .85 to .97 and the anxiety scales had intraclass coefficients from .86 to .98. They also reported coefficient alphas from .76 to .89 for the depression scales and .67 to .81 for the anxiety scales. Furthermore, Kaufman et al. (1997) investigated the psychometric properties of another version of the K-SADS, the K-SADS- Present and Lifetime Version (K-SADS-P/L). They found test-retest reliabilities from .86 to 1.00 for lifetime diagnoses of depressive disorders and .90 for present diagnoses of MDD or Dysthymia. They also determined that the average inter-rater agreement in assigning diagnoses was 98%.

High concurrent validity has also been demonstrated by comparing diagnoses from the K-SADS-IIR/IVR (Ambrosini, 2000) and K-SADS-P/L (Lauth et al., 2000) to scores on other depression measures such as the CDI, BDI, and BYI. Ambrosini (2000) explained that since the different versions of the KSADS have remained consistent with

current DSM criteria and reliability is high for the recent versions, these interviews can be used to help broaden our understanding of treatment outcome and psychopathology in youth.

*Measure of Negative Life Events (See Appendix E)*

*Life Events Checklist* (LEC; Johnson & McCutcheon, 1980) – The LEC assesses major life events over the past 12 months. This self-report measure includes 41 life event items and includes a space for the participant to list and rate additional major events. The LEC consists of positive and negative life event items in 10 categories of life experience: family health, family member changes, family moves, money, crises, unexpected news, parent’s marital relationship, parent-child relationship, general, and family resources.

Participants were instructed to indicate whether any of the listed events “happened to them.” If an event did occur, participants marked whether the event was “good” or bad,” and how much of an effect the event had in their lives. The measure yielded information regarding the number and severity of positive and negative events in the past year. A mean score for Quality of Bad Events was computed by summing all item ratings for “bad” events and then dividing by the total number of items marked “bad.” The LEC has demonstrated acceptable levels of reliability and validity (Johnson & McCutcheon, 1980). A review of the LEC’s reliability indicated a test-retest correlation for positive life-change scores of .69 and a correlation of .72 for negative life-change scores (Brand & Johnson, 1980). The mean score for quality of bad events was used as a measure of life stress.



*Measure of Attributional Style (See Appendix F)*

*Children's Cognitive Style Questionnaire* (CCSQ; Mezulis et al., 2006) – The CCSQ is a self-report measure that is designed to assess children's attributional style for negative events. To do this, children were presented with six written scenarios. Four of the hypothetical situations presented were negative scenarios, which were used for computing the child's negative cognitive style. Of these, two assessed cognitive style in response to achievement-related events, and two assessed cognitive style in response to interpersonal events. The remaining two scenarios were positive situations, which were included simply to avoid tiring children with repeated exposure to negative events. Following each hypothetical situation were five statements: (a) one item about anticipated consequences; (b) one addressing self-inferences; (c) and three regarding the internality, stability, and globality of attributions. Both within and across scenarios, the total number of internal, stable, and global attributions was uniform. Children indicated agreement with each item on a 5-point scale from 1 ("don't agree at all") to 5 ("agree a lot"). To obtain the negative cognitive style composite score, children's responses to the negative event items (20 items) were averaged. Higher scores indicated a more negative attributional style as the child has made more internal, stable, global attributions, negative self-inferences, and negative inferred consequences in response to negative scenarios.

As the CCSQ is a relatively recent measure, information regarding its psychometric properties is limited. Mezulis and colleagues (2006) found that construct validity and internal consistency of the CCSQ were demonstrated in their longitudinal study of children from 1- to 11-years-old ( $n = 289$ ). Construct validity was established

when, in line with the cognitive vulnerability-stress component of the hopelessness theory of depression (Abramson et al., 1989), a multiple regression predicting depressive symptoms assessed by the CDI (Kovacs, 1985) indicated there was a significant interaction between CCSQ scores and negative life events. The CCSQ also correlated significantly with children's attributional styles as measured by the Children's Attributional Style Questionnaire-Revised (CASQ-R; Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998). Internal consistency reliability for the negative composite in this study was .79 at age 9 and .84 at age 11. Mezulis et al. (2006) also found that test-retest reliability, with a two year lapse, was significant but modest ( $r = .19$ ). This result was expected by the researchers, however, given the developmental significance of the period between 9- and 11-years-old. A separate sample of 8- to 12-year-old children ( $n=48$ ) were also recruited, specifically to examine the psychometric properties of the CCSQ, and the results were very similar (Mezulis et al., 2006). Internal consistency was .83, and test-retest reliability was .81 (2-week interval). Overall these findings indicate that the CCSQ is a reliable and valid measure of children's attributional style.

#### *Measure of Optimism*

*Thematic Apperception Test* (TAT; Murray, 1943) – The TAT is one of the most frequently used projective measures, with approximately 44% of clinicians using the TAT with adolescent clients (Cashel, Killilea, & Dollinger, 2007). The measure consists of a set of 30 black-and-white picture cards, which were chosen for their ambiguity and ability to stimulate an individual's imagination (Cashel et al., 2007), in addition to one blank card for which individuals are asked to create their own scene. More specifically,

each picture is meant to have at least one character that subjects can identify with and “a critical situation that might serve as a ‘trellis’ to support the development of deep rooted fantasies” (Cramer, 1996, p.11). The TAT was administered during a single testing session. For each card, participants were asked to tell a story about the picture, including what is happening in the picture, what happened before the picture, and what will happen next. Participants were also asked to include the thoughts and feelings of the characters involved, and were queried by the administrator for any missing elements. Story themes are thought to reveal information about an individual’s relationships, life view, self-concept, and characteristic coping style (Gieser & Stein, 1999).

Since its inception, the psychometric properties of the TAT have been called into question. In research, the nature and purpose of the measure allow for only modest estimates of validity and reliability to be found consistently. That is, since the TAT is designed to elicit a broad range of information, reliability and validity estimates are really just a demonstration of the utility of the specific interpretive method under investigation (Holt, 1999; Teglasi, 1993). Thus, it is important to look at psychometrics on a case-to-case basis, and identify the characteristics that make a particular approach more valid and reliable than another. For example, a number of scoring systems have been developed by researchers to interpret the TAT in a reliable way. The four most popular approaches used with children and adolescents are the systems developed by Bellak, Cramer, Westen, and Teglasi (for reviews see Winter, 1999). Each of these approaches has successfully demonstrated adequate levels of inter-rater reliability (correlation coefficients greater than .85) through the use of detailed scoring manuals, which include

extensive examples and practice stories (Cramer, 1996). Lundy (1985) used the TAT to assess affiliation motivation and intimacy motivation among high school students, and found adequate test-retest reliabilities (1-year interval) of  $r=.56$  and  $r=.48$ , respectively. Furthermore, McGrew and Teglassi (1990) were able to successfully differentiate emotionally disturbed from control children based on formal characteristics of their TAT stories. Ninety-five percent of the control group was classified correctly, and 85% of the disturbed group was classified correctly.

For the purposes of this study, dispositional optimism was assessed by coding the narrative stories from the TAT for themes of both positive and negative expectations/outcomes. Using the TAT for this purpose alleviates the problems associated with the self-report measures most commonly used to assess optimism (Scheier & Carver, 1985). Ten cards were used in a standard sequence: 1, 2, 3BM, 5, 6BM, 7GF, 8GF, 9GF, 13B, and 14. This set was assembled by incorporating specific cards that have been recommended for use with children and adolescents. The cards suggested by the literature tend to elicit themes related to achievement, aggression, paternal nurturance, parental rejection, and attitudes toward parents (Cashel et al., 2007).

*The Optimism Coding System (See Appendix G).* The Optimism Coding System is based on Carver and Scheier's (1985) construct of dispositional optimism, and influenced by the RLHT (1989) of depression. This approach was developed specifically for this study, and used the narratives provided by the TAT as a way to assess participants' positive and negative expectations across a variety of social contexts and interactions. An extensive examination of optimism literature provided the rationale for

including the following scales: Optimism (OP), Naïve Optimism (NO), and Pessimism (PE). Specifically, Chang and colleagues (Chang, 1996; Chang et al., 1994) found evidence that measures of dispositional optimism contain two factors: one that includes positive expectancy items and a second that includes negative expectancy items. In addition, it has been recommended such research should pay attention to some of the more finely differentiated optimism-pessimism constructs that have been proposed (Garber, 2000b), including naïve optimism (Drach-Zahavya & Somech, 1999; Epstein & Meier, 1989). Naïve optimism was operationalized based on Epstein and Meier's (1989) research, such that it refers to overly simplistic or unrealistic, stereotypic beliefs about the future.

During the creation of both the coding system and user's manual, Smith, Feld, and Franz's (1992) recommendations for evaluating verbal material were taken into consideration. In general, the user's manual provides guidelines for the evaluation of the presence or absence of optimism and pessimism in each TAT story. Two raters, including the primary researcher, were trained to utilize the coding manual through the use of extensive examples and practice stories. Inter-rater reliability was assessed for each of the categories measured using total summary scores (Optimism = .88; Pessimism = .89; Naïve Optimism = .73).

*Measure of Family Environment (See Appendix H)*

*Self Report Measure of Family Functioning-Child Revised (SRMFF-CR; Stark, 2002)* – The SRMFF-CR is a 40-item self-report measure of family environment and functioning. This measure is an adaptation of Bloom's Self-Report Measure of Family

Functioning (SRMFF; Bloom, 1986) for adults and adolescents. Initial modifications made by Stark and colleagues (1990) involved simplifying the language to facilitate understanding, removing double negatives, and simplifying descriptive anchors to “Never,” “Sometimes,” and “Always,” thereby creating the SRMFF-C. Further revisions that were made to create the current version of the measure included the elimination of subscales with low alphas, the elimination of items with low factor loadings, and the rewording of items to be more child-friendly (SMRFF-CR; Stark, 2002). In addition, a communication subscale was created using items from the expressiveness and democratic style subscales in the original SRMFF-C, and items from the disengagement subscale of the original SRMFF-C were added to the cohesion subscale of the SRMFF-CR. Items are rated on a five point scale from “never true (1) to “very true” (5).

For the purposes of theoretical relevance, the study used the Communication, Social/Recreational Orientation, and Cohesion scales only. The following internal consistency reliabilities have been reported for the above scales: Communication = .87, Social/Recreation Orientation = .85, Cohesion = .73 (Greenberg et al., 2008).

### *Procedure*

#### *Depressed Group*

Depressed girls were identified according to a modified version of the multiple-gate screening and assessment procedure recommended by Reynolds (1986). Screenings took place in participating public schools for seven cohorts over the span of five years. The screening process differed slightly for the two participating school districts due to additional research being conducted on the psychometric properties of two new

measures: the Beck Depression Inventory-Youth (BDI-Y) and the CCSQ. Participants from School District 1 received the CCSQ as an additional measure at screening and School District 2 received the BDI-Y as an additional measure at screening. Because the BDI-Y is a measure of depressive symptoms, it was included in the multiple-gate screening procedure to identify depressed participants for School District 2. Procedures also differed slightly between the first cohort of participants and the second through seventh cohorts. After the first cohort was screened, the second gate of screening was modified in an effort to improve the efficiency and accuracy of identifying participants appropriate for a diagnostic interview.

Graduate Research Assistants (GRA) explained the study to all girls in the appropriate age range attending participating elementary and middle schools. Letters were sent home with students inviting them to take part in the screening process, and to attain active parental consent and child assent (See Appendix I). In the end, 7737 girls were invited to participate, and 3436 returned affirmative consent forms and took part in the initial phase of the screening process (Gate 1). The Children's Depression Inventory (CDI) and/or BDI-Y questionnaires (depending on the school district) were administered in groups of 5-100 girls during the school day, with a typical ratio of one researcher for every ten girls. In the first cohort of participants, girls who scored above 16 on the CDI were administered another CDI one week later (n = 44; Gate 2). In subsequent cohorts, girls who scored higher than the cut-off point on either measure (CDI = 16, BDI-Y = 25) were interviewed individually on the same day, using the Diagnostic and Statistical Manual Brief Symptom Interview (DSM Interview; n = 726; Gate 2).

If participants scored above 16 on the second administration of the CDI (cohort 1), or it was determined by the DSM interviewer that the participant may be experiencing a depressive disorder, the GRA recommended that the child complete an interview with the K-SADS-IVR (n = 505). In addition, the DSM interviewer called the primary caregiver(s) to inform them of their daughter's interview and provided brief feedback. The DSM interviewer also notified the parents that a permission form would be sent home to attain consent for their daughter's participation in the K-SADS-IVR. Generally, this phone call served as the initial rapport building phase and introduction to the project. When consent was attained and the permission form was returned, the participant and her primary caregiver were both interviewed individually with the K-SADS-IVR (n = 383; Gate 3). Participants were interviewed at their school, while their parent was interviewed in the setting that was most convenient for him or her whether it was over the telephone, at home, or at school. When possible the same GRA completed both the child and parent interviews. Based on the combination of information obtained from the child and the parent, a summary rating was determined and DSM-IV diagnoses were assigned by the interviewer. Each symptom was given a severity rating from its most severe point during the present episode and from its most severe point during the last week. As part of the larger study, all participant interviews were audio-taped. One-fourth of the interviews were then randomly selected and reviewed by another interviewer. If differences in ratings and diagnoses existed, they were discussed by the interviewers and a consensus rating and diagnosis was reached. Inter-rater reliability was computed on 48 of the 170



interviews. The Pearson correlation between the original and reliability interviewers' total scale score from the last week summary ratings was high ( $r = .91$ )

If participants received a primary diagnosis of a depressive disorder and were eligible participants, consent and assent forms were sent home for the parent and child to complete ( $n = 170$ ). When both parental consent and child assent were received ( $n = 158$ ), girls completed the TAT, LEC, CCSQ, SRMFF-CR, and Cognitive Triad Inventory for Children (CTI-C) while the caregiver(s) completed a battery of measures. In the first cohort, parent measures were sent home in the mail and returned in the mail. In subsequent cohorts, the measures were completed in a small group format at the school to maintain time efficiency and were distributed in a counterbalanced order for randomization purposes. Prior to completing these final measures or beginning treatment, the primary caregiver and child documented their consent on a third permission letter that was sent home with the child. All assessment procedures were administered by trained and supervised graduate students.

#### *Nondepressed Group*

Non-depressed participants were recruited from various elementary and middle schools in the same local school districts ( $n = 38$ ). Qualified GRA's visited classrooms and enlisted volunteers. Letters were sent home with students in order to attain active parental permission and child assent (See Appendix I). After consent and assent were attained, GRAs met individually with the parents and their daughters to complete the appropriate measures. Daughters completed the TAT, CTI-C, CDI, SRMFF-CR, DSM Interview, and K-SADS-IVR with one trained graduate student, while their parent(s)

completed a battery of tests with another graduate student. All interviews were audio taped for review and reliability purposes. The measures were completed at the family's home and took approximately two hours. Participants and their parents were also compensated \$50 per family for participation.

#### *Training of Measures Administrators*

All measures were administered by doctoral students with at least one year of experience on the research team. They were trained and supervised by the project coordinator on the administration and scoring of each paper-and-pencil measure. In addition, at every measure administration there was at least one researcher present who was trained in assessing suicidal ideation and intent.

#### *Training of Interviewers*

All K-SADS-IVR parent and child interviews were conducted by doctoral students in educational psychology. Interviewers were trained for approximately six months to administer the K-SADS-IVR by the head interviewer, an advanced graduate student, who had expertise in the area of childhood psychopathology and the administration of semi-structured clinical interviews. Interviewers-in-training reviewed tapes of previous interviews and personally observed senior interviewers conducting the K-SADS-IVR. Approximately 50 hours of training took place before interviewers began independently conducting interviews. The interviewers-in-training also practiced interviews with volunteers under the observation of a senior interviewer. The project head interviewer reviewed beginning interviewers' tapes and provided them with feedback. All interviewers also received weekly supervision for K-SADS-IVR

administration and scoring. Inter-rater reliability (kappa) for the K-SADS-IVR is reported for this sample.

## CHAPTER 4

### Data Analyses

This research study sought to determine the effect of optimism, attributional style, life stress, and family environment on depressive symptoms in 9- to 14- year old girls. Preliminary analyses are outlined first, including the results of the power analysis, a review of descriptive statistics, tests of the assumptions of multiple regression, and analyses of demographic variables and total depression scores. The results for each hypothesis are then presented in the main analyses section, followed by secondary analyses. All analyses were performed using SPSS version 21.0 (SPSS Inc., 2012).

#### *Preliminary Analyses*

##### *Power*

A power analysis was conducted using G-Power software and indicated that given a total sample size of 120 the regression will be sensitive to an effect size of  $f^2 = .05$  at the desired level of 80% power and an alpha level of 0.05.

##### *Descriptive Statistics*

Descriptive statistics including the means, standard deviations, Cronbach's alpha scores, and correlation coefficients for each of the main variables are presented in Table 3. The total sample ( $N = 120$ ) was used in all of the analyses discussed below.

Table 3

*Pearson Product Correlations, Means, Standard Deviations, Sample Sizes, and Cronbach's Alphas for Main Variables.*

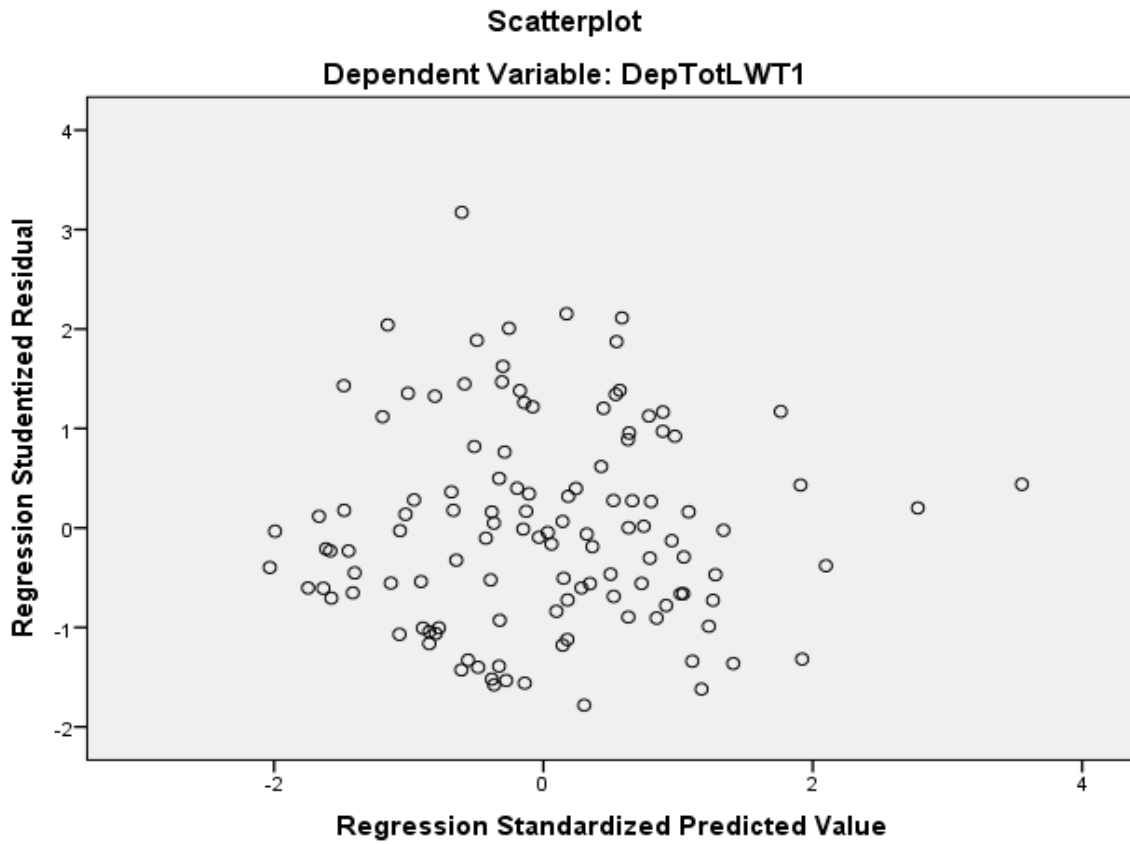
Variable	1	2	3	4	5	6	7
1. Depression Total	1	-.241**	.428**	.038	-.311**	-.280**	-.433**
2. Optimism	-.241**	1	-.121	-.033	.154	.123	.089
3. Attributional Style	.428**	-.121	1	.074	-.226*	-.307**	-.303**
4. Life Stress	.038	-.033	.074	1	-.027	-.045	-.037
5. Family Communication	-.311**	.154	-.226*	-.027	1	.702**	.645**
6. Family Cohesion	-.280**	.123	-.307**	-.045	.702**	1	.674**
7. Family Sociability	-.433**	.089	-.303**	-.037	.645**	.674**	1
M	35.14	6.62	2.2283	2.0403	14.34	24.72	20.13
SD	12.807	2.377	.72789	.84834	7.761	6.891	7.893
Á	.88	N/A	.87	.83	.89	.86	.84

*Note.* \*\*Represents significance at the .01 level. \*Represents significance at the .05 level.

### *Testing the Assumptions of Multiple Regression*

Preliminary analyses were conducted to determine whether the data met the assumptions of multiple regression. First, to test for a curvilinear relationship (which violates the main assumption of multiple regression), each independent variable was centered, squared, and then added to the regression equation. The results indicated there was not a statistically significant increase in the variance explained by the addition ( $\Delta R^2 = .037$ ,  $F[6, 107] = 1.021$ ,  $p = .416$ ); thus, the assumption of linearity is met. A scatterplot of residuals also substantiated the assumptions of homoscedasticity and linearity (see Figure 4). Second, previous preliminary analyses discussed above suggested there is not perfect multicollinearity between the predictors (see Table 3). A Durbin-Watson test was completed suggesting that the assumption of independent errors was most likely met

(Field, 2005). Finally, the histogram and normal probability plot of standardized residuals for the regression analysis showed a roughly normal curve, suggesting that error was normally distributed and that there were no outliers in the data (see Figures 5 and 6).



*Figure 4.* Scatterplot of Residuals for the Total Depression Score

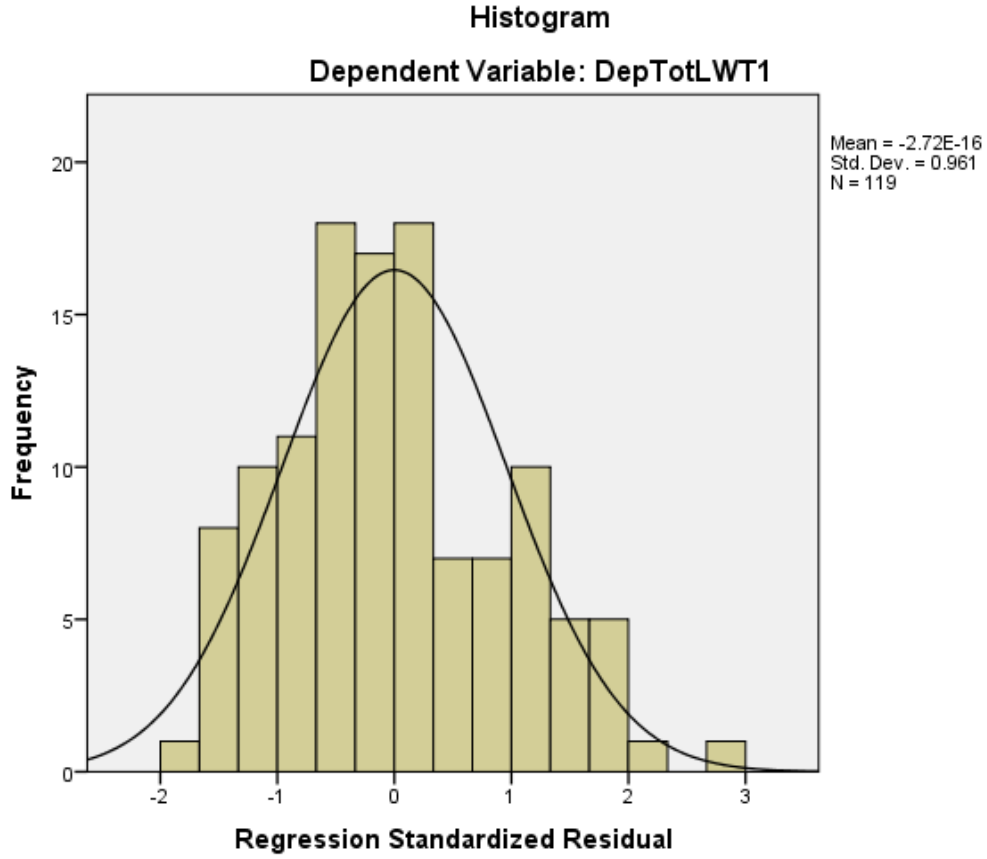
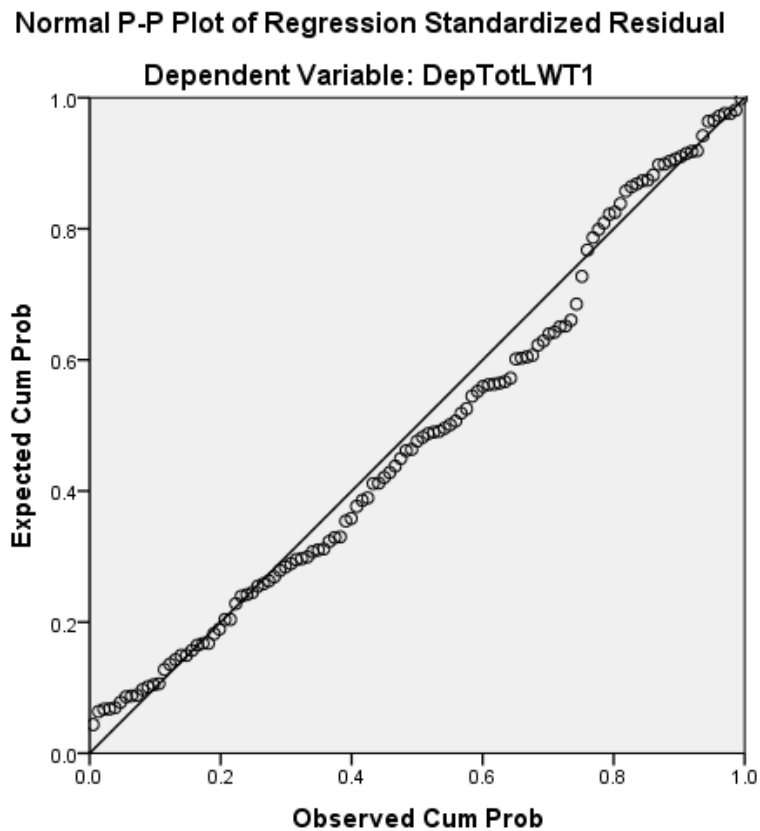


Figure 5. Histogram of the Total Depression Score



*Figure 6.* Normal Probability Plot for the Total Depression Score

*Demographic Variables and Total Depression Scores*

A series of analyses were conducted to determine whether the total K-SADS-IVR depression score was related to age, race/ethnicity, or grade. The correlation between age and total K-SADS-IVR depression score was not statistically significant ( $r = -.084, p = .363$ ). In addition, univariate analysis of variance (ANOVA) results indicated K-SADS-IVR depression scores were not significantly different among racial/ethnic groups ( $F[5, 114] = 1.273, p = .281$ ) or grades ( $F[3, 116] = .697, p = .555$ ).



## *Main Analyses*

### *Hypothesis 1a*

Hypothesis 1a predicted optimism would have a statistically significant effect on the severity of depressive symptoms, after controlling for attributional style, life stress, and family environment factors (communication, cohesion, and sociability). More specifically, girls with higher levels of optimism, as determined by coding stories from the Thematic Apperception Test (TAT; Murray, 1943), will have less severe depressive symptoms, as measured by the composite depressive symptoms scale of The Schedule for Affective Disorders and Schizophrenia for School Age Children (K-SADS-IVR-IVR; Ambrosini & Dixon, 2000). To address this, depressive symptomology was regressed on optimism, attributional style, life stress, and family environment. The full model accounted for a significant proportion of the variance in K-SADS-IVR scores ( $R^2 = .323$ ,  $F[6,113] = 8.979$ ,  $p < .001$ ), and the six variables accounted for 32% variance in severity of depressive symptoms. Optimism was one of three independent variables that had a statistically significant effect on severity of depressive symptoms. The standardized coefficient ( $\beta$ ) for optimism was  $-.176$  ( $t[113] = -2.229$ ,  $p = .028$ ), meaning that each standard deviation increase in optimism will result in  $.176$  of a standard deviation decrease in severity of depressive symptoms.

### *Hypothesis 1b*

Hypothesis 1b predicted negative attributional style will have a statistically significant effect on the severity of depressive symptoms, after controlling for optimism, life stress, and family environment factors (communication, cohesion, and sociability).

More specifically, girls with a more negative attributional style, as measured by the negative composite scale of the Children's Cognitive Style Questionnaire (CCSQ; Mezulis et al., 2006), will have more severe depressive symptoms. To address this, depressive symptomology was regressed on attributional style, optimism, life stress, and family environment. The full model accounted for a significant proportion of the variance in K-SADS-IVR scores ( $R^2 = .323$ ,  $F[6,113] = 8.979$ ,  $p < .001$ ), and the six variables accounted for 32% variance in depressive symptomology. Attributional style was one of three independent variables that had a statistically significant effect on severity of depressive symptoms. The standardized coefficient ( $\beta$ ) for attributional style was .323 ( $t[113] = 3.902$ ,  $p < .001$ ), meaning that each standard deviation increase in negative attributional style will result in .323 of a standard deviation increase in severity of depressive symptoms.

#### *Hypothesis 1c*

Hypothesis 1c predicted that optimism would mediate the relationship between attributional style and severity of depressive symptomatology. That is, the effect of attributional style on depressive symptomatology will be reduced when optimism is included in the regression analysis and it will be greater if optimism is excluded from the analysis. According to Baron and Kenny (1986), in order to establish a mediation effect, the following conditions must be met 1) optimism must predict depression (hypothesis 1a), 2) attributional style must predict depression (hypothesis 1b), and 3) attributional style must predict optimism. To address condition three, optimism was regressed on attributional style. The overall model was not significant ( $R^2 = .015$ ,  $F[1,118] = 1.744$ ,  $p =$

.189), indicating that the independent variable of attributional style did not significantly predict changes in optimism. This indicates, although conditions one and two were met for this analysis, condition three was not. Thus, this hypothesis was not explored further and a mediation analysis was not completed.

#### *Hypothesis 2a*

Hypothesis 2a predicted that life stress, as measured by higher scores (i.e., total quality of bad events divided by total bad events) on the Life Events Checklist (LEC; Johnson & McCutcheon, 1980), will have a statistically significant effect on severity of depressive symptoms, after controlling for optimism, attributional style, and family environment factors (communication, cohesion, and sociability). In other words, girls with higher levels of life stress will have greater severity of depressive symptoms. To address this, depressive symptomology was regressed on life stress, optimism, attributional style, and family environment. The full model accounted for a significant proportion of the variance in K-SADS-IVR scores ( $R^2 = .323$ ,  $F[6,113] = 8.979$ ,  $p < .001$ ), and the six variables accounted for 32% variance in depressive symptomology. Life stress, however, did not demonstrate a statistically significant effect on depressive symptomology ( $\beta = -.001$ ,  $t[113] = -.013$ ,  $p = .99$ ).

#### *Hypothesis 2b*

Hypothesis 2b predicted that attributional style would moderate the effect of life stress on depressive symptomology. That is, life stress will have a greater effect on girls with more negative attributional styles, as they will demonstrate more depressive symptomatology than girls with less negative attributional styles. First, centered versions

of the continuous independent variables and the cross product of the centered attributional style and life stress variables were created. Total depression scores were regressed on optimism, family environment variables, life stress and attributional style (centered) in a simultaneous regression, with the Attributional Style-Life Stress cross product in a second, sequential step.

A summary of the results are shown in Table 4. As reported previously, the original model accounted for 32% of the variance in depressive symptomology ( $R^2 = .323$ ,  $F[6,113] = 8.979$ ,  $p < .001$ ), and the addition of the Attributional Style-Life Stress cross product explained an additional 0.7% of the variance in depressive symptomology; however, this was not a statistically significant increase ( $F[1,112] = 1.205$ ,  $p = .275$ ). Thus, the hypothesized interaction between attributional style and life stress was not statistically significant. As life stress did not demonstrate a statistically significant main effect on depressive symptomology (hypothesis 2a), it is not surprising then that an interaction effect would also be non-significant.

Table 4

*Hierarchical Regression Analysis with Attributional Style as a Moderator of Life Stress*

Independent Variable	<i>B</i>	<i>SE B</i>	$\beta$
Step 1			
Optimism	-0.95	0.42	-.18*
Attributional Style	5.68	1.45	.32***
Life Stress	-0.02	1.17	-.00
Family Communication	-0.12	0.19	-.07
Family Cohesion	0.26	0.22	.14
Family Sociability	-0.59	0.18	-.37***
Step 2			
Optimism	-0.88	0.43	-.16*
Attributional Style	5.63	1.45	.32***
Life Stress	0.20	1.19	.01
Family Communication	-0.10	0.19	-.06
Family Cohesion	0.23	0.23	.12
Family Sociability	-0.57	0.18	-.35**
Life Stress x Attributional Style	-1.38	1.26	-.09

Note. Statistical Significance: \*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$

*Hypothesis 3a*

Hypothesis 3a predicted that family environment factors (communication, cohesion, and sociability), as measured by the Communication, Cohesion, and Social/Recreational subscales of the Self-Report Measure of Family Functioning-Children Revised (SRMFF-CR; Stark, 2002), will have a statistically significant effect on severity of depressive symptoms, after controlling for optimism, attributional style, and life stress. More specifically, it was hypothesized that girls with higher scores on the

family environment factors (which indicate a more positive family environment) will demonstrate lower severity ratings of depressive symptomatology. The full model accounted for a significant proportion of the variance in K-SADS-IVR scores ( $R^2 = .323$ ,  $F[6,113] = 8.979$ ,  $p < .001$ ), and the six variables accounted for 32% variance in depressive symptomatology. Based on the analyses, family communication ( $\beta = -.073$ ,  $t[113] = -.628$ ,  $p = .531$ ) and cohesion ( $\beta = .138$ ,  $t[113] = 1.15$ ,  $p = .252$ ) did not have a statistically significant effect on depressive symptomatology; however, sociability did demonstrate a statistically significant effect on depressive symptomatology ( $\beta = -.366$ ,  $t[113] = -3.269$ ,  $p = .001$ ).

### *Hypothesis 3b*

Hypothesis 3b predicted that family environment variables would moderate the effect of life stress on depressive symptomatology. That is, for girls with more positive family environments, the effect of stressful life events on depressive symptoms will be reduced. First, centered versions of the continuous independent variables were created, and the cross product of each centered family variable and life stress were determined. Separate analyses were completed for each family environment variable and their respective interaction with life stress. For each, depressive symptomatology was regressed on life stress, optimism, attributional style, and all family environment variables (centered) in a simultaneous regression, with an interaction term in a second, sequential step.

A summary of the results for all three analyses are shown in Tables 5, 6 and 7. The original model accounted for 32% of the variance in depressive symptomatology ( $R^2 =$

.323,  $F[6,113] = 8.979, p < .001$ ), and the addition of the Communication-Life Stress, Cohesion-Life Stress, and Sociability-Life Stress cross products explained an additional 0.4%, 1.9%, and 2.2% of the variance in depressive symptomology respectively; however, none were statistically significant increases ( $F[1,112] = .692, p = .407$ ;  $F[1,112] = 3.256, p = .074$ ;  $F[1,112] = .3.847, p = .052$ ).

Overall, the hypothesis that family environment variables would interact with life stress to predict depression was not supported. This is not particularly surprising given that life stress did not demonstrate a statistically significant main effect on depressive symptomology (hypothesis 2a), nor did the family environment variables of communication and cohesion (hypothesis 2b).

Table 5

*Hierarchical Regression Analysis with Family Communication as a Moderator of Life Stress*

Independent Variable	<i>B</i>	<i>SE B</i>	$\beta$
Step 1			
Optimism	-0.95	0.42	-.18*
Attributional Style	5.68	1.45	.32***
Life Stress	-0.02	1.17	-.00
Family Communication	-0.12	0.19	-.07
Family Cohesion	0.26	0.22	.14
Family Sociability	-0.59	0.18	-.37***
Step 2			
Optimism	-0.92	0.43	-.17*
Attributional Style	5.42	1.49	.31***
Life Stress	-0.18	1.19	-.01
Family Communication	-0.12	0.19	-.07
Family Cohesion	0.25	0.22	.13
Family Sociability	-0.60	0.18	-.37***
Life Stress x Family Communication	-1.38	1.26	-.09

Note. Statistical Significance: \*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$



Table 6

*Hierarchical Regression Analysis with Family Cohesion as a Moderator of Life Stress*

Independent Variable	<i>B</i>	<i>SE B</i>	$\beta$
Step 1			
Optimism	-0.95	0.42	-.18*
Attributional Style	5.68	1.45	.32***
Life Stress	-0.02	1.17	-.00
Family Communication	-0.12	0.19	-.07
Family Cohesion	0.26	0.22	.14
Family Sociability	-0.59	0.18	-.37***
Step 2			
Optimism	-0.89	0.42	-.16*
Attributional Style	5.45	1.45	.31***
Life Stress	-0.40	1.18	-.03
Family Communication	-0.11	0.19	-.07
Family Cohesion	0.21	0.22	.11
Family Sociability	-0.59	0.18	-.36***
Life Stress x Family Cohesion	0.34	0.19	.14

*Note.* Statistical Significance: \*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$

Table 7

*Hierarchical Regression Analysis with Family Sociability as a Moderator of Life Stress*

Independent Variable	<i>B</i>	<i>SE B</i>	$\beta$
Step 1			
Optimism	-0.95	0.42	-.18*
Attributional Style	5.68	1.45	.32***
Life Stress	-0.02	1.17	-.00
Family Communication	-0.12	0.19	-.07
Family Cohesion	0.26	0.22	.14
Family Sociability	-0.59	0.18	-.37***
Step 2			
Optimism	-0.77	0.43	-.14
Attributional Style	5.14	1.46	.29***
Life Stress	-0.31	1.17	-.02
Family Communication	-0.13	0.19	-.08
Family Cohesion	0.23	0.22	.12
Family Sociability	-0.58	0.18	-.36**
Life Stress x Family Sociability	0.31	0.16	.16

Note. Statistical Significance: \*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$

*Secondary Analyses*

Secondary analyses were conducted to further explore the relationship between depression and life stress. Analyses were conducted comparing the group of depressed girls to the group of non-depressed girls in place of using a continuous total depression score from the K-SADS-IVR.

### *Preliminary Analyses*

Preliminary analyses were conducted to ensure that the group of participants diagnosed with depression differed significantly in terms of depressive symptoms from the group of participants without a depressive diagnosis. First, the total depression score from the K-SADS-IVR was used as a measure of the presence and severity of depressive symptoms and a *t*-test was conducted to compare the total depression scores of the two groups. Levene's test was performed to determine whether the homogeneity of variance assumption was met for these data. According to Levene's test, the variances of the two groups were significantly different ( $F[1, 118] = 9.15, p = .003$ ). As a result, the "equal variances not assumed" *t*-test value was reported. Subsequently, an independent samples *t*-test was conducted to compare the total depression scores for the girls diagnosed with depression and the girls not diagnosed with depression. As expected, the girls with depression ( $M = 41.53, SE = 1.08$ ) had higher total depression scores on the K-SADS-IVR than the girls without a depressive diagnosis ( $M=21.87, SE=1.08$ )(see Table 8). This difference was significant ( $t[102.97] = -12.83, p <.001$ ) and represented a large effect ( $r = .78$ ) (see Table 9).

### *Hypothesis 2*

The finding that life stress, as measured by higher scores (i.e., total quality of bad events divided by total bad events) on the LEC, did not predict the total depression score on the K-SADS-IVR, was an unusual finding considering the substantial body of research demonstrating the opposite. Thus, the LEC data were first examined to determine if, in general, depressed girls report significantly more life stress than non-depressed girls. An

independent samples *t*-test was conducted to compare life stress for the girls diagnosed with depression to the girls without a diagnosed depressive disorder. Levene's test was performed to determine whether the homogeneity of variance assumption was met for these data. According to Levene's test, the variances of the two groups were not significantly different ( $F[1, 118] = .27, p = .604$ ). As a result, the "equal variances assumed" *t*-test value was reported. Subsequently, the results of the *t*-test indicated that, on average, the girls with depression ( $M = 0.18, SE = 0.10$ ) reported more life stress on the LEC than the girls without a depressive diagnosis ( $M = -0.13, SE = 0.12$ ) (see Table 8). This difference approached significance at  $t(118) = -1.95, p = .054$  and represented a small to medium effect ( $r = .18$ ) (see Table 9).

Given the problems inherent to self-report measures (i.e., recall and memory bias), the LEC data were further examined using total quantity of negative events instead of incorporating perceived severity ratings in an attempt to minimize possible subjective bias. In accordance with hypothesis 2a, it was predicted that life stress, in this case as measured by the total number of reported negative events on the LEC, will have a statistically significant effect on the severity of depressive symptoms, after controlling for optimism, attributional style, and family environment factors (communication, cohesion, and sociability). Depressive symptomology was regressed on life stress, optimism, attributional style, and family environment. The full model accounted for a significant proportion of the variance in K-SADS-IVR scores ( $F[6,113] = 9.753, p < .001$ ), and the six variables accounted for 34% variance in depressive symptomology. Again, life stress

did not demonstrate a statistically significant effect on depressive symptomology ( $\beta = .140$ ,  $t[113] = 1.773$ ,  $p = .079$ ).

### *Hypothesis 3*

The finding that the family variables of cohesion and communication did not predict the total depression score on the K-SADS-IVR was an unusual finding considering the substantial body of research demonstrating the opposite (Fenrich et al., 1990, Garrison et al., 1990; Klein & Forehand, 2000). Thus, the data were first examined to determine if, in general, depressed girls report significantly less communicative, less cohesive family environments than non-depressed girls. An independent samples *t*-test was conducted to compare life stress for the girls diagnosed with depression to the girls without a diagnosed depressive disorder. Levene's test was performed to determine whether the homogeneity of variance assumption was met for these data. According to Levene's test, the variances of the two groups were significantly different for the cohesion domain ( $F[1, 118] = 3.919$ ,  $p = .05$ ), but not for the communication and sociability domains ( $F[1, 118] = .691$ ,  $p = .407$ ;  $F[1, 118] = .630$ ,  $p = .429$ , respectively). Subsequently, the results of the *t*-test indicated that, on average, the girls with depression reported less family communication, cohesion, and sociability ( $M = 2.95$ ,  $SE = 7.27$ ;  $M = 1.71$ ,  $SE = 6.43$ ;  $M = 4.04$ ,  $SE = 6.87$ ) than the girls without a depressive diagnosis ( $M = -2.35$ ,  $SE = 7.43$ ;  $M = -1.48$ ,  $SE = 6.90$ ;  $M = -1.88$ ,  $SE = 7.66$ ) (see Table 8). This difference was significant for communication, cohesion, and sociability ( $t(118) = 3.68$ ,  $p < .001$ ;  $t(80.099) = 2.486$ ,  $p = .015$ ;  $t(118) = 4.094$ ,  $p < .001$ )(see Table 9).

Table 8

*Descriptive Statistics for Main Variables Across Depression Diagnosis Groups*

Variable	Depression		Mean	Std.	Std. Error
	Diagnosis	N		Deviation	Mean
Total Depression Score	no depression	39	21.87	6.771	1.084
	depression	81	41.53	9.748	1.083
Life Stress	no depression	39	-.1348	.75608	.12107
	depression	81	.1831	.87508	.09723
Family Communication	no depression	39	2.9531	7.27065	1.16424
	depression	81	-2.3527	7.43063	.82563
Family Cohesion	no depression	39	1.7118	6.43256	1.03003
	depression	81	-1.4810	6.90077	.76675
Family Sociability	no depression	39	4.0382	6.87168	1.10035
	depression	81	-1.8801	7.66276	.85142

Table 9

*Independent Samples t-test for Equality of Means*

Independent Variable	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Depression Total <sup>b</sup>	-12.827	102.973	.000	-19.659	1.533	-22.699	-16.620
Life Stress <sup>a</sup>	-1.945	118	.054	-.31783	.16344	-.64150	.00583
Family Communication <sup>a</sup>	3.689	118	.000	5.30579	1.43828	2.45762	8.15397
Family Cohesion <sup>b</sup>	2.486	80.099	.015	3.19278	1.28409	.63742	5.74815
Family Sociability <sup>a</sup>	4.094	118	.000	5.91833	1.44563	3.05559	8.78107

Note. <sup>a</sup> Equal variances assumed. <sup>b</sup> Equal variances not assumed.

## CHAPTER 5

### Discussion

#### *Overview of Findings and Integration with Previous Research*

Further exploration of potential protective factors has been called for repeatedly by clinicians, researchers, and other professionals with a vested interest in our youth. Thus, the results of the present study build on existing research to improve our understanding of the role optimism, attributional style, and family environment play in determining depressive outcomes.

#### *Optimism and Attributional Style (Hypotheses 1a, 1b, & 1c)*

As hypothesized, the results of the current investigation demonstrated optimism was uniquely associated with depressive symptoms, after controlling for attributional style, life stress, and family environment factors (i.e., communication, cohesion, and sociability). That is, girls with higher levels of optimism, as determined by coding stories from the TAT, displayed less severe depressive symptoms. To date, few studies have specifically examined the effect of optimism on depression in a comparable sample – i.e., pre- and early adolescent girls. Previous research has shown, however, that optimism predicts lower levels of depression in other samples, including adult males (Scheier et al., 1989), college students (Hirsch et al., 2007), and adult females (Fontaine & Seal, 1997). Thus, the findings are in line with previous research and provide evidence of optimism as an important predictor of decreased depressive symptoms (Ahrens & Haaga, 1993; Andersson, 1996; Scheier et al., 1994; Sweetman et al., 1993).

Likewise, few if any previous studies have employed a similar methodology for assessing optimism as was used in the present investigation – i.e., coding narrative stories from the TAT for themes of positive expectations/outcomes. Currently, Scheier and Carver’s (1985) self-report questionnaire, the Life Orientation Test (LOT), is the most widely used measure of dispositional optimism (Burke et al., 2000). The problems inherent to this and all self-report measures, however, include the confounding of self-consciousness, social desirability, and cognitive bias (Ben-Porath, 2003; Viglione & Rivera, 2003). Thus, the use of self-reports make it difficult to evaluate whether optimists actually expect better outcomes or simply report expecting better outcomes. Furthermore, existing measures have lower reliabilities, and are arguably less developmentally appropriate, for youth (Chong et al., 2006; Lemola et al., 2010; Roberts et al., 1998; Soliday et al., 2004). In the present study, preliminary analyses indicated the developed coding system demonstrated high inter-rater reliability. The data also behaved as expected (rejection of the null hypothesis) and produced results consistent with previous research. Together these findings suggest projective measures may be a valid and reliable alternative to using self-report measures to assess optimism.

In regard to attributional style, as hypothesized, it was also uniquely associated with the amount of depressive symptoms, after controlling for optimism, life stress, and family environment factors (i.e., communication, cohesion, and sociability). That is, girls with a more negative attributional style had a higher amount of depressive symptoms. At the most basic level, this finding lends credence to the cognitive diathesis-stress model of depression and its assumption that individuals with negative attributional styles are more



vulnerable to depression than individuals with positive attributional styles (Abramson et al., 1978; Abramson et al., 1989). The confirmation of this hypothesis is also consistent with the results of Joiner and Wagner's (1995) meta-analytic review of studies that have examined the relation of attributional style and depression in children and adolescents. In their analysis, 13 out of 27 studies reviewed reported significant results suggesting that attributional style is strongly associated with levels of depression. Furthermore, the Cognitive Vulnerability Project (CVD Project), in particular, has provided a stream of both cross-sectional and prospective studies that have supported negative attributional style as a predictor of depression (Alloy & Abramson, 1999; Alloy et al., 2000).

The hypothesis that optimism would mediate the relationship between attributional style and levels of depression was not supported in this study. In the process of assessing optimism's effect on the relationship between attributional style and depression, it was determined that attributional style did not predict optimism. In fact, preliminary analyses showed that the two variables had little relationship with one another.

This finding was unexpected for several reasons. First, many theorists have commented on the conceptual link between optimism and a positive attributional style (Carver & Gaines, 1987; Scheier & Carver, 1987; Peterson & Bossio, 1991). The results of this study, however, suggest while both constructs have direct effects on levels of depression, each play distinct and separate roles in an individual's protection from or vulnerability for experiencing depressive symptoms. Furthermore, as part of the cognitive diathesis-stress model of depression, Abramson and colleagues (1978, 1989) have posited

that attributional style predicts pessimistic expectations, and expectations ultimately determine psychological outcomes. The findings of the current investigation, however, are in direct conflict with the literature that has provided support for the theory that expected outcomes of events are more important in the development of depression than the beliefs about their causes (Hawkins & Miller, 2003; Vaillant, 2003; Metalsky & Joiner, 1992). For example, Metalsky and Joiner (1992) demonstrated optimism partially mediated the interaction effects of attributions and stress on depressive symptoms in college students. Similarly, Fincham (2000) found that the relationship between attributions and marital satisfaction was mediated by individuals' expectations.

One possible explanation for the unexpected results may have to do with developmental variables associated with pre- and early adolescence. That is, although optimism and pessimism are hypothesized to develop early in life, historically, few studies have examined how and when these expectations emerge in children. Research has demonstrated, however, that middle childhood to early adolescence is an important time period in the development of an individual's attributional style (Nolen-Hoeksema et al., 1992; Turner & Cole, 1994). More specifically, several studies have shown that attributional style alone, and in conjunction with other variables (i.e., life stress), becomes more predictive of depressive symptoms with age (Nolen-Hoeksema et al., 1992; Turner & Cole, 1994).

#### *Life Stress and Attributional Style (Hypotheses 2a & 2b)*

The hypothesis that reported life stress would be uniquely associated with levels of depression after controlling for attributional style, optimism, and family environment

factors (communication, cohesion, and sociability) was not supported, regardless of methodology (i.e., mean quality of bad events versus total number of reported bad events). Follow up analyses were completed on the reported life stress data to determine if depressed girls report significantly more life stress than non-depressed girls in general. Again, contrary to expectations, depressed girls' reports of life stress failed to differ significantly from non-depressed girls'. Trends in the data, however, suggested that, on average, the girls with depression reported more life stress than the girls without a depressive diagnosis; and, the difference approached significance. Overall, the results indicate girls with higher levels of life stress did not necessarily display a greater number of depressive symptoms.

Within the context of the cognitive diathesis-stress models of depression, life stress is inextricably linked to depression and used to define cognitive vulnerability. That is, a depressotypic cognitive style is characterized by global and stable attributions following negative life events, catastrophizing the consequences of the negative events, and viewing the self as flawed following the occurrence of the negative life event (Abela, 2001; Abramson et al., 1989; Beck, 1987). The results of this study are not in line with this supposition; however, this is not particularly extraordinary as there is considerable inconsistency in the research on the relationship between life stress and depression (see Kessler, 1997, for review). That is not to say the theory or hypothesis is unsound. In a review of the literature on this subject, Hammen (2005) asserts that recent research utilizing sound methods of assessing stress have adequately established a robust correlation between negative life events and depression. Contrary results are primarily

due to developmental variables or a host of methodological problems (Evans et al., 2005; Hammen, 2005). Unfortunately, one of these is likely the explanation for the findings of the present study.

In his review of the research, Kessler (1997) indicated substantial variation in the estimated effects of life stress is dependent on whether scores are based on checklists or contextual measures. The current investigation relied upon a self-report checklist (i.e., LEC) as a measurement of life stress. The literature suggests there are two major obstacles to contend with when assessing life stress – i.e., 1) avoid confounding stress with depression due to negative bias, and 2) accurately accounting for individuals' subjective experience of stressful events – and generally checklists have been found to be moderated by both (Hammen, 2005; Kessler, 1997). Studies using more costly and time-consuming interview-based methods have been found to be superior to self-report methods in terms of detecting associations with depression (Spinhoven, 2011).

The hypothesis that attributional style would interact with life stress to predict depressive symptoms was not supported. As life stress did not demonstrate a statistically significant main effect on depressive symptomology in previous analyses, however, it was not particularly surprising that the interaction effect would also be non-significant in this study. Again, this finding is in direct conflict with cognitive diathesis-stress models of depression that posit a negative attributional style is a vulnerability factor that interacts with negative life events to contribute to the onset and maintenance of depression (Abramson et al., 1989).

It is important to note, however, not all studies have provided evidence in support of the cognitive diathesis-stress theory of depression. Several researchers have made note of the conflicting results emerging from studies examining the cognitive diathesis-stress model of depression with children and adolescents (Hammen, 2005; Joiner, 2000; Low et al., 2012). For instance, the findings of this study, with respect to attributional style, are inconsistent with the results of Joiner (2000), who found that attributional style moderated the relationship between negative life events and future depression in a clinical sample. Similarly, Hilsman and Garber (1995) found that children with a more negative attributional style reported higher levels of depressive symptoms after experiencing academic stress (i.e., bad grades) than did their peers with a more positive attributional style. Like these, the results from many studies have suggested that negative attributional style, in interaction with stress, is a predictor of depression (Abela, 2001; Abela & Seligman, 2000; Hankin et al., 2004; Hankin et al., 2005).

As mentioned previously, however, a comparable number of other studies have produced results that do not support a cognitive diathesis-stress model involving attributional style (Hammen, Adrian, & Hiroto, 1988; Nolen-Hoeksema et al., 1992; Spence, Sheffield, & Donovan, 2002; Turner & Cole, 1994). One possible explanation provided by developmental theorists (Nolen-Hoeksema et al., 1992) has been that negative cognitions emerge over time and that their relationship with depression becomes stronger with age. For example, in a longitudinal study of children in grades 3 through 8, attributional style alone and in conjunction with stress significantly predicted depressive symptoms in the older but not in the younger children (Nolen-Hoeksema et al., 1992).

Similarly, in a cross-sectional comparison of children in grades 4, 6, and 8, Turner and Cole (1994) found that negative cognitions contributed to the prediction of depressive symptoms for the oldest children, but not for the younger two groups. Thus, the relationship between the cognitive–stress interaction and depressive symptoms appears to become more significant from childhood to early adolescence.

Given the developmental factors associated with pre- and early adolescence, and the marked variation in methodology used across different studies, such as sample size, brief versus chronic stressors, and measures used to assess cognitive styles and life events, it becomes less surprising to find such variation in results.

*Life Stress and Family Environmental Factors (Hypothesis 3a and 3b)*

The hypothesis that reports of family environment, specifically communication, cohesion, and sociability, would predict levels of depression was partially supported. Out of the three family environment variables included in the analysis, sociability was the only domain uniquely associated with levels of depression. That is, girls who reported that their families engaged in more social/recreational activities displayed lower levels of depression.

With regard to the significance of sociability, the findings are consistent with the results from Stark et al's (1990) study on depressed and/or anxious children and their mothers. They found that children in the control group perceived their family to be significantly more involved in social/recreational activities than their depressed and/or anxious counterparts did. Stark et al. posited this difference may be related to the reinforcement obtained by family members through participation in pleasurable activities

of a social nature and the distraction from daily stresses they provide. These findings are important for several reasons. Family factors in general are arguably the most frequently studied predictors of youth outcomes (Beam et al., 2002); however, little research has been done regarding family involvement in social/recreational activities. Thus, the results of this investigation provide evidence that this particular family environment factor should be examined further as a possible moderator of depressive outcomes; and, future research should explore the usefulness of including scheduled family activities as part of preventative interventions or treatment for depression.

Based on the results of the main analyses, family communication and cohesion were not uniquely associated with levels of depression. Follow up analyses were then completed using the family environment data to determine if depressed girls report significantly less cohesion and communication within their families than non-depressed girls. The results indicated depressed girls' reports of family cohesion and communication differed significantly from non-depressed girls.' On average, the girls without a depressive disorder reported their families are more cohesive and have more positive communication styles than the girls with depression.

In general, these findings are in line with previous research that indicates families of children with reported depressive symptoms are characterized by less cohesion and more negative patterns of communication (Cook et al., 1990; Fenrich et al., 1990; Stark et al., 1990; Stein et al., 2000). In Cook et al.'s (1990) study, parents of depressed children were observed to respond to positive behaviors from their child with negative behaviors such as ignoring, disapproval, and criticism. Essentially, these children are receiving the

message that regardless of their behavior, they will not receive parental affirmation or support. Not only would this rejection likely lead to feelings of helplessness or hopelessness (Jaenicke et al., 1987), but parent modeling may influence their communication style and social skills. This is consistent with McFarlane and colleagues' (1994) finding that depressed adolescents with poor relationships with their parents have been found to be more likely to also have poor peer relationships than depressed adolescents with more open, supportive, and cohesive parent-child relationships.

The hypothesis that reports of family environment would moderate the effect of life stress on levels of depression was not supported. Given life stress did not demonstrate a statistically significant main effect on depressive symptomology, nor did the family environment variables of communication and cohesion in main analyses, it is not surprising that the interaction effect was also non-significant.

It is disappointing that no interaction effects were found in the present study for several reasons. First, there is little empirical data on the stress-moderating effects of children's family environment on depressive outcomes. Second, the few studies that have examined the moderating effects of family environment on the relationship between life stress and psychological well-being have been inconsistent in their findings. For example, in regard to depression, Klein and Forehand (2000) found that high levels of family cohesion and supportive mother-child relationships protected against the development of symptoms. More recently, Gonzalez-Pinto et al. (2011) determined positive family environments had a significant protective effect for individuals with a family history of psychosis. In contrast, Burt, Cohen, Bjorck (1988) found that certain family environment



variables (i.e., high cohesion and expressiveness) actually exacerbated the effects of stress at times. They speculated that children with less cohesive households become accustomed to stress, and are therefore better able to cope when negative life events occur. Overall, these results suggest further research is necessary to understand the complex relationships between family environment, life stress, and depressive outcomes in youth.

### *Limitations*

There are a number of limitations that should be considered when interpreting the results of the current study. First, a potential limitation was that the sample included data from only 39 girls without a depressive disorder. This is compared to 81 girls who were diagnosed with a depressive disorder. Besides the simple fact this made examining possible protective factors against depression more difficult as two thirds of the sample were already depressed, it limited the data analyses used in the present study. Thus, increasing the number of non-depressed participants may result in more significant findings regarding the various independent variables effects on levels of depression, particularly moderating effects.

A second limitation is that the study is specific to pre- and early adolescent girls. As a result, gender differences could not be examined. Furthermore, conclusions cannot be generalized to boys or to girls who are younger than 9 and older than 14. The age limitation is also an advantage of the study, however, as early adolescence appears to be an important time in the development of depression (Saluja et al., 2004) and few studies have examined this developmental period.

Another limitation of the present study was the reliance on self-report measures, especially to assess family environment and life stress. Again, given that the majority of the participants in this sample were depressed when the data was collected, one must consider the implications of this for their responses on the self-report measures. That is, cognitive distortions are associated with depression, thereby creating the potential for negative bias. For example, in a study completed by Pavlidis & McCauley (2001), depressed adolescents reported having poorer maternal relationships than externalizing and non-clinical adolescents; however, this difference was not substantiated by observational data. Thus, it is possible the girls in this study diagnosed with a depressive disorder interpreted their family environments to be more negative than they actually are. Furthermore, the use of a self-report measure of life stress makes the data vulnerable not only to negative bias but also to recall (Ben-Porath, 2003; Hammen, 2005).

A fourth limitation is the use of the LEC as a measure of life stress in this study. Besides the problems inherent to a self-report measure, the LEC only addresses life events that have occurred within the past 12 months. Research, however, has found negative events have long-term effects on the onset of psychiatric disorders in children and adolescents (Goodyer, Kolvin, Gatzanis, 1987). In fact, Seligman (1991) proposed that severe loss or trauma before the age of 8 is a major source of influence on outcomes, and negative life events were found to predict depression across a five year span (Nolen-Hoekesma et al., 1992). It is possible adverse life events occurring earlier than the 12 months assessed in this study may have had a significant effect on the development of depression. Furthermore, only 5 out of the 41 items on the LEC specifically addresses

peer-related stressors. Given the importance of the peer group to adolescents (e.g. Compas & Wagner, 1991), the inclusion of a measure of interpersonal stress may reveal more significant results regarding the effects of life stress on levels of depression, and elucidate the nature of the relationships between life stress, attributional style, family environment and depression.

Finally, the current study is based on cross sectional data, and causal inferences cannot be made. Longitudinal data might delineate the causal pathways between life stress, optimism, family environment, attributional style and depression. For example, few studies have adequately explored the developmental origins or antecedents of optimism and attributional style. In this case, longitudinal data would be particularly helpful. Further exploration of the current construct of optimism would also be possible with longitudinal data. That is, according to Carver and Scheier's (1985) definition, dispositional optimism is a stable characteristic that individual's display consistently across time and context. While stories on the TAT are thought to be able to reveal information regarding more stable character traits (e.g., life view, self-concept, and characteristic coping styles; Gieser & Stein, 1999), additional data points could substantiate Carver and Scheier's construct of optimism and/or confirm the validity of using the TAT as a measure of optimism.

### *Implications*

The results of the current study have important implications regarding our understanding of the role optimism, family environment, and attributions play in the development of depressive symptoms in pre- and early adolescent girls. The first set of findings from this

study suggests optimism and attributional style are distinct, unrelated constructs that independently predict depressive symptoms. That is, higher levels of optimism and more positive attributional styles predicted lower levels of depressive symptoms; however, optimism was not related to attributional style, and thus, did not mediate the relationship between attributions and depression. These results provide additional information regarding the nature of attributional style in relation to optimism and lend credence to the currently accepted models of these positive personality constructs as described by Peterson and Seligman (1984) and Carver and Scheier (1985). Furthermore, these findings have implications for preventative interventions and suggest that, in addition to enhancing attributional style, it is important that attention is paid to optimism as a component of programs designed to prevent depression in pre- and early adolescent girls.

The lack of a relationship between life stress and depression is significant, in that it is contrary to a substantial body of research. That is, life stress has been investigated by depression researchers for decades and is currently used to define cognitive vulnerability in cognitive diathesis-stress models of depression. Further research is definitely warranted; and, in light of these results, future studies might consider making the following adjustments: 1) use interview-based measures of life stress that are more objective, but still capable of evaluating the severity of events; and, 2) include a measure or more individual items that assess specific, and developmentally relevant, stressors (e.g., peer relationships or school-related stress). Once main effects of life stress on depressive symptomology is established, future studies could then more accurately

examine the interaction of life stress with the protective factors proposed in this study (i.e., attributional style and family environment).

Another important implication of the current study is the apparent importance of families' social/recreational activity. This variable has been largely unexamined in previous research; however, in the current study it was found to be a strong predictor of depressive symptoms in pre- and early adolescent girls, even after controlling for other family environment variables (i.e., communication and cohesion). This finding is promising in that it suggests an accessible and modifiable target for prevention of depression in pre- and early adolescent girls - social/recreational activity in the family. Given the strength of the relationship, it is likely that an increase in the number of social/recreational activities families participate in will be associated with a decrease or resistance to depressive symptoms in youth. Future research should explore the efficacy of including scheduled family activities as part of preventative interventions or treatment for depression.

### *Conclusions*

There has been a call to move away from simple demonstration of effects to examining more complex interrelationships between depression and risk/protective factors. Thus, the aim of the current study was to further examine specific individual and family factors that have been consistently linked to depressive outcomes. More specifically, this investigation sought to explore optimism, attributional style, and family environment as potential mediators or moderators of the established relationship between negative life events and depression.

First, the results of this study suggested higher levels of optimism and more positive attributional styles independently predicted lower levels of depressive symptoms; however, optimism did not impact the relationship between attributional style and depression. In general, this was consistent with previous studies and elucidated the nature of attributional style in relation to optimism. Furthermore, the results confirmed the currently accepted models of these constructs and suggest that, in addition to enhancing attributional style, it is important that attention is paid to optimism as a component of programs designed to prevent/treat depression in pre- and early adolescent girls.

The results of the present study also demonstrated that girls who reported their families engage in more social/recreational activities had lower levels of depressive symptoms. This result was significant given the relatively small body of literature that currently exists related to family environment and, more importantly, that it suggests an accessible and modifiable target for prevention of depression in pre- and early adolescent girls.

Finally, the finding that increased life stress was not associated with increased levels of depression was unusual and disappointing considering the substantial body of research demonstrating the opposite. Further research is necessary in this area; and the results of this study provide information regarding possible improvements in methodology, particularly the use of a more objective, developmentally relevant measure of life stress.

Future research should aim to replicate and advance current findings by continuing to explore malleable protective factors for depression. It is imperative that identified individual and environmental protective factors then be integrated into preventative procedures/interventions.

## Appendices

### *Appendix A*

#### *DSM-IVR Criteria for Major Depressive Disorder*

- A. Presence of one or more Major Depressive Episodes (to be considered separate episodes, there must be an interval of two consecutive months in which criteria are not met for a Major Depressive Episode).
- B. Major Depressive Episode is not better accounted for by Schizoaffective Disorder and is not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.
- C. There has never been a Manic Episode, Mixed Episode, or Hypomanic Episode.

#### *DSM-IVR Criteria for Major Depressive Episode*

- A. Five (or more) of the following symptoms must be present during the same two-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 (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). **Note: in children and adolescents, can be irritable mood.**
  - 2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).
  - 3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease 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 (observable by others, not merely subjective feelings of restlessness or being slowed down).
  - 6. Fatigue or loss of energy nearly every day.
  - 7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
  - 8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).



9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.
- B. The symptoms do not meet criteria for a Mixed Episode.
  - C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
  - D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).
  - E. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than two months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.

## Appendix B

### *DSM-IVR Criteria for Dysthymic Disorder*

- A. Depressed mood for most of the day, for more days than not, as indicated either by subjective account or observation by others, for at least two years. **Note: In children and adolescents, mood can be irritable and duration must be at least one year.**
- B. Presence, while depressed, of two (or more) of the following:
  - 1. Poor appetite or overeating
  - 2. Insomnia or hypersomnia
  - 3. Low energy or fatigue
  - 4. Low self-esteem
  - 5. Poor concentration or difficulty making decisions
  - 6. Feelings of hopelessness
- C. During the two-year period (one year for children or adolescents) of the disturbance, the person has never been without the symptoms in Criteria A and B for more than two months at a time.
- D. No Major Depressive Episode has been present during the first two years of the disturbance.
- E. There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode, and criteria have never been met for Cyclothymic Disorder.
- F. The disturbance does not occur exclusively during the course of a chronic Psychotic Disorder, such as Schizophrenia or Delusional Disorder.
- G. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).
- H. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

## Appendix C

### *DSM-IVR Criteria for Depressive Disorder Not Otherwise Specified*

- A. A mood disturbance, defined as follows:
1. At least two (but less than five) of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (a) or (b):
    - a. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). **Note: in children and adolescents, can be irritable mood.**
    - b. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).
    - c. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. **Note: in children, consider failure to make expected weight gains.**
    - d. Insomnia or hypersomnia nearly every day.
    - e. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
    - f. Fatigue or loss of energy nearly every day.
    - g. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
    - h. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
    - i. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.
  2. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
  3. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).
  4. The symptoms are not better accounted for by Bereavement.
- B. There has never been a Major Depressive Episode, and criteria are not met for Dysthymic Disorder.
- C. There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode, and criteria are not met for Cyclothymic Disorder.

D. The mood disturbance does not occur exclusively during Schizophrenia, Schizophreniform Disorder, Schizoaffective Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.

*Appendix D: The Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS-IVR)*

(Depressive Disorders Section)

**#DEPRESSED MOOD**

NOTE: If parent only reports child looks sad but no other characteristics of depressed mood, rate DEPRESSED MOOD no greater than a 3 if sad look is persistent all day.

- How have you been feeling?
- Have you felt sad, blue, moody, down in the dumps, very unhappy, empty, like crying? (ASK EACH ONE.)
- Have you had any other bad feelings?
- Do you have a bad feeling all the time that you can't get rid of?
- Have you cried or been tearful?
- Do you feel ( ) all the time, most of the time, some of the time? (Percent of awake time: summation of % of all labels if they do not occur simultaneously.)
- Does it come and go? How frequently?
  - Every day?
- How long does it last? All day?
- Does it get so bad you feel wretched and miserable?
- Can you stand it? What do you do when you can't stand it?
- Do you feel sad when mother is away? IF SEPARATION FROM MOTHER IS GIVEN AS A CAUSE: Do you feel ( ) when mother is with you? Do you feel a little better or is the feeling totally gone? Can other people tell when you are sad? How can they tell? Do you look different?

0 -- No info.

1 -- Not at all or less.

2 -- Slight: occasionally has dysphoric mood at least once a week for more than one hour.

3 -- Mild: sometimes experiences dysphoric mood at least 3 times week for at least 3 hours total time each day. Looks sad all the time.

4 -- Moderate: often feels "depressed" (including weekends) or over 50% of awake time.

5 -- Severe: most of the time feels depressed, and it is almost painful; feels wretched and miserable.

6 -- Extreme: almost all of the time feels extremely depressed which "I can't stand."

7 -- Pervasive: constant unrelieved, extremely painful feelings of depression.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6 7

## #IRRITABILITY &

### ANGER (Subjective

### feeling)

Subjective feeling of bad temper, short tempered, crankiness or annoyance. RATE THE INTENSITY AND DURATION OF THE SUBJECTIVE FEELING HERE.

NOTE: If patient has had clear episodes of mania or hypo- mania during which he was irritable, do not rate such irritability here. This can be clarified when assessing manic sx's. on pg. 35, and rating should be changed accordingly.

- Do you get annoyed and irritated, or cranky at little things? What kinds of things?
- Have you been feeling mad or angry also (even if you don't show it)? How angry?
- More than before?
- What kinds of things make you feel angry?
- Do you lose your temper? With your family? Your friends? Who else? At school? What happens?
- Has anybody said anything about it?
- How much of the time do you feel angry, irritable, or cranky?
- When you get mad, what do you think about?
- Do you ever get so angry that you think about hurting someone or wish they would drop dead? • Who? Do you have a plan? How?

0 -- No info.

1 -- Not at all.

2 -- Slight: occasionally irritable, minimal clinical

3 -- Mild: sometimes (at least 3 times/wk. for at least 3 hrs./day) feels definitely more angry, irritable than called for by the situation, but never very intense. No homicidal thoughts

4 -- Moderate: often feels irritable/angry or over 50% of awake time.

5 -- Severe: most of the time child is aware of feeling very irritable or quite angry, or has frequent wishes other would die or thoughts of hurting others.

6 -- Extreme: almost all of the time feels extremely irritable or angry, to the point he "can't stand it". Can't be sure he can control himself from harming others in an explosion of temper.

7—Number 6 plus homicidal plan.

SKIP TO EXCESSIVE GUILT, IF DEPRESSED MOOD IS ALSO < 2.

WHAT ABOUT DURING THE LAST WEEK? LAST WEEK: 0 1 2 3 4 5

6 7

### **#DIURNAL MOOD VARIATION**

(Depression) Extent to which there is a persistent (at least 1 week) worsening of mood during the morning hours compared to any other time of day. The worst period should be at least 2 hours. Ask about weekends, too. For younger children, questioning can be referred to large "natural" blocks of time, e.g., from breakfast to lunch, all morning at school, from dinner to bedtime, a whole TV program, etc. **DO NOT RATE POSITIVE IF IT GETS WORSE ONLY AT BED TIME, SCHOOL TIME, OR OTHER SEPARATION TIMES.** NOTE: Worsening only refers to dysphoric mood and not to anxiety or environmental events.

- Do you feel more ( ) in the morning when you wake up, in the afternoon, or in the evening? How much worse? How long does it last?
- When you feel worse, is it a different feeling or just more of the same?
- Does this happen every day, after you get home from school, after dinner?
- When do you start feeling better?

#### **#Depressed Mood (Worse in morning)**

0 -- No info.

1 -- No difference.

2 -- Slight: occasionally a little worse for less than 2 hours.

3 -- Mild/Moderate: often mildly worse for at least 2 hours.

4 -- Severe/extreme: almost all the time considerably worse for at least 2 hours.

#### **#Depressed Mood (Worse in afternoon/evening)**

0 -- No info.

1 -- No difference.

2 -- Slight: occasionally a little worse for less than 2 hours.

3 -- Mild/Moderate: often mildly worse for at least 2 hours.

4 -- Severe/extreme: almost all the time considerably worse for at least 2

hours. WHAT ABOUT DURING THE LAST WEEK: LAST WEEK: 0 1 2 3

4

### **DIURNAL MOOD VARIATION**

(Irritability)

Irritable Mood (Worse in morning)

0 -- No info.

1 -- No difference.

2 -- Slight: occasionally a little worse for less than 2 hours.

3 -- Mild/Moderate: often mildly worse for at least 2 hours.

4 -- Severe/extreme: almost all the time considerably worse for at least 2 hours.

Irritable Mood (Worse in afternoon/evening)

- 0 -- No info. 1 -- No difference.  
 2 -- Slight: occasionally a little worse for less than 2 hours.  
 3 -- Mild/Moderate: often mildly worse for at least 2 hours.  
 4 -- Severe/extreme: almost all the time considerably worse for at least 2

hours. WHAT ABOUT DURING THE LAST WEEK: LAST WEEK: 0 1 2 3

4

### **#EXCESSIVE OR INAPPROPRIATE GUILT**

...and self reproach, for things done or not done, including delusions of guilt. Feelings of guilt about parental separation and/or divorce are normative and should not lead, by and of themselves, to a positive guilt rating in this score, except if they persist after repeated appropriate discussions with the parent(s). RATE ACCORDING TO PROPORTION BETWEEN INTENSITY OF GUILT FEELING OR SEVERITY OF PUNISHMENT CHILD THINKS HE DESERVES AND THE ACTUAL MISDEEDS. For many young children, it is preferable to give a concrete example such as: "I am going to tell you about three children, and you tell me which one is most like you. The first is a child who does something wrong, then feels bad about it, goes and apologizes to the person, the apologies are accepted, and he just forgets about it from then on. The second child is like the first but, after his apologies are accepted, he just cannot forget about what he had done and continues to feel bad about it for one or two weeks. The third is a child who has not done much wrong, but who feels guilty for all kinds of things which are really not his fault. Which one of these three children is like you?" It is also useful to double check the child's understanding of the questions by asking him to give an example, like the last time he felt guilty, "like the child in the story".

### **#GUILT**

When people say or do things that are good, they usually feel good; when they say or do something bad, they feel guilty about it.

- Do you feel guilty bad about anything you have done? What happened?
- How frequently do you think about it?
- When did you do that?
- What does it mean if I said I feel guilty about something?
- How much of the time do you feel like this?
- What kind of things do you feel guilty about?
- Do you feel guilty about things you have not done, or are not actually your fault?
- Do you feel guilty about things your parent(s) or others do?
- Do you feel you cause bad things to happen?
- Do you think you should be punished for this
- What kind of punishment do you feel you deserve?
- Do you think it's enough?



- 0 -- No info.  
 1 -- Not at all.  
 2 -- Slight: occasional feeling of mild self-blame, but no persistent ruminations beyond reasonable time.  
 3 -- Mild: sometimes feels guilty about past actions, the significance of which he exaggerates, and which most children would have forgotten.  
 4 -- Moderate: often feels guilt which he cannot explain or about things which objectively are not his fault.  
 5 -- Severe: most of the time has feelings of intense guilt, or generalized feelings of self-blame for most situations. Feels he should be punished more.  
 6 -- Extreme: almost all the time has agonizing feelings of guilt, or delusions of guilt, or hallucinations in which he is accused of having done something terrible.

NOTE: THIS RATING MIGHT BE CHANGED FROM 4 OR 5, TO 6 AT THE TIME OF ASSESSING DELUSIONS.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

#### # ANHEDONIA/LOSS OF INTEREST AND LOSS OF PLEASURE

The following 2 items assess ANHEDONIA/LOSS OF INTEREST and LOSS OF PLEASURE. These items are not mutually exclusive and may coexist. Boredom is a term all children understand and which frequently refers to loss of ability to enjoy (anhedonia) or to loss of interest or both. Clarify how child uses "boredom". Use as a screening question for

both items and, if positive, further inquiry should provide ratings for each item

#### **BOREDOM**

##### **(Screening questions)**

- What are the things you used to do for fun? (Get examples: sports, friends, favorite games, school subjects, outings, family activities, favorite TV programs, computer or video games, music, dancing, playing alone, reading, hanging out, etc.)
- Do you feel bored a lot of the time?
- Are you bored because you don't enjoy things or because you are not interested in even starting them?
- Do you feel bored when you think about doing these things you used to do before you began feeling (sad, etc.)?
- Are you so bored you stop doing these things? 196
- Are you just not satisfied with your life? (Ask to describe why.)

#### #ANHEDONIA/LOSS OF INTEREST

Partial or complete (pervasive) loss of ability to contemplate, to anticipate, to be

interested, to have desire, to pursue interests/activities which have been attractive to the child. The child does not desire to engage in activities nor initiate them. There is a lack of enthusiasm and anticipatory excitement, not caring about, apathy, lack of motivation in the contemplation or participation of doing things they would normally look forward to. **NOTE:** Social withdrawal (loss of social interest) only concomitant is usually rated here.

- What do you usually like to do?
- Since you've been (depressed, sad...) do you look forward to doing these things?
- Do you have to push yourself to do your favorite activities?
- Do they interest you?
- Do you get excited or enthusiastic about doing them? Why not?
- Have you stopped trying to do things that you used to because they just don't interest you anymore?
- How much of your interest have you lost?
- Are you less sexually interested than you used to be [adolescents]?

0 -- No info

1 -- All activities as interesting, or more so.

2 -- Slight: occasionally 1 or 2 activities may be less interesting than before.

3 -- Mild: sometimes several activities less interesting, or apathetic. Loss of interest over 50% of the time.

4 -- Moderate: often most activities much less interesting. Apathetic 75% of time.

5 -- Severe: most of the time almost all activities much less interesting. Apathetic 90% of the time.

6 -- Extreme: almost all the time totally unable to experience interest. Total apathy.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

### **#ANHEDONIA/LOSS OF PLEASURE**

Partial or complete (pervasive) loss of ability to obtain pleasure, enjoyment, or to have fun during participation in activities which have been attractive to the child. The child may feel they are just going through the motions. It also refers to basic pleasures like those resulting from socializing and, in adolescents, sexual activity. Do not confuse with lack of opportunity to do things, which may be due to loss of interest or to excessive parental restrictions.

Two comparisons should be made in each assessment: enjoyment as compared to that of peers, and enjoyment as compared to that of child when not depressed. The second is not possible in episodes of long duration because normally children's preferences change with age. **RATE SEVERITY BY DETERMINING THE NUMBER OF ACTIVITIES WHICH ARE LESS PLEASURABLE TO THE CHILD AND BY THE DEGREE OF LOSS OF ABILITY TO ENJOY.** Ratings of 5 or 6 are considered **PERVASIVE ANHEDONIA.** **NOTE: THIS ITEM DOES NOT REFER TO INABILITY TO ENGAGE IN ACTIVITIES (loss of ability to concentrate on reading, games, TV or school subjects) NOR INABILITY TO CONTEMPLATE**

ENJOYMENT (loss of interest).

- Since you've been feeling \_\_\_\_\_, have you noticed that things are just not as much fun as before? • Do you have as much pleasure doing things as you used to before you began feeling (sad, etc.)?
- Do you enjoy them a little less? Much less? Not at all?
- Do you have as much fun as your friends?
- How much of your pleasure have you lost? Just a little, pretty much, very much?
- Do you start to do things that interest you but then find you are not enjoying them as much or are just going through the motions?
- [For adolescents] Do you enjoy sex as much as you used to?

0 -- No info.

1 -- All activities as pleasurable, or more so.

2 -- Slight: occasionally 1 or 2 activities may be less pleasurable than before or than his friends.

3 -- Mild: sometimes several activities less pleasurable. Over 50% of time activities are less pleasurable.

4 -- Moderate: often activities are much less pleasurable. No pleasure 75% of time during activities.

5 -- Severe: most of the time almost all activities much less pleasurable. No pleasure 90% of time during activities.

6 -- Extreme: almost all the time totally unable to experience pleasures ("I don't enjoy anything").

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

### **#FATIGUE, LACK OF ENERGY, TIREDNESS**

This is a subjective feeling. Distinguish between child not having energy to do what he/she wants to do versus doing unpleasant chores (e.g., cleaning room, washing dishes, etc.). RATE PRESENT EVEN IF SUBJECT FEELS IT IS SECONDARY TO INSOMNIA. NOTE: Do not confuse with loss of interest.

- Have you been feeling tired?
- Do you feel tired:
- All of the time?
- Most of the time?
- Some of the time?
- When did you start feeling so tired?
- Was it after you started feeling ( )? -Do you have to rest? How much?
- Is it very hard to get going because you're tired and have no energy?
- Do you feel like this all the time?
- Do you feel too pooped to do anything, even things you like to do?

0 -- No info.

1 --Not at all or more energy than usual.

- 2 -- Slight: occasionally may be less energetic than usual.
- 3 -- Mild: sometimes definitely more tired or less energetic than usual.
- 4 -- Moderate: often feels tired, without energy. May have to rest (not sleep) during the day.
- 5 -- Severe: most of the time feels very tired or exhausted or may spend a great deal of time resting (not sleeping).
- 6 -- Extreme: almost all the time constant feeling of extreme fatigue or lack of energy, or spends most of the time resting.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

### **#DIURNAL VARIATION OF FATIGUE**

Extent to which the child is more fatigued in the AM or PM, for at least 2 hours.

- When do you feel more tired?
- In the morning?
- In the afternoon/evening? NOTE: If child answers yes to either, check that he is not just referring to the transition period between getting up and showering and/or breakfast, or between bedtime and falling asleep.

### **#Worse in the morning**

- 0 -- No info.
- 1 -- No difference
- 2 -- Slight: occasionally a little worse.
- 3 -- Mild/Moderate: often somewhat worse for at least 2 hours.
- 4 -- Severe/Extreme: most of the time, considerable worse for at least 2 hours

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4

Worse in the afternoon/evening

- 0 -- No info.
- 1 -- No difference
- 2 -- Slight: occasionally a little worse.
- 3 -- Mild/Moderate: often somewhat worse for at least 2 hours.
- 4 -- Severe/Extreme: most of the time, considerable worse for at least 2 hours

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4

### **#DIFFICULTY CONCENTRATING/SLOWED THINKING**

Complaints (or evidence from teacher) of diminished ability to think or concentrate.

Child may seem now to be indecisive or thinking is slowed down. School information may be crucial to proper assessment of this item. **DISTINGUISH FROM LOSS OF INTEREST OR MOTIVATION.** This item is also used to diagnose ADHD. Inquire if concentration difficulty is longstanding (before 7 years old) or only since depressed.

- Do you know what it means to concentrate?
- Sometimes children have a lot of trouble paying attention even when they really try. For instance, they have to read a page from a book, and can't keep their minds on it or they just can't do it without daydreaming. Have you been having this kind of difficulty?
- When did it begin?
- Is your thinking slowed down?
- If you push yourself very hard, can you concentrate?
- Does it take longer to do your homework?
- When you try to concentrate on something, does your mind drift off to other things?
- Can you pay attention in school?
- Can you pay attention when you want to do something you like, or do you find it hard even then?
- Do you forget about things a lot more?
- What things can you pay attention to?
- Is it that you cannot concentrate? Or is it that you are not interested, or don't care? 200
- Did you have this difficulty before?
- When did it start?

0 -- No info.

1 -- Not at all.

2 -- Slight: occasionally, but of doubtful clinical significance.

3 -- Mild: sometimes aware of limited attention span but causes no difficulties other than increased effort in school work; is indecisive.

4 -- Moderate: often has marked periods of difficulty; interferes with school work; forgetful. Others may notice.

5 -- Severe: most of the time interferes with school work and most other activities; can't concentrate even when he wants to. Very forgetful; can't make decisions.

6 -- Extreme: Almost all the time unable to do school work or execute social tasks. Profound inability to concentrate.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

INATTENTION/DIFFICULTY CONCENTRATING WHEN NOT DEPRESSED

0 -- No info.

1 -- Only when depressed or WORSE if depressed.

2 -- All the time.

#### **#PSYCHOMOTOR AGITATION**

Includes inability to sit still, pacing, fidgeting, repetitive hand or finger movement, wringing hands, pulling at clothes, shouting and complaining, and non-stop talking. To be rated positive, such activities should not be limited to isolated periods when discussing something upsetting. To arrive at your rating, take into account your observations during the interview. Do not include subjective feelings of tension or restlessness which are often incorrectly called agitation. NOTE: First score the symptoms listed to right, then

**OVERALL SEVERITY.**

- Since you have not felt good, are there times when you can't sit still, or you have to keep moving and can't stop?
- Do you walk up and down?
- Do you wring your hands (demonstrate)?
- Do you pull or rub on your clothes, hair, skin or other things?
- Do you shout and complain?
- Do people tell you not to talk so much?
- What else do you do?
- Did you do this before you began to feel (sad)?
- When you do these things, is it that you are feeling (sad) or do you feel high or great?

0 -- No info.

1 -- Not at all.

2 -- Slight: occasionally.

3 -- Mild/Moderate: sometimes/often.

4 -- Severe/Extreme: most of the time/almost all the time. Manifestations included:

Unable to sit still .....	01234
Pacing.....	01234
Hand wringing.....	01234
Pulling or rubbing on hair, clothing, skin .....	01234
Shouting, complaining .....	01234
Can't stop talking; talks on and on.....	01234

**#PSYCHOMOTOR AGITATION OVERALL SEVERITY**

0 -- No info.

1 -- Not at all.

2 -- Slight: occasionally increased activity which is of doubtful significance.

3 -- Mild: sometimes unable to sit quietly in a chair; fidgeting or pulling and/or rubbing.

4 -- Moderate: often shouts and complains, or marked inability to sit in class; always disruptive. 5 -- Severe: most of the time pacing, hand wringing, or very frequently shouts and complains. Increased activity both at home and at school.

6 -- Extreme: almost all the time constantly moving or pacing about, or nonstop talking. Agitated in all settings.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

**#PSYCHOMOTOR RETARDATION**

Visible, generalized slowing down of physical movements, reactions, and speech. It includes long speech latencies. Make certain that slowing down actually occurred and is not merely a subjective feeling. To arrive at your rating, take into account your observations during the interview. NOTE: First score the symptoms listed to right, then OVERALL SEVERITY.

- Since you started feeling ( ), have you noticed that you can't move as fast as before?
- Have you found it hard to start talking?
- Has your speech slowed down?
- Do you talk a lot less than before?
- Are you laying around like a zombie, staring off into space?
- Have you felt like you are moving in slow motion?
- Have other people noticed it?

0 -- No info.

1 -- Not at all.

2 -- Slight: occasionally.

3 -- Mild/Moderate: sometimes/often.

4 -- Severe/Extreme: most of the time/almost all the time.

Manifestations included:

Slowed speech.....01234

Increased pauses before answering.....01234

Low or monotonous speech

.....01234 or markedly decreased

amount of speech.....01234

Slowed body movements .....01234

Depressive stupor.....01234

### #OVERALL SEVERITY

0 -- No info.

1 -- Not at all.

2 -- Slight: occasionally may be a little slower.

3 -- Mild: sometimes conversation is noticeably slowed but not strained, and/or slowed body movements.

4 -- Moderate: often conversation is strained, and/or moves very slowly.

5 -- Severe: most of the time conversation is difficult to maintain, and/or hardly moves at all.

6 -- Extreme: almost all the time conversation is impossible; mute and immobile most of the time (depressive stupor).

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

### #INSOMNIA

Sleep disorder including difficulty initiating and maintaining sleep once the individual has gone to bed. Does not include refusal to go to sleep when parents ask. Insomnia can occur with hypersomnia. Take into account the estimated number of hours slept and the subjective sense of lost sleep. Normally a 6-8 year old child should sleep about 10 hours; 9-12 years, 9 hours; 12-16 years, 8 hours. If subject has no need for sleep, score 1 and see pg. (41), DECREASED NEED FOR SLEEP. NOTE: First score symptoms listed to right, then OVERALL SEVERITY. Middle insomnia implies falling back to

sleep.

- What time do you normally go to sleep and wake up?
- Since you've been , have you had trouble falling or sleeping at the beginning of the night?
- How long does it take you to fall asleep? How frequently does this happen?
- Do you wake up in the middle of the night? How frequently?
- Any reason for it (urinating, nightmares)?
- At what time do you wake up in the morning?
- Is that earlier or later than usual?
- Do you wake up before you want or have to get up? Or before your mother calls you?
- For how long have you been having difficulty sleeping?
- Are you having this trouble: Every night? Almost every night? Sometimes? Only once in a while?

#### RATINGS

- 0 -- No info.
- 1 -- Not at all.
- 2 -- Slight: occasionally exhibits in last year.
- 3 -- Mild/Moderate: often has manifestation twice weekly.
- 4 -- Severe/Extreme: almost nightly has manifestation.

Manifestations included:

- Initial insomnia: .....01234
- Middle insomnia: .....01234
- Terminal insomnia: .....01234
- Circadian reversal: .....01234
- Non-restorative sleep: .....01234

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

#### #INSOMNIA OVERALL SEVERITY

- 0 -- No Info.
- 1 -- Not at all, or feels no need for any sleep.
- 2 -- Slight: occasional difficulty (15 to less than 60 min. delay).
- 3 -- Mild: sometimes (at least 2 times a week) has some difficulty. At least 1 hour to fall asleep, or bedtime delayed for 1 hour. No middle or terminal insomnia.
- 4 -- Moderate: often has considerable difficulty. Either at least 2 hours initial insomnia or any middle or terminal insomnia, unrelated to urination, lasting from 1/2 to 1 hour total.
- 5 -- Severe: most of the time has great difficulty. Either at least 3 hours initial insomnia or any middle or terminal insomnia lasting over one hour total.
- 6 -- Extreme: almost all the time claims he can't sleep; feels exhausted the next day.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6



**#HYPERMOMNIA** Sleeping more than usual in 24-hour period. Inquire about hypersomnia even if insomnia was rated 3-6. Do not rate positive if daytime sleep time plus nighttime true sleep time = norm (compensatory naps). Parent(s) may say that, if child was not wakened, he/she would regularly sleep >1 1/2 hours and he/she actually does so every time he is left on his own. This should be rated 3.

- Are you sleeping longer than usual?
- Do you go back to sleep after you wake up in the morning?
- When did you start sleeping longer than usual?
- Do you nap during the day? For how long?
- Did you used to take naps before?
- When did you start to take naps?
- How many hours did you used to sleep before you started to feel so (sad)?

0 -- No info.

1 -- Not at all.

2 -- Slight: occasionally sleeps more than usual.

3 -- Mild: sometimes sleeps up to 2 hours more than usual, or regularly sleeps much longer if not forced out of bed by parent or others.

4 -- Moderate: often sleeps up to 3 hours more than usual.

5 -- Severe: most of the time sleeps up to 4 hours more than usual.

6 -- Extreme: almost all the time sleeps 4 or more hours than usual.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4

**#ANOREXIA** Loss of appetite compared to usual style. Make sure to differentiate between decrease food intake because of dieting versus loss of appetite. RATE HERE ONLY LOSS OF APPETITE. • Since you've been feeling , have you noticed a change in your appetite? • Are you eating more or less than before? • When did you begin to lose your appetite? •

Do you have to force yourself to eat? • When was the last time you felt hungry? • Are you on a diet? • What kind of diet?

0 -- No info.

1 -- Not at all; normal or increased.

2 -- Slight: occasionally less hungry; decrease of questionable clinical significance.

3 -- Mild: sometimes aware of decreased appetite for no reason.

4 -- Moderate: often not hungry. 5 -- Severe: most of the time rarely feels hungry.

6 -- Extreme: almost never feels hungry.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

### **#INCREASED APPETITE**

As compared to usual. Inquire about this item even if Anorexia was rated 3-6.

- Have you been eating more than before since you've felt?
- Do you feel hungry all the time? Do you feel this way every day?

- Do you eat less than you would like to eat? Why?

0 -- No info.

1 -- Not at all.

2 -- Slight: occasionally eats more; increase of questionable clinical significance.

3 -- Mild: sometimes aware of increased appetite for no reason.

4 -- Moderate: often notes increased appetite.

5 -- Severe: most of the time is hungry but restrains self.

6 -- Extreme: almost all of the time is hungry; eats without restraint.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

### **#WEIGHT LOSS/FAILURE TO GAIN**

Total weight loss from usual weight since onset of the present episode (or maximum of 12 months). If possible, obtain recorded weights from old hospital charts or the child's pediatrician. Failure to gain adequate weight, qualifies as weight loss, or loss of percentile grouping over a 6-month period. Make sure weight loss is not from dieting. RATE THIS ITEM POSITIVE EVEN IF WEIGHT IS REGAINED OR BECOMES OVERWEIGHT.

- Have you lost any weight since you started feeling (sad)?
- How do you know?
- Do you find your clothes are looser now, or your belt needs tightening an extra notch?
- When was the last time you were weighed?
- How much did you weigh then?
- What about now (measure it)?

0 -- No info.

1 -- No weight loss: remains in same weight percentile.

2 -- Slight: weight loss up to 3 lbs.

3 -- Mild: weight loss more than 3 up to 6.5 lbs. or failure to gain > 3 lbs. in 6 months.

4 -- Moderate: weight loss more than 6.5 up to 10 lbs. or failure to maintain weight percentile.

5 -- Severe: weight loss more than 10 up to 13 lbs.

6 -- Extreme: weight loss greater than 13 lbs. or > 15% of body weight.

### **WEIGHT GAIN**

Total weight gain from usual weight during present episode (or the maximum in the last 12 months) not including gaining back weight previously lost or weight gained according to the child's usual percentile for weight.

- Have you gained any weight since you started feeling (sad)?
- How do you know?
- Have you had to buy new clothes because the old ones did not fit any longer?
- What was your last weight?

- When were you last weighed?

0 -- No info.

1 -- No weight gain (stays in same percentile).

2 -- Slight: weight gain under 3 lbs. or doubtful.

3 -- Mild: weight gain over his percentile more than 3 up to 6.5 lbs.

4 -- Moderate: weight gain over his percentile more than 6.5 up to 10 lbs.

5 -- Severe: weight gain over his percentile up to 13 lbs.

6 -- Extreme: weight gain over his percentile over 13 lbs. or 15% of body weight.

### **#SELF-PITY**

Negative self-evaluation and self-indulgent focusing on sorrows, problems or misfortunes, of past and present life situations. Feels regret, deep disappointment, fruitless longing, and/or sorrow for himself. Item refers to ideational content with subjective feelings. DIFFERENTIATE FROM HOPELESSNESS AND HELPLESSNESS (pg. 34) WHICH REFERS TO NEGATIVE EVALUATION OF ONE'S FUTURE SITUATIONS.

- Do you feel sorry for yourself because things have not turned out right for you, or you have not gotten what you wanted?

- Do you deserve more than you have?

- Do you think and feel like that just sometimes? Almost all the time? Occasionally? Often?

- Are other people luckier in their lives than you are? • What's happened that made you say this? • Do you feel you are not being helped by others or that no one cares for you?

0 -- No info.

1 -- Not at all.

2 -- Slight: occasionally thinks others are luckier.

3 -- Mild: sometimes thinks he is less fortunate than others and things do not go right for him.

4 -- Moderate: often thinks that life has been unfair to him and feels he deserves a better fate.

5 -- Severe: most of the time feels sorry for himself and thinks he's a victim of fate; sense of deep disappointment about life.

6 -- Extreme: almost all of the time pained by his disappointments or feels extremely sorry for himself; nothing ever goes right.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

**#NEGATIVE SELF-IMAGE/ LACK OF COMPETENCE** Includes worries, ideations and being overly concerned about feeling inadequate, inferior, like a failure and worthless. Self-deprecating and self-belittling. Worries what others will think of

his performance. RATE BOTH THE WORRY AND THE BELIEF OF INADEQUACY. RATE WITH DISREGARD FOR HOW "REALISTIC" THE NEGATIVE SELF EVALUATION IS.

- How do you feel about yourself?
- Are you down on yourself?
- Do you like yourself as a person?
- Do you ever worry about being ugly, or not as able to do thing as well as the other kids?
- Do you worry about not being as bright or as smart as other kids?
- Do you believe you can't do anything right? Is this a big worry?
- How frequently do you feel like this?

1 -- Not at all.

2 -- Slight: occasionally overly concerned about inadequacies and competence.

3 -- Mild: sometimes feels quite worried about being inadequate, or overly concerned about his perceived performance or lack of performance at school, in sports, or with friends.

4 -- Moderate: often feels so worried about inadequacies, feels like he'll always fail.

5 -- Severe: most of the time has frequent feelings of worthlessness; believes he can't do anything right. Occasionally hates himself.

6 -- Extreme: almost all the time has pervasive worry and belief of worthlessness or failure.

Says he hates himself.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

**#HOPELESSNESS AND HELPLESSNESS (DISCOURAGEMENT, PESSIMISM)** Negative outlook toward the future, regarding his life and his current problems. This item refers to ideational content and not to worries or anxieties about future. NOTE: Rate negative evaluation about past and current life situations under SELF-PITY.

- Do you feel you'll be able to grow up and do the things you want to do?
- Will that happen? Why not?
- Do you ever think that your death is near, or the world is coming to an end?
- Do you feel that you are going to suffer forever?
- What do you think is going to happen to you?
- Are you going to get better?
- Will things work out for you?
- This problem you mentioned, can anyone help you?
- Are you sure there is no hope for you? Not even a little?
- How do you know?
- How frequently do you feel this way?

NOTE: THIS RATING MAY BE CHANGED TO 6 AT THE TIME OF ASSESSING HALLUCINATIONS AND DELUSIONS.

0 -- No info.

1 -- Not at all discouraged about the future.

2 -- Slight: occasional feelings of mild discouragement about future.

3 -- Mild: sometimes discouraged; doubts he will get better.

4 -- Moderate: often feels quite pessimistic about the future; doubts he will make it to being a grown up.

5 -- Severe: most of the time has intense feelings of pessimism. Has given up; helpless.

6 -- Extreme: almost all the time feels doomed. Delusions or hallucinations that the world is coming to an end.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

### #SUICIDAL IDEATION

This includes preoccupation with thoughts of death or suicide and auditory command hallucinations where the child hears a voice telling him to kill himself or even suggesting the method. DO NOT INCLUDE FEARS OF DYING.

- Sometimes children who get upset or feel bad think about dying or even killing themselves.

- Have you had such thoughts?

- How would you do it? -Do you have a plan?

- Have you told anybody (about suicidal thoughts)?

- When did you start to think about suicide?

- Have you actually tried to kill yourself?

- When? -What did you do?

- Any other thing?

- Did you really want to die?

- How close did you actually come to doing it?

- What would happen if you died?

- Do you think that you or your family would be better off if you died?

- Have you heard any voices telling you to kill yourself?

- How? -When?

- Whose voice is it?

- What does it say?

- Are you awake when you hear it?

- Is it inside or outside your head?

0 -- No info.

1 -- Not at all.

2 -- Slight: occasional thoughts of death (without suicidal thoughts), "I would be better off dead" or "I wish I were dead" or only in the context of anger.

3 -- Mild: sometimes has thoughts of suicide but has not thought of a specific method.

- 4 -- Moderate: often thinks of suicide and has thought of a specific method.
- 5 -- Severe: most of the time thinks of suicide or mentally rehearsed a specific plan, or has made a suicidal gesture of a communicative rather than a potentially medically harmful type, or has heard a voice telling him to kill himself.
- 6 -- Extreme: almost all the time contemplates suicide; has made preparations for a potentially serious suicide attempt.
- 7 -- Very extreme: suicidal attempt with definite intent to die or potentially medically harmful.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

**SUICIDAL ACTS-NUMBER**

Number of discrete suicidal acts (gestures or attempts) since onset of the present episode or during the last 12 months. 1 2 3 4 5 6 7 8 9+

**SUICIDAL ACTS-SERIOUSNESS/INTENT**

Judge the seriousness of suicidal intent. May be expressed by the style of suicidal acts, e.g., likelihood of being rescued, precautions against discovery, actions to gain help during or after attempt, degree of planning, apparent purpose of the attempt (manipulative or truly suicidal intent).

- How did you try to kill yourself?
- Was anybody there?
- Did you tell them in advance?
- How were you found?
- Did you really want to die?
- Did you ask for any help after you did it?
- How close were you to dying after you tried ( )?

- 0 -- No info.
- 1 -- Not serious, no intent, purely manipulative gesture.
- 2 -- Slight: only minimal intent.
- 3 -- Mild: definite but very ambivalent.
- 4 -- Moderate.
- 5 -- Severe: very serious attempt; no ambivalence.
- 6 -- Extreme: every expectation of death.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

**SUICIDAL ACTS-MEDICAL LETHALITY**

Actual medical threat to life or physical condition following THE MOST SERIOUS suicidal act. Take into account the method, impaired consciousness at time of being rescued, seriousness of physical injury, toxicity of ingested material, or reversibility, amount of time needed for complete recovery and how much medical treatment needed. An ER visit should be rated at least a 4, an inpatient overnight stay rate at

least a 5 or 6.

0 -- No info.

1 -- No danger: e.g., no effects, held pills in hand.

2 -- Slight: e.g., scratch on wrist.

3 -- Mild: e.g., took 10 aspirins, mild gastritis.

4 -- Moderate: e.g., took 10 seconds, had brief unconsciousness; needed ER visit.

5 -- Severe: e.g., cut wrists or throat, hanging.

6 -- Extreme: e.g., respiratory arrest; prolonged coma.

WHAT RESULT DURING THE LAST WEEK? 0 1 2 3 4 5 6

### **NON-SUICIDAL PHYSICAL SELF-DAMAGING ACTS**

Refers to self-mutilation, recurrent accidents, or other acts done **WITHOUT INTENT** of killing himself.

- Did you ever try to hurt yourself?
- Have you ever burned yourself with matches/candles? Or scratched yourself with needles/a knife? Or put hot pennies on your skin? Or intentionally swallowed objects?
- Anything else?

- What does it do for you?

- How frequently did you do this?

- Do you have many accidents?

- What kind? -How frequently?

NOTE: Differentiate number of episodes from actual number of acts (e.g., one episode may be ten cuts). Rate number of episodes.

0 -- No info.

1 -- Not present.

2 -- Slight: is accident prone. Not greater in number or seriousness than others his age; or has had thoughts about hurting (not killing) himself but has not done so.

3 -- Mild: infrequent (1-3 times a year).

4 -- Moderate: frequent (4-10 times a year). Has left marks.

5 -- Severe: very frequent (11 or more times a year). Permanently disfigured.

6 -- Extreme: at least one non-accidental act which left permanent functional deficit.

WHAT ABOUT DURING THE LAST WEEK? 0 1 2 3 4 5 6

**DURATION (MDD): DATE OF ONSET**

Refers to the best estimate of onset of disorder when individual was functionally impaired by the disorder. Record the month and year of onset. If blocks of time are only identified record the mid-point of this time span, Example: Fall = Sept, Oct, Nov; Date of onset = Oct. 15th.

MOTHER: \_\_\_\_: \_\_\_\_: \_\_\_\_  
          MM   DD   YY

CHILD: \_\_\_\_: \_\_\_\_: \_\_\_\_  
          MM   DD   YY

SUMMARY: \_\_\_\_: \_\_\_\_: \_\_\_\_  
           MM   DD   YY

**DURATION (MDD): DATE OF OFFSET**

Refers to best estimate of date when patient no longer meets diagnostic criteria of disorder.

Score in analogous fashion to DATE OF ONSET. MOTHER: \_\_\_\_: \_\_\_\_: \_\_\_\_  
                          MM   DD   YY

CHILD: \_\_\_\_: \_\_\_\_: \_\_\_\_  
          MM   DD   YY

SUMMARY: \_\_\_\_: \_\_\_\_: \_\_\_\_  
           MM   DD   YY



*Appendix E: Life Events Checklist*

Below is a list of things that sometimes happen to people. Put an “X” in the space by each of the events you have experienced during the past year (12 months). For each of the events you check also mark whether event was good event or bad. Finally, choose how much you feel the event has changed or has had an effect on your life by placing a circle around the statement that best fits you (no effect - some effect -medium effect – big effect). Remember, for each event you have experienced during the past year, (1) mark an “X” in the to show that you have experienced the event, (2) mark whether you think the event was good or bad, a mark how much effect the event has had on your life.

(Put and “X” only if it happened in past year)

Event	Has it happened	Type of event	Effect on you
1. Moving to a new home	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
2. New brother or sister	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
3. Changing to new school	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
4. Serious illness or injury to a family member	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
5. Parents divorced	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
6. Major arguments between your and mom or dad	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
7. Mother or father lost job	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
8. Death of a family member	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
9. Parents separated	_____	Good Bad	No effect   Some effect   Medium effect   Big effect

10. Death of a close friend \_\_\_\_\_ Good Bad No Some Medium Big effect effect effect effect  
(Put and “X” only if it happened in past year)

<u>Event</u>	<u>Has it happened</u>	<u>Type of event</u>	<u>Effect on you</u>
11. Increased absence of parent from home	_____	Good Bad	No Some Medium Big effect effect effect effect
12. Brother or sister leaving home	_____	Good Bad	No Some Medium Big effect effect effect effect
13. Serious illness or injury of close friend	_____	Good Bad	No Some Medium Big effect effect effect effect
14. Parent getting into trouble with the law	_____	Good Bad	No Some Medium Big effect effect effect effect
15. Parent getting a new job	_____	Good Bad	No Some Medium Big effect effect effect effect
16. New stepmother or stepfather	_____	Good Bad	No Some Medium Big effect effect effect effect
17. Parent going to jail	_____	Good Bad	No Some Medium Big effect effect effect effect
18. Change in parents’ financial status (less money at home)	_____	Good Bad	No Some Medium Big effect effect effect effect
19. Trouble with brother or sister	_____	Good Bad	No Some Medium Big effect effect effect effect
20. Special recognition for good grades	_____	Good Bad	No Some Medium Big effect effect effect effect
21. Joining a new club	_____	Good Bad	No Some Medium Big effect effect effect effect
22. Losing a close friend	_____	Good Bad	No Some Medium Big effect effect effect effect

23. Decrease in number of arguments with parents	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
--	-------	----------	--

(Put and “X” only if it happened in past year)

Event	Has it happened	Type of event	Effect on you
24. Making the honor roll	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
25. New boyfriend or girlfriend	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
26. Failing a grade	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
27. Increase in number of arguments with parents	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
28. Getting into trouble with police	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
29. Major personal illness or injury	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
30. Breaking up with boyfriend/girlfriend	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
31. Making up with boyfriend/girlfriend	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
32. Trouble with teacher	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
33. Failing to make an athletic team	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
34. Being suspended from school	_____	Good Bad	No effect   Some effect   Medium effect   Big effect
35. Making failing grades on report card	_____	Good Bad	No effect   Some effect   Medium effect   Big effect

36. Making an athletic team	_____	Good Bad	No effect	Some effect	Medium effect	Big effect
37. Trouble with classmates	_____	Good Bad	No effect	Some effect	Medium effect	Big effect
38. Special recognition for athletic performance	_____	Good Bad	No effect	Some effect	Medium effect	Big effect

*Appendix F: Children's Cognitive Style Questionnaire (Negative Scenarios Only)*

**Imagine some kids were playing a game but wouldn't let you join in.**

If the kids wouldn't let me play with them, it was probably because I did something to make them not want to play with me that day (CAUSE).

If the kids wouldn't let me play with them, it was probably because they are never nice to me (CAUSE).

If the kids wouldn't let me play with them, it was probably because I'm no good at games (CAUSE).

If the kids wouldn't let me play with them, it means there is something wrong with me (SELF).

If the kids wouldn't let me play with them, other bad things will probably happen to me (CONSEQUENCE).

**Imagine you did really bad on a math test at school.**

If I did bad on a math test, it was probably because I'm not very smart (CAUSE).

If I did bad on a math test, it was probably because I always do bad at math (CAUSE).

If I did bad on a math test, it was probably because everything at school was too hard that day (CAUSE).

If I did bad on a math test, it means there is something wrong with me (SELF).

If I did bad on a math test, other bad things will probably happen to me (CONS).

**Imagine you had to read a story in class and answer questions about it, but you got most of the answers wrong.**

If I got the answers wrong, it was probably because I wasn't good at reading that day (CAUSE).

If I got the answers wrong, it was probably because I always do poorly at school (CAUSE).

If I got the answers wrong, it was probably because the teacher gives assignments that are too hard (CAUSE).

If I got the answers wrong, it means there is something wrong with me (SELF).

If I got the answers wrong, other bad things will probably happen to me (CONS).

**Imagine your best friend wouldn't talk to you one day.**

If my friend wouldn't talk to me, it was probably because I did something to make my friend mad at me (CAUSE).

If my friend wouldn't talk to me, it was probably because my friend is the kind of person who gets mad a lot (CAUSE).

If my friend wouldn't talk to me, it was probably because I am not a nice person (CAUSE).

If my friend wouldn't talk to me, it means there is something wrong with me (SELF).

If my friend wouldn't talk to me, other bad things will probably happen to me (CONSEQUENCE).

## **OPTIMISM CODING SYSTEM**

(for use with the Thematic Apperception Test)

### Contents of the Manual

- I. General Instructions
- II. TAT Administration Procedures
  - a. Instructions to Participants
  - b. Queries
- III. TAT Scoring Procedures
  - a. Scoring Procedures
- IV. Contents of Coding System
  - a. Categories and Examples
- V. Sample Scoring Sheet

### I. General Instructions

The Optimism Coding System and this user's manual were created based on Carver and Scheier (1985) construct of dispositional optimism (DO) and the guidelines set forth by Smith and colleagues (1992) regarding the evaluation of verbal material. The purpose of the Optimism Coding System is to score the narrative stories provided by the Thematic Apperception Test (TAT; Murray, 1943) for individuals' positive and negative expectations across a variety of social contexts and interactions.

Carver and Scheier (1985) define DO as a characterological predisposition toward expecting favorable outcomes. More simply, an optimistic individual is generally more positive about the future than negative. Based upon this interpretation of DO and a review of the literature, the Optimism Coding System includes optimism, naïve optimism, *and* pessimism categories. Each TAT story is considered as a separate unit and coded individually for the presence or absence of optimism, naïve optimism, and pessimism. Each category is scored 1 if it is found to be present in the story and a 0 if it is found to be absent; and, a content category is scored only once per story (Smith et al., 1992).

Ten cards are used in a standard sequence: 1, 2, 3BM, 5, 6BM, 7GF, 8GF, 9GF, 13B, and 14. This set was assembled by incorporating specific cards that have been recommended for use with children and adolescents. These cards have been found to elicit themes related to achievement, aggression, paternal nurturance, parental rejection, and attitudes toward parents (Cashel et al., 2007).

### II. TAT Administration Procedures

1. Instructions for Participants (modified from Peterson & Ulrey, 1994):  
“You will be shown some pictures, one at a time. Your task will be to make up a story for each picture and tell it to me. Your story will be tape-recorded and used for research purposes only. No one at the school will hear your stories. In fact, no one will know these stories are yours. For each story, please include what is happening in the picture, what has led up to the picture, what are the characters thinking and feeling, and what will happen next. There are no right or wrong stories. Say your thoughts as they come to mind. There is no time limit.”
2. Participants should be queried for any missing elements. Acceptable queries include:
  - a. What is happening in the picture?
  - b. What happened before this?
  - c. What are the characters thinking?
  - d. What are the characters feeling?
  - e. What will happen next?
  - f. Tell me more.
  - g. You can make up anything.
  - h. Anything else?

### III. TAT Scoring Procedures

1. Refer to the manual while scoring whenever necessary.
2. Categories may not be present in all of the stories. Score 1 when a category is present and 0 if a category is absent.
3. Consider each story individually for each participant. Do not “keep in mind” a participant’s scores from their other stories.
4. Score stories in sets; score all Card 1 stories, then score all Card 2 stories, etc.
5. Complete sets of cards in one sitting, but do not engage in lengthy scoring sessions. Take breaks and review the manual and practice materials regularly.
6. Make a note of “problem” stories as you go along. Come back to them later when fresh and rescore them. It is a good idea to review the manual and practice materials before rescoring difficult stories.

### IV. Content Categories and Examples

1. **Naïve Optimism (NO)** – To have broad, unrealistically positive expectations for the future. Pay attention to outcome statements which are typically characterized by the use of the future tense. The individual may ignore negative information

completely or provide simplistic, magical endings that are not realistic given the nature of the problem or situation. A story is scored 1 if NO is present and 0 if NO is absent.

*Examples:*

There was a 26-year-old named Janette that was crying on a chair because she was tired of stuff in her life. *One day she will become a counselor.* (3982, 3BM)

Participant: A boy broke his violin and he is feeling bad about it.

Examiner: How is the story going to end?

Participant: *That he plays the violin.* (6717, 1)

Participant: She probably got really tired, or took some pills, or somebody killed her.

Examiner: Somebody killed her?

Participant: Yes.

Examiner: How does your story end?

Participant: *She comes alive.* (3385, 6BM)

Participant: He lived in a cabin. And his parents died. He's living in there all alone. It's like sad.

Examiner: What happens next?

Participant: *A girlfriend likes him and they go out and they live happily ever after.* (8845, 13B)

2. **Optimism (OP)** – To have positive, realistic expectations for the future. Regardless of an individual's sense of the past or present, the optimist believes 'things will work out for the best.' Pay particular attention to outcome statements which describe or evoke positive emotions (e.g., hope, happiness, sense of accomplishment, comfort, excitement, etc.). A character may gain knowledge or understanding, overcome an obstacle, or use coping strategies (e.g., problem-solving, seeing the 'silver lining,' humor, etc.). A story is scored 1 if OP is present and 0 if OP is absent.

*Examples:*

A boy is looking at his grandfather's violin wishing that he could play, but a few days before he took the violin without permission and nearly broke one of the strings. It was able to be repaired, but not, but he was still not allowed, was still not allowed to touch the violin. But he really wants to play it. Soon he will, um, well not soon, when he gets older he will be allowed to get his own violin and play in an orchestra. When he turns, when he becomes an adult *he will play in an orchestra and be a famous violinist.* (0025, 1)



Participant: Yes, um, this is Claudia. This is her mother..no..looks like a maid of hers, a friendly maid. She found this doll in the park. She couldn't see it. She fell and felt it. She comes to her nanny and her nanny thinks it's the beautifullest doll but she can't see so she gets all frustrated because she can't see. So, the nanny is trying to calm her down.

Examiner: And what are they thinking about?

Participant: She's thinking about. I better help her visualize this doll and she's thinking about I can't even see.

Examiner: And then what is going to happen next?

Participant: *Well, she's going to touch the doll's face and see it. (2515, 7GF)*

Participant: She probably heard something to make her think that something had happened.

Examiner: And what might happen next?

Participant: *She may figure out what happened. (0234, 5)*

Participant: Maybe his mom said he had to go to bed early and he got mad and it's very dark and so he said, "Forget you mom, I'm escaping." And he left.

Examiner: And what might happen next?

Participant: His mom might not find him and *he'll come home one day. (0098, 13BM)*

3. **Pessimism (PE)** – To have negative expectations for the future. Regardless of an individual's sense of the past or present, they think things will turn out badly. Pay attention to outcome statements which describe or evoke negative emotions (sadness, loss, fear, hopelessness, etc.). Death or injury would be indicative of PE, as would characters disengaging from a previous goal. A story is scored 1 if PE is present and 0 if PE is absent.

*Examples:*

Examiner: And what's going to happen next?

Participant: I'm just going to make it quick, he dies (laughing). I don't want to look at that any more ...(laughing) it's so weird. *He dies. (0025, 1)*

And the mom had called the school and they found her. And she went home and *she got grounded by her parents. (4230, 5)*

*Somebody is going to come up behind her and scare her. (0242, 2)*

Participant: Maybe his mom said he had to go to bed early and he got mad and it's very dark and so he said, "Forget you mom, I'm escaping." And he left.

Examiner: And what might happen next?

Participant: *His mom might not find him and he'll come home one day. (0098, 13BM)*

# TAT Optimism Coding Sheet

ID #: \_\_\_\_\_

<i>Card #</i>	<b>Naïve Optimism (NO)</b>	<b>Optimism (OP)</b>	<b>Pessimism (PE)</b>
1			
2			
3BM			
5			
6BM			
7GF			
8GF			
9GF			
13B			
14			
<b>TOTALS</b>			

*Appendix H: Self-Report Measure of Family Functioning-CR*

Self-Report Measure of Family Functioning – Child Revised  
(SRMFF-CR)

Directions

Please read each sentence carefully. Indicate how true the sentence is of your family by circling one of the following:

Never True      A Little True      Sometimes True      Mostly True      Very True

If you do not think that the sentence ever describes your family, then circle Never True. If you think that the sentence is true of your family once-in-a-while, then circle the words A Little True. If you think that the sentence is true of your family sometimes, then circle the words Sometimes True. If you think that the sentence is true of your family lots of times, then circle the words Mostly True. If the sentence describes how your family is all of the time, then circle the words Very True.

Let's try an example together:

1. Everyone takes turns doing the dishes in our family.

Never True      A Little True      Sometimes True      Mostly True      Very True

Did you circle one of the responses above? Good job! Please circle only one (1) response for each statement. Answer every statement, even if you are not completely sure of your answer. If you have any questions while you are filling out this form, raise your hand and ask for help. Thank you for helping us learn more about families.

1. We discuss our problems.	Never True	A Little True	Sometimes True	Mostly True	Very True
2. Family members make the rules together.	Never True	A Little True	Sometimes True	Mostly True	Very True
3. Family members really help and support each other.	Never True	A Little True	Sometimes True	Mostly True	Very True
4. Family members criticize each other.	Never True	A Little True	Sometimes True	Mostly True	Very True
5. Our family gets together with friends.	Never True	A Little True	Sometimes True	Mostly True	Very True
6. It is hard to know what will happen when rules are broken in our family.	Never True	A Little True	Sometimes True	Mostly True	Very True
7. We go to movies, sporting events, camping, etc.	Never True	A Little True	Sometimes True	Mostly True	Very True

8. Family members discuss family problems and solutions together.	Never True	A Little True	Sometimes True	Mostly True	Very True
9. There is strict punishment for breaking rules in our family.	Never True	A Little True	Sometimes True	Mostly True	Very True
10. When I need a family member, I know where I can find them.	Never True	A Little True	Sometimes True	Mostly True	Very True
11. We fight in our family.	Never True	A Little True	Sometimes True	Mostly True	Very True
12. Members of our family can get away with almost anything.	Never True	A Little True	Sometimes True	Mostly True	Very True
13. Parents and children in our family discuss together the punishment for breaking the rules.	Never True	A Little True	Sometimes True	Mostly True	Very True
14. There is a feeling of togetherness in our family.	Never True	A Little True	Sometimes True	Mostly True	Very True
15. Friends come over for dinner or to visit.	Never True	A Little True	Sometimes True	Mostly True	Very True
16. Family members participate in a hobby.	Never True	A Little True	Sometimes True	Mostly True	Very True
17. Family members sometimes get so angry they throw things.	Never True	A Little True	Sometimes True	Mostly True	Very True
18. It is hard to know what the rules are in our family because they are always changing.	Never True	A Little True	Sometimes True	Mostly True	Very True
19. In our family it is important for everyone to give their opinion.	Never True	A Little True	Sometimes True	Mostly True	Very True
20. Family members are severely punished for anything they do wrong.	Never True	A Little True	Sometimes True	Mostly True	Very True
21. Each family member has a least some say in major family decisions.	Never True	A Little True	Sometimes True	Mostly True	Very True
22. Our family does things together.	Never True	A Little True	Sometimes True	Mostly True	Very True
23. We keep each other informed of our activities in case we are needed.	Never True	A Little True	Sometimes True	Mostly True	Very True
24. As a family, we have a large number of friends.	Never True	A Little True	Sometimes True	Mostly True	Very True
25. Everyone knows who is in charge in our family.	Never True	A Little True	Sometimes True	Mostly True	Very True
26. Family members are involved in recreational activities outside of work or school.	Never True	A Little True	Sometimes True	Mostly True	Very True
27. Family members lose their tempers.	Never True	A Little True	Sometimes True	Mostly True	Very True

28. Each family member does as they wish without concern about the other members.	Never True	A Little True	Sometimes True	Mostly True	Very True
29. Children get punished unfairly.	Never True	A Little True	Sometimes True	Mostly True	Very True
30. In our family, parents talk with the children before making important decisions.	Never True	A Little True	Sometimes True	Mostly True	Very True
31. Family members avoid contact with each other when at home.	Never True	A Little True	Sometimes True	Mostly True	Very True
32. Our family likes having parties.	Never True	A Little True	Sometimes True	Mostly True	Very True
33. Members of the family generally go their own way.	Never True	A Little True	Sometimes True	Mostly True	Very True
34. In our family, people get ordered around.	Never True	A Little True	Sometimes True	Mostly True	Very True
35. We do activities like playing games together.	Never True	A Little True	Sometimes True	Mostly True	Very True
36. Family members hit each other.	Never True	A Little True	Sometimes True	Mostly True	Very True
37. We have a daily routine.	Never True	A Little True	Sometimes True	Mostly True	Very True
38. Socializing with other people makes my family uncomfortable.	Never True	A Little True	Sometimes True	Mostly True	Very True
39. We get along well with each other.	Never True	A Little True	Sometimes True	Mostly True	Very True
40. We tell each other about our personal problems.	Never True	A Little True	Sometimes True	Mostly True	Very True

*Appendix I: Letters to Parents, Parental Consent Forms, and Student Assent Forms*

*Parent Consent Letter and Form for Screening; Depressed Group*

Dear Parent,

\_\_\_\_\_ School is teaming up with Kevin Stark, Ph.D. from the University of Texas to evaluate a coping skills training program for girls called ACTION. The ACTION program is designed to teach girls how to manage their emotions and stress, solve problems, and think more positively about themselves. While we believe that all students could benefit from this program, currently, only girls who are experiencing high levels of distress will be able to participate. We are asking for permission from all parents of girls in grades 4-5 for their daughters to participate in a screening that will help identify girls who are experiencing distress. Girls who participate in the screening will fill out two questionnaires that take approximately 20 minutes to complete. Doctoral psychology students with appropriate training will supervise the completion of the questionnaires. Thousands of students have completed these questionnaires in the past without any discomfort or upset.

Girls who report having more than a typical number of symptoms of distress will be interviewed about specific symptoms of depression to determine if they are experiencing high levels of distress. The brief symptom interview will be conducted by trained graduate students or project staff under the supervision of Dr. Stark. If a girl in the study is reporting distress on the questionnaire or brief symptom interview, the parents will be contacted by phone to ensure the girl's well-being. ACTION staff or the school counselor may discuss your child's further participation in this research project at that time. For all girls who complete the questionnaire or interview and do not show significant symptoms of distress, parents will receive a letter stating those findings.

The purpose of the project is to determine whether the ACTION coping skills program is more effective than no counseling, and whether parent participation makes the program more effective. In addition, we are trying to learn whether adding follow-up meetings prevents future distress. The benefits to participants include possible participation in the ACTION program and helping advance our understanding of how to best help young girls manage emotions and stress, solve problems and feel better about themselves.

Participation in the project will not cost you anything and there will not be any financial compensation for participation. There are not any risks of harm from completing the questionnaire. There are no anticipated risks from completing the brief symptom interview. In fact, the procedure is designed to quickly identify and assist

children who are in distress. All materials and forms will be stored in locked file cabinets in a secure office at UT to protect confidentiality.

If a child reports that she is at risk of hurting herself or others, her parents would be immediately informed and she would immediately talk with her school counselor. In addition, she would be evaluated by one of the consulting psychiatrists at no cost to the family.

If you choose to participate, you or your daughter may stop participation at any time. Participation in the study is entirely voluntary. You are free to say that you do not want to participate by returning this form indicating on the back of this page that you do not want to participate. You can refuse to participate without penalty or loss of benefits to which you and your daughter are otherwise entitled. It will not affect your relationship with your child's school or the University of Texas.

Researchers are required by Texas state law and professional ethics codes to report to Child Protective Services (or other appropriate regulatory agency) all instances of alleged child abuse and neglect. Please note that if your child completes the screening questionnaire or interview and is believed to be at risk for emotional, psychological or possible physical harm or neglect, then the investigator will report this information to the attending physician, Child Protective Services, and any other necessary regulatory agencies. Please note when a child reports neglect or being harmed, participants cannot stop the referral of their child's case to the authorities and any subsequent actions taken.

If you have any questions about the study, you can call Kevin Stark, Ph.D. at (512) 471-0267, your school counselor, or principal.

If you have questions about your rights as a participant, please contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512) 471-8871.

Sincerely,

---

Researcher's Signature

---

Principal's Signature

---

Date

PARENT/GUARDIAN SCREENING PROCEDURE CONSENT

Please check the appropriate box indicating that **YES** you have read this letter and are giving permission for your daughter to participate in the ACTION project at your child's school by completing the screening questionnaire and brief symptom interview, or **NO**, you have read this letter and you do not want your daughter to complete the questionnaire or interview. Regardless of your decision, please sign this form and return it to your child's teacher.

PLEASE RETURN THIS FORM TO YOUR CHILD'S SCHOOL WITH YOUR PREFERENCE NOTED BELOW:

\_\_\_\_\_ **YES I give my permission** for my daughter to participate by completing the screening questionnaire and brief symptom interview.

\_\_\_\_\_ **NO I do not give my permission** for my daughter to participate by completing the screening questionnaire or brief symptom interview

\_\_\_\_\_  
Parent's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Child's Name (please print)

Child's Grade \_\_\_\_\_

We will provide feedback for all participants. Please provide information below if your child will be participating.

Parent/adult guardian name(s): \_\_\_\_\_

Mailing address: \_\_\_\_\_

City/ZIP: \_\_\_\_\_

Parent phone number(s) in case we need to reach you with a concern about your child:

Home \_\_\_\_\_ cell \_\_\_\_\_ work \_\_\_\_\_



*Youth Assent Form for Screening (Depressed Group)*

I agree to complete a questionnaire about my thoughts, feelings, and behaviors. This questionnaire has been explained to my parent or guardian and he or she has given permission for me to participate. I may decide at any time that I do not wish to participate and that it will be stopped if I say so. My specific responses will not be shared with anyone. However, general information about how I am doing and feeling may be shared with my parent.

When I sign my name to this page I am indicating that I read this page and that I am agreeing to participate.

\_\_\_\_\_  
Your Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Please Print your Name

Date of Birth

\_\_\_\_\_  
Month      Day      Year

*Parent Consent Form for K-SADS-IVR (Depressed Group)*

Dear Parent,

Per our contact with you regarding your daughter's responses to the screening questionnaire and brief symptom interview, we are requesting permission for you and your daughter to complete a more comprehensive interview that will help us determine more accurately whether she is experiencing serious emotional concerns or whether she was not feeling well on the days that she completed the questionnaire and brief interview. The interviews will be conducted by trained doctoral psychology students under the supervision of Kevin Stark, Ph.D., licensed psychologist. The interview of your daughter will be completed in a room at school that will protect her privacy. It takes 45 to 90 minutes to complete and asks specific questions about how your daughter is feeling, thinking and behaving and a range of experiences she may have encountered. The interview with you will cover the same topics and can be conducted in person or over the phone if that is preferable, at a time that is convenient for you. Participation in the interview will not cost you anything and there will not be any financial compensation for participation. Completed interviews will be stored in locked file cabinets in a secure office at UT to protect confidentiality. If she is, she may be eligible for participating in the ACTION program. If this wouldn't be the best program for her, we will provide you with possible resources from within the school and the community.

If a child reports that she is at risk of hurting herself or others, her parents would be immediately informed and she would immediately talk to her school counselor. In addition, she would be interviewed by Kevin Stark, Ph.D., a licensed psychologist, or one of the consulting psychiatrists at no cost to the family. If a child reports that she is being hurt, the school's standard procedures for reporting such instances to the relevant state agency would be followed.

The purpose of the project is to determine whether the ACTION coping skills program is helpful, and whether parent participation makes the program more effective. In addition, we are trying to learn whether adding follow-up meetings prevents future distress. If you have any questions about the study, you can call Kevin Stark, Ph.D. at (512) 471-0267 your school counselor, or principal.

If you choose to participate, you or your daughter may stop participation at any time. Participation in the study is entirely voluntary. You are free to say that you do not want to participate by returning this form indicating that you do not want to participate. You can refuse to participate and this decision will not affect your relationship with your child's school or the University of Texas.

Researchers are required by Texas state law and professional ethics codes to report to Child Protective Services (or other appropriate regulatory agency) all instances of alleged child abuse and neglect. Please note that if your child completes the screening

questionnaire or interview and is believed to be at risk for emotional, psychological or possible physical harm or neglect, then the investigator will report this information to the attending physician, Child Protective Services, and any other necessary regulatory agencies. Please note when a child reports neglect or being harmed, participants cannot stop the referral of their child's case to the authorities and any subsequent actions taken.

If you have questions about your rights as a participant, please contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512-471-8871). Let him know that you are enquiring about the study entitled "Helpfulness of the ACTION Coping Skills Program with and Without Parent Participation."

Please check the appropriate box indicating that **YES** you have read this letter and are giving permission for you and your daughter to participate by completing the interview, or **NO** you do not want to complete the interview nor do you want your daughter to complete the interview. Regardless of your decision, please sign this form and return it to your child's teacher. You will be given a copy of this permission letter to keep for your records.

**YES** I give my permission for my daughter and I to participate by completing the interview.

**NO** I do not give my permission for my daughter and I to participate by completing the interview.

\_\_\_\_\_  
Parent's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Researcher's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Principal's Signature

\_\_\_\_\_  
Date

*Youth Assent Form for K-SADS-IVR (Depressed Group)*

I agree to participate in an interview about my thoughts, feelings, and behaviors. It has been explained to me that this interview will help to determine whether the ACTION counseling program may be helpful for me. This interview has been explained to my parent or guardian and he or she has given permission for me to participate. The interview will be stopped if I say so. Specific things that I say during the interview will not be shared with anyone. However, general information about how I am doing and feeling may be shared with my parent for the sake of talking about what to do to help me.

I will be asked to complete an interview about my current feelings, behaviors, and thoughts. By signing this form I am giving permission for the interview to be audio-taped for the purpose of being sure that the interview was conducted correctly. These tapes will be erased as soon as the ACTION program is completed.

It is okay if I decide to stop my participation in this interview at any time. When I sign my name to this page I am indicating that this page was read to me and that I am agreeing to participate.

---

Child/Adolescent Signature

---

Date

---

Staff/Researcher Signature

---

Date

*Parent Consent for Pre-treatment Assessment and Treatment (Depressed Group)*

Dear Parent,

Based on results of the screening and interview that you and your daughter have participated in so far, we are requesting permission for you and your daughter to continue and participate in the evaluation of the ACTION coping skills program. If you give your permission for your daughter to participate, she will be randomly assigned to one of three groups: (1) ACTION coping skills program, (2) ACTION coping skills program plus parent participation, or (3) wait to receive the program in about 12 weeks.

If your daughter is randomly assigned to the ACTION coping skills program, she will meet 20 times over the next twelve to sixteen weeks with a group of girls to participate in a counseling program that is designed to teach her problem solving, coping skills for managing her emotions and stress, and strategies for thinking more positively about herself and things in general.

If your daughter is randomly assigned to the counseling plus parent participation, she will meet 20 times over the next twelve to sixteen weeks with a group of girls to participate in a counseling program that is designed to teach her problem solving, coping skills for managing her emotions and stress, and strategies for thinking more positively about herself and things in general. In addition, you would be asked to attend a total of 10 meetings over this period that will last about an hour and a half. The parent meetings will be held at school after hours and daycare and refreshments will be provided at no expense. During these meetings parents will have a chance to learn the skills that their daughter is learning, and parents will learn strategies for helping their daughter to use the skills.

The girls will meet in a small group during an elective class. Each meeting will last one class period. Steps have already been taken to ensure that she will receive any class materials that she misses. The group meetings will be led by a trained doctoral psychology student or Ph.D. level therapist and a counselor from your daughter's school. The group leaders will be supervised by Kevin Stark, Ph.D. It is not expected that your daughter will experience any discomfort or risks from participating in the ACTION coping skills program. In fact, past experience with the program indicates that the girls enjoy participating and benefit from it.

If your daughter is randomly assigned to wait to receive counseling in about 12 weeks, we will take the following steps to ensure that she is okay. A doctoral psychology student will meet with her each week to monitor how she is doing, she will be discreetly observed in school at lunch or recess for about fifteen minutes per week, and the staff member will check-in with her teacher each week. In addition, every other week, the staff member will check with you to see if you have any concerns. At the end of the waiting period, she will have the opportunity to participate in the coping skills program. If at any point during this waiting period she reports feeling worse or you would like to seek counseling elsewhere, we will provide you with information about community and school resources. You have the option at anytime to seek additional services including consultation with one of the project's consulting psychiatrists at no cost to you.

We will be monitoring each girl's progress and report this information to two psychiatrists who are being paid by us to oversee each child's welfare. If a participant is not improving as a result of the program, then parents will be informed and we will meet with you to discuss other options for providing your daughter with help. If you would like information about medications that might be of assistance, the psychiatrists are available to meet with you and discuss these options at no cost to you.

To determine whether the ACTION coping skills program is helpful, we are asking you and your daughter to complete some questionnaires that help guide, and evaluate the effectiveness of the ACTION program. The questionnaires will take your daughter about one hour to complete. It will take you about 30 minutes to complete your questionnaires. We are asking you to complete the questionnaires so that we can determine whether participation in the ACTION program also benefits you and your family. The questionnaires have been completed by other children and adults without any discomfort. In order to assess the potential benefits of ACTION on school performance, our staff collects the following general education information: grades from reporting periods, attendance, and discipline information for participants.

For one year after completion of the ACTION program, your daughter will have the opportunity to meet with her group and apply the skills to the new problems and stresses that she faces as she grows up and navigates her way through the many difficulties of being a teenager. The groups will meet three times a semester over the rest of the course of the study. In addition, to determine if your daughter needs additional help, once a year, we will ask you and your daughter to complete the interview and the questionnaires to determine whether we have achieved the goal of preventing the difficulties from recurring. Each time in the future that you and your daughter are asked to complete the measures, you will be paid \$25.00 and your daughter will be paid \$20.00.

If a participant reports at any time that she is feeling like she would like to hurt herself or someone else, then, she would be immediately interviewed by a trained staff member and the school counselor. In addition, if there is concern about a child's safety, the staff member would immediately contact the parents and Kevin Stark, Ph.D. or one of the consulting psychiatrists. If at all possible, the psychiatrist on call would be available to meet with the girl and her parents to further evaluate the situation and to provide you with information about resources from within the community that could be of help. If it is not possible to immediately meet with one of the mental health professionals, then it would be recommended that the child and parents pursue the conventional procedure of driving to the emergency room of a local hospital. If a participant reports that she is being hurt, then the staff member and school counselor would follow the school's standard procedures for reporting such instances to the relevant state agency. All of the services that we provide are available to you at no cost to your family.

The benefits to you and your daughter are that she may learn skills and strategies that will help her to be happy and healthy throughout adolescence. Similarly, you may learn strategies for helping her to successfully make it through adolescence. The benefit to society is that it will help us to determine whether teaching girls who are experiencing depression these skills helps to reduce the depression and whether it is even more helpful to involve parents. Furthermore, since girls are at very high risk for becoming depressed

between the ages of 13 to 15, the results of this study will help us learn whether there is a procedure for preventing this from occurring.

The ACTION program meetings are audio taped for quality assurance purposes. To ensure confidentiality, the following steps will be taken: (a) the cassettes will be coded so that no personal identifying information is visible on them; (b) they will be kept in a locked file cabinet in a secure office at UT; (c) they will be reviewed only for research purposes by the relevant research staff; and (d) they will be erased after they are checked and the study has been completed. Identifying information will be removed from all of the assessment materials completed during the study and the materials will be stored in a locked file cabinet in a locked research office at UT.

Participation in the ACTION coping skills program is entirely voluntary. You are free to refuse to be in the study, you are free to discontinue participation for any reason at any time, and your refusal or discontinuation will not influence current or future relationships with The University of Texas at Austin or your child's school district.

Researchers are required by Texas state law and professional ethics codes to report to Child Protective Services (or other appropriate regulatory agency) all instances of alleged child abuse and neglect. Please note that if your child is believed to be at risk for emotional, psychological or possible physical harm or neglect, then the investigator will report this information to the attending physician, Child Protective Services, and any other necessary regulatory agencies. Please note when a child reports neglect or being harmed, participants cannot stop the referral of their child's case to the authorities and any subsequent actions taken.

If you have any questions about the study, you can call Kevin Stark, Ph.D. at (512) 471-4407, your school counselor, or principal. You may also contact the project coordinator, Jennifer L. Hargrave, Ph.D., with questions, concerns, or to withdraw from the study at any time at (512) 471-0218.

If you have questions about your rights as a participant, please contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512) 471-8871. Let her know that you are enquiring about the study entitled "Helpfulness of the ACTION Coping Skills Program with and Without Parent Participation."

Please check the appropriate box indicating that **YES** you have read this letter and are giving permission for you and your daughter to participate in the ACTION coping skills program and to complete the questionnaires, or **NO** you do not want to participate in the ACTION coping skills program and you do not want to complete the questionnaires. Regardless of your decision, please sign this form and return it to your child's counselor. With this permission letter, you should have received a copy to keep for your records.

**NOTE: TWO COPIES OF THIS LETTER ARE PROVIDED; ONE IS TO KEEP FOR YOUR RECORDS**

**PLEASE RETURN ONE COPY OF THIS PORTION TO THE SCHOOL COUNSELOR**

**YES** I give my permission for my daughter, \_\_\_\_\_, and me to participate in the ACTION coping skills program and to complete the questionnaires. This includes permission for ACTION staff to access report card information, discipline referrals, and attendance records during participation.

**NO** I do not give my permission for my daughter, \_\_\_\_\_, to continue any further with the ACTION project.

\_\_\_\_\_  
Parent's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Kevin D. Stark, Ph.D.

\_\_\_\_\_  
Date

**NOTE: TWO COPIES OF THIS LETTER ARE PROVIDED; ONE IS TO KEEP FOR YOUR RECORDS**



*Parent Consent and Youth Assent (Control Group)*

Dear Parent,

You and your child are invited to participate in a study about thoughts, feelings, relationships and psychological adjustment in children and adolescents. We are researchers at The University of Texas at Austin, Department of Educational Psychology. We are looking for children and adolescents to participate in the study. Your child was selected as a possible participant because she is in the relevant age range, and is a student enrolled in the Pflugerville Independent School District. The purpose of this study is to learn more about the relationship between thoughts, behaviors, family characteristics and emotional adjustment. Approximately 25 students from PISD will have an opportunity to participate. Selection for participation will be determined by achieving the closest match in terms of age, gender, ethnicity, and family composition to youngsters who previously participated in the study. This study will be conducted under the supervision of Kevin Stark, Ph.D., a Professor at the University of Texas at Austin and will be coordinated by staff at your child's school. If you and your student are chosen to participate, your family will receive an honorarium of \$50.00 immediately following completion of the measures.

Should you decide to participate, a researcher from The University of Texas will ask you and your child to participate in a semi-structured interview regarding your child's feelings and behaviors. For each of you, the interview should take, at most, 45 minutes to complete. You and your child will also be asked to complete a number of questionnaires regarding your child, your family, and yourselves. Your child will be asked to complete a questionnaire that assesses his or her adjustment (Beck Youth Inventory), self-perceptions, things in general and the future (Cognitive Triad Inventory), a questionnaire that assesses your child's thoughts about what causes good and bad things to happen (Children's Cognitive Styles Questionnaire), a questionnaire about his or her perceptions of the way the family works (Self-Report Measure of Family Functioning), a questionnaire about his or her perceptions of messages that parents communicate (Family Messages Measure), and a questionnaire about stressful experiences (Life Events Questionnaire). In addition, your child would be asked to complete a story telling task entitled the Thematic Apperception Test. The school counselor has copies of all of these materials available for your review at this time as well as any time in the future. You would be asked to complete a questionnaire about your own emotional well-being (Symptom Checklist 90-R), a questionnaire about your self perceptions, things in general and the future (Cognitive Triad Inventory) and a questionnaire about your perceptions of the way your family functions (Self-Report Measure of Family Functioning). You and your child may complete the interviews and questionnaires in more than one meeting if you would like to do that. In sum, it would take you approximately an hour and a half to two hours to complete the interview and the measures and a total of 1.5 to 2.5 hours for your child to complete the interview and measures. The interview, questionnaires, and story telling task are commonly used to evaluate the emotional functioning of youths and

adults. They have been completed by hundreds of individuals without any adverse effects. This study will be beneficial in that it should serve to identify psychosocial factors relevant to emotional disorders in children and adolescents, an area largely unexplored to date. Any information in connection with this study that can be identified with you will remain confidential and will be disclosed only with your permission. However, if your child reports an intent to harm herself or others, we would immediately notify the school counselor and you.

For research purposes, we would like your permission to audio-tape the interviews. The tapes are used to determine whether the interview was administered correctly. The tapes will be kept in a locked file cabinet without any identifying information on them and they will be erased once the study has been completed.

Your decision whether or not to participate will not affect your present or future relations with The University of Texas or Pflugerville Independent School District. If you decide to participate, you are free to discontinue participation at any time. Should you decide to allow your child or adolescent to participate, he/she will also have a chance to decide whether or not to participate.

If you have any questions, feel free to contact Dr. Kevin Stark. Dr. Stark can be reached by telephone at 512-471-4407, or in writing: SZB 504, The University of Texas at Austin, Austin, TX 78712. If you have any questions or concerns about your treatment as a research participant in this study, call Professor Clarke Burnham, Chair of the University of Texas at Austin Institutional Review Board for the Protection of Human Research Participants, at (512) 475-7129.

Please keep this form for your records.

**\*\*\*PLEASE RETURN THIS FORM TO YOUR SCHOOL COUNSELOR\*\*\***

You are making a decision whether or not to participate and to allow your child to participate. Your signature indicates that you have read the information provided and have decided to participate and to allow your child to participate should (s)he choose to. By signing this form you are agreeing to participate both by completing the questionnaires and the clinical interview; you are also giving permission for the interview to be audio-taped. You may withdraw at any time after signing this form, should you choose to discontinue participation in this study.

---

Signature of Parent or Legal Guardian

---

Date

---

Signature of Staff/Researcher

---

Date

---

Phone Number (to be contacted over the summer)

**\*\*\*PLEASE RETURN THIS FORM TO YOUR SCHOOL COUNSELOR\*\*\***

Child/Adolescent Assent Form

I agree to participate in a study that is interested in evaluating the relationship between thoughts, feelings, and interpersonal behaviors in children and adolescents. I understand that this study has been explained to my parent or guardian and that he or she has given permission for me to participate. I understand that I may decide at any time that I do not wish to continue this study and that it will be stopped if I say so. Information about what I say and do will not be given to anyone else unless I say so.

I understand that I will be asked to complete an interview about my current feelings, behaviors, and thoughts as well as a number of questionnaires about myself and my family. I understand that by signing this form I am giving permission for the interview to be audio-taped for research purposes and that these tapes will be erased as soon as the study is completed.

I understand that it is all right if I decide to stop my participation in this study at any time. When I sign my name to this page I am indicating that this page was read to me and that I am agreeing to participate in this study. I am indicating that I understand what will be required of me and that I may stop my participation at any time.

\_\_\_\_\_  
Child/Adolescent Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Staff/Researcher Signature

\_\_\_\_\_  
Date

## References

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