

COGNITIVE VULNERABILITIES, NEGATIVE LIFE EVENTS, AND DEPRESSIVE
SYMPTOMS IN YOUNG ADOLESCENTS

By

Cara Suzanne Calloway

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Approved:

Professor Lynda LaMontagne, Chair

Professor Nancy Wells

Professor Mary Dietrich

Professor Tarah Kuhn

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To the best nurse I've ever known, my mother
and
to my amazing husband, whose humor and insight were invaluable through this process

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CHAPTER I

INTRODUCTION

Statement of the Problem

Understanding the origins of depressive symptoms in adolescents requires knowledge of how the transition from childhood to adolescence and from adolescence to adulthood serves as a backdrop for rising levels of depressive symptoms. Adolescence is characterized by positive gains in cognitive maturity, better interpersonal skills, new experiences, increased autonomy, and hormonal changes (Feldman & Elliot, 1990). Although these normative transitions can provide opportunities for further growth in cognitive, physical, psychological, and social domains, exposure to adverse experiences (e.g., peer pressure, difficulties in school performance, loss of a romantic relationship) can place the adolescent at increased risk for the onset of a wide range of emotional and behavioral problems, including the development of depressive symptoms (Steinberg, 2006).

Negative patterns of thinking and maladaptive information processing, termed cognitive vulnerabilities, have been shown to contribute to the development of depressive symptoms in adolescents who activate these vulnerabilities in response to negative life events (Abela, 2001; Hankin & Abramson, 2002; Lewinsohn, Rhode, & Seeley, 1994, 1998). Cognitive Vulnerability Theories (Beck's Cognitive Theory, Hopelessness Theory, Cognitive Vulnerability-Transactional Stress Model) propose that individuals who possess cognitive vulnerability to depressive symptoms (belief systems focused on

loss, failure, and worthlessness) are more likely to develop depressive symptoms following the occurrence of a negative life event than individuals who do not possess cognitive vulnerabilities. Once activated, these negative cognitions cause biased interpretations of events, resulting in overly pessimistic views of self, world and future thus resulting in the development of depressive symptoms.

This dissertation study examined the dominant cognitive vulnerability theories to explain the development of depressive symptoms in young adolescents. Consistent with all three theories is the conceptualization that individuals exhibiting higher levels of cognitive vulnerability are hypothesized to trigger negative patterns of thinking in response to a negative event that may spiral into the development of depressive symptoms. All three theories posit that cognitive vulnerability represents a continuum with some individuals exhibiting higher levels of cognitive vulnerability than others. Similarly, negative events are best conceptualized along a continuum with some negative events being more important than others (e.g., parental divorce, poor academic performance). According to this perspective, the higher the level of cognitive vulnerability an individual possesses, the less stressful a negative life event must be to trigger the onset of depressive symptoms. Conversely, even youths possessing low levels of cognitive vulnerability may be at risk for the development of depressive symptoms following the occurrence of extreme stressors (e.g. death of a parent).

There are a multitude of vulnerability factors have been posited to be associated with the development of depressive symptoms. The three dominant cognitive vulnerability theories that have been studied most extensively in adolescent populations will be the focus of the discussion that follows. Beck's Cognitive Theory (Beck, 1987;

Clark & Beck, 1999) proposes that dysfunctional attitudes (i.e., biased interpretation of negative life events resulting in overly pessimistic views of self, world, and future) are a part of the etiology of depressive symptoms. Although not a dominant cognitive vulnerability theory, Learned Helplessness Theory (LHT) is based on the proposition that learned helplessness develops when individuals create negative attributions that outcomes in response to a negative event are uncontrollable and independent of their actions. Maier and Seligman's (1978) LHT provided the foundation for the development of Hopelessness Theory (Abramson, Metalsky, & Alloy, 1987). Hopelessness Theory expands LHT from a primarily attributional theory to a more descriptive cognitive theory that hypothesizes that the occurrence of a stressful event interacts with the proposed cognitive vulnerability, termed negative inferential style, to predict the development of hopelessness, which then leads to depressive symptoms. Thus, the cognitive vulnerability of negative inferential style encompasses both helplessness expectancies and negative outcome expectancies following the occurrence of a negative life event.

Hankin and Abramson's (2001) Cognitive Vulnerability-Transactional Stress Model (CV-TSM) further developed the proposition that cognitive vulnerability was the key to the development of depressive symptoms. The CV-TSM includes the concepts from Beck's Cognitive Theory (1987) (i.e., dysfunctional attitudes) and Abramson et al.'s (1987) negative inferential style, and hypothesizes a third cognitive vulnerability, namely, ruminative response style. Rumination as a cognitive vulnerability is defined as a way of thinking where individuals focus on their negative emotional state and fail to be proactive in relieving their distress or changing their situation. In adolescence, rumination has been associated with further lowering of dysphoric mood and increased risk for both

the onset and persistence of depressive symptoms (Park, Goodyer, & Teasdale, 2004; Wilkinson & Goodyer, 2006). This relationship was stronger for females than for males.

Researchers from diverse theoretical orientations have proposed that certain personal factors (i.e., age, gender, and ethnicity) serve as vulnerability factors to the development of depressive symptoms (Petersen, Compas, Brooks-Gunn, Stemmler, Ey, & Grant, 1993; Rushton, Forcier, & Schectman, 2002; Twenge & Nolen-Hoeksema, 2002). Adolescent females have been found to be at greater risk for the development of depressive symptoms because they tend to experience more interpersonal negative life events (e.g., peer conflict, break-up of a romantic relationship) and are more distressed by these types of negative life events than males. Further, the three cognitive vulnerability factors (i.e., dysfunctional attitudes, negative inferential style, and ruminative response style) were found to interact with negative life events to predict development of depressive symptoms in both children and adolescents (Hilsman & Garber, 1995; Abela, 2001, Abela, Vanderbilt, & Rochon, 2002).

Few studies have examined the association between personal characteristics, cognitive vulnerabilities, negative life events, and the development of depressive symptoms in adolescents. Findings from research with ethnically diverse samples of adolescents revealed significantly higher depressive symptoms reported by African-American, Hispanic-American, and Asian American adolescents when compared to Caucasian American adolescents. Few studies have addressed why ethnically diverse adolescents report higher levels of depressive symptoms. It has been suggested that social disadvantage may expose individuals to higher levels of stressful life events (e.g., violence in neighborhoods and schools) leading to increased depressive symptoms and

poorer mental health outcomes (e.g., Brown, Meadows, & Elder, 2007). Further, although studies of adults suggest that depressive symptoms are associated with lower socioeconomic class (Kessler, et al., 2003) studies with children and adolescents are less consistent. Some studies report a lack of association between depressive symptoms and social class (Costello et al., 2003; Whitaker, et al., 1990) while other studies report a significant association, at least for the lowest social classes (Costello, Angold, Burns, Stangle, Tweed, Erkanli, et al., 1996). A major limitation of this research is the absence of studies addressing the association among ethnicity, SES, cognitive vulnerabilities, negative life events, and the development of depressive symptom. This dissertation study addressed this major limitation.

Purpose

The purpose of this dissertation study was to examine the relationships between the cognitive vulnerabilities of dysfunctional attitudes, negative inferential style and ruminative response style and the occurrence of negative life events, which taken together may increase the prevalence and number of depressive symptoms in young adolescents. The associations of age, gender, ethnicity, and socioeconomic status (SES) with cognitive vulnerabilities, negative life events and depressive symptoms also was examined. The results of this dissertation research have the potential to yield important insights into how cognitive vulnerabilities contribute to the development of depressive symptoms in adolescents following a negative life event.

Significance to the Discipline of Nursing

Evidence-based practice is necessary for nursing to sustain its standing as a discipline. A criterion distinguishing disciplines from each other is the specific identifiable fund of systematically developed knowledge — composing the highest form of evidence — that supports its practice (Algase & Whall, 1993). Furthermore, each discipline generates that fund of knowledge framed by its unique traditions (perspectives, ethics, and history). The absence of this fund of knowledge would result in other disciplines setting the boundaries of available evidence to guide nursing's work, and the field would be reduced to a technical or applied one. It is hoped that the evidence provided in this dissertation study will not only contribute to the scientific literature but also will help nurses and other health care professionals understand the key factors involved in the development of depressive symptoms in adolescents.

Nurses work in a wide range of settings that provide care for the adolescent population. In the area of adolescent depression, nurses are uniquely positioned to implement primary prevention strategies that encourage positive cognitions and resiliency in schools, communities, and clinical settings. As opposed to other disciplines serving the adolescent population, the discipline of nursing has a holistic approach that encompasses health promotion and disease prevention. Nurses working with adolescents are in a unique position to identify adolescents at risk for the development of depressive symptoms by understanding the mechanisms through which depressive symptoms develop. This dissertation study is the first to highlight the importance of the association between the three cognitive vulnerabilities (i.e., dysfunctional attitudes, negative inferential style, and ruminative response style), negative life events and personal

characteristics to the development of depressive symptom in young adolescents.

This dissertation study is the first step towards generating new nursing knowledge related to the development of depressive symptoms in young adolescents. It is hoped that future research will further elucidate the mechanisms through which cognitive vulnerabilities, negative life events, and personal characteristics contribute to the development of depressive symptoms. Future research also is needed to elaborate on the developmental origins of cognitive vulnerability and how the activation of cognitive vulnerabilities subsequently influences how the adolescent perceives, interprets, and adds meaning to negative events encountered. Once the mechanisms are clearly understood, interventions may be designed to minimize or eliminate the influence of cognitive vulnerabilities on depressive symptoms

Significance to Healthcare and Society

Major Depressive Disorder (MDD) is one of the top three causes of global health burden along with ischemic heart disease and cerebrovascular diseases (Murray & Lopez, 1997). Studies have shown that depressive disorders, previously thought to be a disorder of adulthood, often develop during childhood and adolescence (Costello, et al., 2003; Lewinsohn et al., 1998; Saluja, Iachan, Scheidt, Overpeck, Sun, & Giedd , 2004). According to the National Institute of Child Health and Human Development, approximately one in six youths in the US report depressive symptoms and the prevalence of depressive symptoms increases with age across adolescence (Saluja et al., 2004). Studies have shown that, when compared with asymptomatic adolescents, adolescents reporting more depressive symptoms had an elevated risk for later major

depressive disorders, psychosocial dysfunction, and suicidal ideation and attempts (Cuijpers, Graaf, & van Dorsselaer, 2004; Fergusson, Horwood, Ridder, & Beautrais, 2005; Lewinsohn, Rohde, & Seeley, 1994; Lewinsohn, Solomon, Seeley, Zeiss, 2000).

Fergusson and Woodward's (2002) longitudinal study's (21 years) findings further supported that young adults who had recurrent depressive symptoms during mid-adolescence (ages 14-16) were at increased risk for major depressive episodes later in adolescence and adulthood, anxiety disorders, nicotine and/or alcohol dependence, educational underachievement, unemployment, early parenthood, and suicide attempts. In response to this significant public health concern, the United States Preventative Services Task Force (2009) currently recommends screening all adolescents (12-18 years of age) for depressive symptoms when adequate systems are in place for appropriate follow-up. It is clear that depressive symptoms during adolescence represent a large burden to the individual, the healthcare system and society.

CHAPTER II

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Historical Perspective

During the late 1960s and early 1970s, experimental psychologists expanded the psychology paradigm of depression development to more accurately explain and predict behavior observed both clinically and experimentally. One result of this expanded conceptualization of the origins of depressive symptoms was an emergence of theories that were based on cognitive dysfunction as a mediator of depressive symptoms. During the late 1970s, depressive illness was thought to be a disorder of adulthood and, as such, the early iterations of cognitive theories of depression were applied to the adult population only. A review of the psychological literature published during this time revealed inconsistencies about the definition and criteria for diagnosis of childhood/adolescent depression (Welner, 1978). In the early 1980s the psychological, medical, and nursing literature witnessed a veritable explosion of childhood mental health literature related to the development, assessment, and treatment of depressive symptoms in adolescents (see metaanalyses conducted by Hazell, O'Connell, Heathcote, Robertson, & Henry, 1995; Reinecke, Ryan, & DuBois, 1998; Twenge & Nolen-Hoeksema, 2002).

Large programs of research, such as the Oregon Adolescent Depression Project (OADP) (Lewinsohn et al., 1998) and the Temple-Wisconsin Cognitive Vulnerability to Depression Project (CVD) (Alloy & Abramson, 1999), have generated substantial evidence supporting the assumptions underpinning the major cognitive vulnerability

theories (i.e., Beck's Cognitive Theory, 1987; Abramson, Metalsky and Alloy's Hopelessness Theory, 1989; Hankin & Abramson's Cognitive Vulnerability-Transactional Stress Model, 2001) to explain the development of depressive symptoms. The following sections will discuss the three dominant cognitive vulnerability theories as they relate to the development of depressive symptoms in adolescents.

Theoretical Background

Beck's Cognitive Theory

Beck's Cognitive Theory (Beck, 1987; Clark & Beck, 1999) proposes that dysfunctional attitudes are part of the etiology in the development of depressive symptoms. Dysfunctional attitudes are defined as cognitive distortions that interact with stressful events to produce depressive symptoms. This cognitive vulnerability theory hypothesizes that individuals who use dysfunctional attitudes (e.g., "I am worthless unless I am pretty.") are at risk for the development of depressive symptoms. For example, an adolescent might have the dysfunctional attitude that his or her self worth is dependent on acceptance from his or her peers. Using this example, the dysfunctional attitude is activated when the adolescent is not invited to a friend's birthday party and the conclusion is drawn of personal unworthiness being the cause for the lack of an invitation.

Dysfunctional attitudes can be held regarding achievement (e.g., "If I fail my math test, I am a failure as a person."), interpersonal factors ("I am nobody if I do not have friends."), and/or intrapersonal factors ("I am nobody unless I am skinny.").

Findings from research with both adults and adolescents revealed that dysfunctional attitudes place individuals at increased risk for the development of depressive symptoms and recurrence of depressive disorders (Farmer, Harris, Redman, Mahmood, Sadler, & McGuffin, 2001; Lewinsohn, Joiner, & Rhode, 2001; Weich, Churchill, & Lewis, 2003).

Beck's Cognitive Theory (Beck, 1987; Clark & Beck, 1999) has been used extensively to guide psychotherapy as well as the development of prevention programs, however the theory is limited in empirical evidence, particularly with the adolescent population. The development of depressive symptoms is a complex and convoluted phenomenon, which this theory reduces to the single cognitive vulnerability of dysfunctional attitudes. The usefulness and popularity of this theory is that it contributed a novel cognitive explanation of depression and provided a firm foundation on which to begin building more complex cognitive vulnerability stress theories.

Learned Helplessness Theory (LHT)

Maier and Seligman's (1976) Learned Helplessness Theory (LHT) is based on the proposition that learned helplessness develops when individuals create negative attributions that outcomes in response to a stimulus are uncontrollable and independent of their actions. Learned Helplessness Theory proposes that a negative life event provides the information (i.e., negative content) and the negative cognitive attribution is one of uncontrollability or the expectation that the behavior of the individual will have no impact on the outcome of the event. The expectation of uncontrollability leads to certain behavioral results: 1) a reduction of the motivation to control the outcome; 2) interference with future learning; and 3) emotional disturbance (i.e., fear or depressive symptoms).

Once an individual learns he or she is able to control the outcome, the fear dissipates and may disappear completely. If, on the other hand, the individual learns he or she cannot control the event, fear will be replaced by depressive symptoms.

Although the original Learned Helplessness Theory (LHT) specifically focused on the negative cognitive attributions associated with the development of fear and/or depressive symptoms, it did not address the issue of cognitive vulnerability as an important factor influencing the outcome. Thus, the cognitive theory at this point in its development was limited in scope and its usefulness as an explanatory model of the development of depressive symptoms. This limitation prompted other researchers to revisit and reformulate the theory.

In 1978, the original Learned Helplessness Theory (Maier & Seligman, 1976) was redeveloped by Abramson, Seligman, and Teasdale to address limitations of the original LHT. The redeveloped version included four explicit assumptions: 1) four major deficits were involved in the development of depressive symptoms: motivational, cognitive, self-esteem, and affective; 2) the development of depressive symptoms occurred when an individual had an expectation that highly desired outcomes would not occur (i.e., negative attributions) or that highly aversive outcomes would occur independent of their own actions (i.e., learned helplessness); 3) the pervasiveness of depressive symptoms depended on the globality of the attributional style of the individual, the persistence of the depressive symptoms depended on the chronicity of the attribution for helplessness, and effects of depressive symptoms on self-esteem depended on the internality of the attribution for helplessness; and 4) the intensity of the depressive symptoms depended on the expectation of uncontrollability and the importance attached to the outcome

(Abramson et al., 1978). Thus, the more an individual expected that he or she was unable to control a stressful life event and the more negative the attributions for his or her helplessness, the more depressive symptoms were likely to occur.

Hopelessness Theory

The revised version of Learned Helplessness Theory (LHT; Abramson et al., 1978) was reformulated 10 years later and renamed Hopelessness Theory (HT; Abramson, Metalsky, & Alloy, 1989). The revised LHT presented an attributional account of the development of learned helplessness with implications for the development of depressive symptoms discussed briefly. HT expanded on these propositions and presented a clearly articulated theory of depressive symptom development. The central hypothesis of the reformulated theory was that the occurrence of a stressful event interacts with the proposed cognitive vulnerability (i.e., termed negative inferential style) to predict development of hopelessness, which then leads to depressive symptoms. The cognitive vulnerability of negative inferential style encompasses both helplessness expectancies (i.e., depressive symptoms occur when an individual has an expectation that highly desired outcomes will not occur) and negative outcome expectancies following a negative life event (Abramson, et al., 1989).

A meta-analysis (Joiner & Wagner, 1995) of child and adolescent research using a hopelessness/helplessness theoretical framework revealed that a negative inferential style was associated with both self-reported depressive symptoms and clinical depression, and the association held steady across age, gender, and sample type (e.g., clinical or non-clinical). Joiner and Wagner (1995) concluded that the association between negative

inferential style and the development of depressive symptoms had clearly been established, but further research was needed to test the causal hypothesis that negative inferential style may interact with a negative life event leading to depressive symptoms.

Since the publication of the meta-analysis (Joiner & Wagner, 1995), several studies have prospectively tested the causal pathway with child and adolescent populations. While the results of these studies indicated that there was a significant interaction between negative inferential style and the occurrence of negative events that predicted increases in depressive symptoms, there were age related differences. For example, some studies found this interaction after sixth grade (Hilsman & Garber, 1995; Panak & Garber, 1992; Robinson, Garber & Hilsman, 1995) while other investigators did not find a significant interaction until eighth or ninth grade (Cole, Peeke, & Ingold, 1996; Turner & Cole, 1994). Despite the discrepant results for age, what is noteworthy is that the cognitive vulnerability of negative inferential style, proposed in Hopelessness Theory is operating by late childhood (11-12 years) and early adolescence (i.e., 13-14 years).

The studies reviewed support the assumption that a negative inferential style is particularly relevant if the negative consequence of the event is viewed as important, not remediable to change and/or unlikely to change, and as affecting many areas of life in both adults and children. An important distinction of Hopelessness Theory is the main hypothesis that the interaction between a negative life event and the cognitive vulnerability of negative inferential style is key to understanding the development of depressive symptoms. Negative inferential style operates only in the presence of negative life events. Thus, individuals who tend to activate a negative inferential style in the presence of a negative life event will be more likely to develop depressive symptoms

that those individuals who do not activate this type of cognitive vulnerability. The way negative events are interpreted or viewed by the individual may have a powerful influence on the development of depressive symptoms.

A major limitation of the three cognitive vulnerability theories discussed above (i.e., Beck's Cognitive Theory, Learned Helplessness Theory, and Hopelessness Theory) is their specificity. The three theories addressed in this review were designed to explain only one cognitive factor associated with the development of depressive symptoms, namely, dysfunctional attitudes, negative attributional style, or negative inferential style. Taken together, the theories failed to explain two major developmental factors found to be associated with depressive symptom development. First, the prevalence of depressive symptoms increases dramatically during the developmental transitions that occur during adolescence. Second, the specificity of the theories negates an important distinction between gender differences in the development of depressive symptoms. That is, females begin to develop more depressive symptoms than males by mid adolescence (Twenge & Nolen-Hoeksema, 2002; Galambos, Leadbeater, & Barker, 2004). The theory to be discussed next will address these limitations.

Cognitive Vulnerability-Transactional Stress Model (CV-TSM)

Hankin and Abramson's (2001) Cognitive Vulnerability-Transactional Stress Model (CV-TSM) further developed the proposition that cognitive vulnerability was the key to understanding the development of depressive symptoms. The CV-TSM includes two concepts from the cognitive vulnerability theories reviewed (i.e., Beck's dysfunctional attitudes and Abramson et al.'s negative inferential style) and hypothesizes

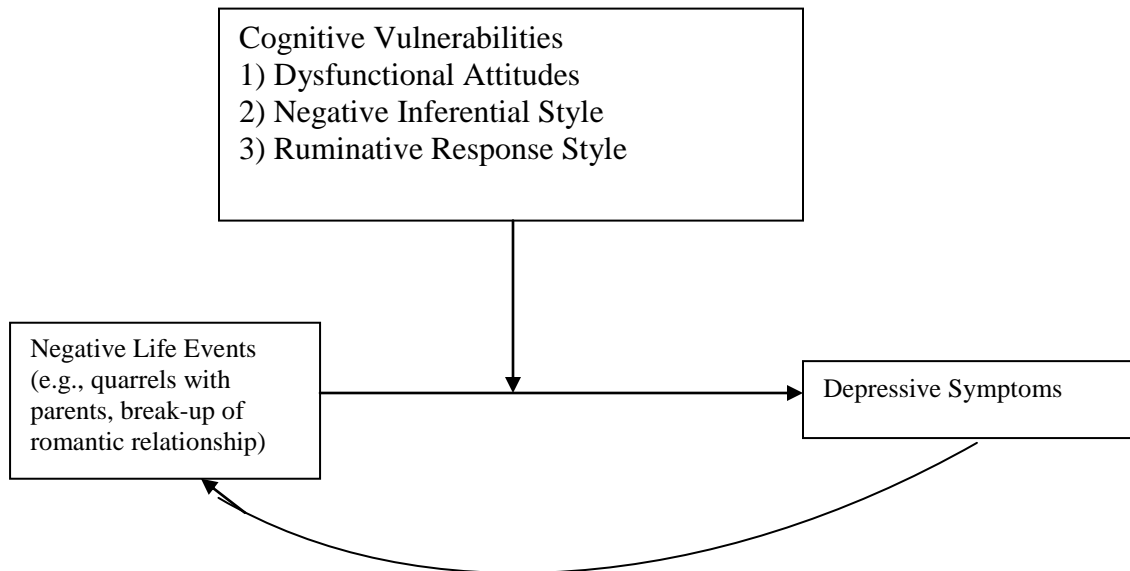
a third cognitive vulnerability, namely, ruminative response style. Ruminative response style is defined as a way of thinking where individuals direct their attention to their negative emotional state, but fail to take any type of action to relieve their symptoms or change their situation. A ruminative response style has been shown to drain cognitive resources and prevent active problem-solving behaviors leading to increases in depressive symptoms as well as prolonged periods of depressed mood (e.g., Feldner, Leen-Feldner, Zvolensky, & Lejuez, 2006 ; Riso, Compas, Brooks-Gunn, Stemmler, Ey, & Grant, 2003; Spasojevic & Alloy, 2001). In adolescents, a ruminative response style has been associated with further lowering of dysphoric mood and increased risk of both the onset and persistence of depressive symptoms. The relationship between a ruminative response style and depressive symptoms was found to be stronger for females than for males (Park et al., 2004; Wilkinson & Goodyer, 2006). Further, the findings of a recent study of adolescent females and males (N= 1,218) between the ages of 12 and 17 years, revealed that ruminative responses styles were used more often during times of high stress (i.e., more negative life events). This finding was consistent for both genders. The use of ruminative response styles was found to moderate the relationship between stress and depressive symptoms. However, as age increased, females were found to use more ruminative response styles than males in this sample (Jose & Brown, 2008).

The CV-TSM also proposes that the causal chain begins with the occurrence of a negative event, which leads to an immediate emotional response. The intensity of the negative affect and the activation of the three individual cognitive vulnerabilities contribute to increases in depressive symptoms. For example, an adolescent girl who activates the proposed three cognitive vulnerabilities in her response to a stressful event

(such as not having a date for a school dance) will interpret and process that event through a dysfunctional attitude (I'm no good because I don't have a date), a negative inferential style (I don't have a date because I am ugly and no one will ever want to date me), and a ruminative response style that prevents abandoning the negative cognitions, which is proposed to lead to a cycle of increases in depressive symptoms (e.g., irritability and insomnia) and to more negative life events.

This cyclic process can be explained using the example of the adolescent female who developed the new depressive symptoms of insomnia and irritability. The symptoms of insomnia can make it more difficult to concentrate during class, which can result in failing grades. Irritability can cause increased interpersonal conflict with peers, teachers, and/or family members. These new negative events (e.g., a failing grade, conflicts with peers) are a direct result of depressive symptoms and will be interpreted through the cognitive vulnerabilities to cycle into further increases in depressive symptoms (See Figure 1).

Figure 1. Cyclic Process of the Development of Depressive Symptoms.



Adapted from: Hankin, B. L., & Abramson, L.Y. (2001). Development of gender differences in depression: An elaborated cognitive vulnerability-transactional stress theory. *Psychological Bulletin*, 127, 773-796.

Key Concepts Associated with Cognitive Vulnerability and the Development of Depressive Symptoms

Four key concepts were consistently found in the cognitive vulnerability theories reviewed (i.e., Abramson et al., 1989; Abramson & Hankin, 2001; Clark & Beck, 1999). In the following section, each concept will be discussed in terms of its relevance and usefulness in describing, predicting, and/or explaining the development of depressive symptoms in adolescents.

Negative Events

An intriguing area of research has developed about the impact of stressful negative life events on depressive symptoms. Consistent among all three cognitive

vulnerability theories is the conceptualization that stressful negative events have a significant impact on the development of depressive symptoms. The presence of negative life events has been found to be a reliable risk factor for the development of depressive symptoms in both females and males (e.g., Ge, Lorenz, Conger, Elder, & Simon, 1994). Females appear to be at greater risk for the development of depressive symptoms in adolescence because they experience more negative life events (particularly in interpersonal domains) and are more distressed by negative life events such as conflicts with peers (Hankin & Abramson, 1999; Peterson et al., 1993; Shih, Eberhart, Hammen, & Brennan, 2006). The three cognitive vulnerability factors were found in previous research to interact with negative life events to predict increases in depressive symptoms in both children (age 6-9) and early adolescents (age 10-14) (Hilsman & Garber, 1995). According to Hankin (2006), if the cognitive vulnerabilities continue to function in the presence of negative life events throughout adolescence, they remain as cognitive risk factors for the development of depressive episodes later in adulthood.

Dysfunctional Attitudes

Dysfunctional attitudes refer to negative cognitions that guide an individual's self-evaluation (Kovacs & Beck, 1978). Beck's Cognitive Theory (Beck, 1987; Clark & Beck, 1999) conceptualizes dysfunctional attitudes as a cognitive vulnerability that includes negative self-schemas containing cognitive distortions. For example, an adolescent might have the dysfunctional attitude that his or her self worth is dependent on acceptance from his or her peers. Using this example, the dysfunctional attitude is activated when the adolescent is not invited to a friend's birthday party and the

conclusion is drawn of personal unworthiness being the cause for the lack of an invitation. Dysfunctional attitudes can be held regarding achievement (e.g., “If I fail my math test, I am a failure as a person”), interpersonal factors (“I’m nobody if I do not have friends”), and/or intrapersonal factors (“I am nobody unless I am skinny”).

Research has shown that adults and adolescents who employ dysfunctional attitudes are at increased risk for the development of depressive symptoms and recurrence of depressive disorders (Brown, Hammen, Craske, & Wickens, 1995; Farmer et al., 2001; Lewinsohn, Joiner, & Rhode, 2001; Weich, et al., 2005). Lewinsohn et al. (2001) also found that increased depressive symptoms were related to dysfunctional attitudes, but only when those dysfunctional attitudes exceeded a certain threshold. This view of depression development emphasizes the importance of conceptualizing dysfunctional attitudes as a continuous variable that can lie at various stages along the continuum. Little research has focused on dysfunctional attitudes in young adolescent populations.

Negative Inferential Style

Negative inferential style refers to the negative attributions created by an individual about the cause and importance of the negative event. It encompasses inferred negative consequences or inferred negative characteristics about the self given the occurrence of the negative event. Negative inferential style includes three types of inferences individuals make when confronted with a negative life event that can lead to depressive symptoms: 1) inferences about the cause of the event, 2) inferences about the consequences of the negative event, and 3) inferences about the self (i.e., whether one’s responses can influence an outcome) (Abramson et al., 1989).

There is strong empirical evidence to support the relationship between the cognitive vulnerability of negative inferential style and negative life events as predictors of the development of depressive symptoms in both adults and adolescents (Alloy, Abramson, Hogan, Whitehouse, Rose, Robinson, Kim, & Lapkin, 2000; Hankin & Abramson, 2002; Hankin, Fraley, & Abela, 2005; Joiner & Rudd, 1995; Nolen-Hoeksema, Girgus, & Seligman, 1992; Ralph & Mineka, 1998; Riso et al., 2003). Studies have consistently found that negative inferential style predicted average levels of negative event-specific inferences and daily depressive symptoms. In addition, a more negative inferential style combined with the stressor of a negative event was associated with increased risk for persistent depressive symptoms and/or negative mood in both male and female adolescents (Hankin & Abramson, 2002; Hankin, et al., 2005).

Ruminative Response Style

Ruminative response style is defined as a way of thinking where individuals direct their attention to their negative emotional state, but fail to take any type of action to relieve their symptoms or change their situation for the better (Nolen-Hoeksema, 1991). Rumination is proposed to exacerbate and prolong emotional distress through several mechanisms. First, rumination enhances the effects of negative mood on thinking, making it more likely that individuals will use the negative thoughts and memories to understand and interpret their current circumstances. Second, rumination interferes with effective problem solving, in part by making thinking more pessimistic and fatalistic. Third, individuals who tend to ruminate may lose social support because their continuous pattern of negativity pushes people away, which, in turn, will lead to increases in and

persistence of depressive symptoms (e.g., Feldner et al., 2006 ; Riso et al., 2003; Spasojevic & Alloy, 2001). The use of rumination as a response style and the persistence of depressive symptoms was found to be stronger for females than for males (Nolen-Hoeksema & Girgus, 1994; Park et al., 2004; Wilkinson & Goodyer, 2006).

Multiple mechanisms have been proposed to explain how rumination affects the development of depressive symptoms. Nolen-Hoeksema et al. (1999) found that people who were more prone to ruminate reported more chronic strain over time. The chronic strain is proposed to be maintained because of the draining affect on individuals' motivation, persistence, and problem-solving skills to change their situations. In adolescents, a ruminative response style has been found to be associated with both the onset and persistence of depressive symptoms with females tending to report more ruminative response styles than males (Park et al., 2004). Results from studies with adult and older adolescent populations suggest that a ruminative response style functions as a risk factor for experiencing general negative emotional states in response to negative life events. Rumination was found to inhibit an individual's ability to successfully distract from the negative event and take action to change the situation (Feldner et al., 2006; Nolen-Hoeksema et al., 1999; Spasojevic and Alloy; 2001). Thus, research supports gender differences in ruminative response style.

Cognitive Vulnerabilities and Personal Characteristics

A discussion of the personal characteristics of age and gender were integrated in the discussion of the key concepts associated with the cognitive vulnerabilities and the development of depressive symptoms. This section will briefly discuss the personal

characteristics of ethnicity and socioeconomic status (SES) and their association with cognitive vulnerabilities, negative life events, and the development of depressive symptoms.

Few studies have examined the association between cognitive vulnerabilities, negative life events and the development of depressive symptoms in adolescents from diverse ethnic and/or SES backgrounds. The few studies that have been conducted have revealed that the prevalence of depressive symptoms does vary in adults and adolescents from diverse ethnic backgrounds. These studies revealed that non-Caucasian adolescents (i.e., African American, Hispanic American, and Asian American) reported significantly higher depressive symptoms than Caucasian adolescents (Rushton et al., 2002; Twenge & Nolen-Hoeksema, 2002). Further, after controlling for the affects of ethnic diversity and socioeconomic status, several studies noted that Hispanic American adolescents reported higher levels of depressive symptoms than African American, Caucasian American, or Asian American adolescents (Roberts, Roberts, & Chen, 1997; Saluja et al., 2004; Siegel, Aneshensel, Taub, Cantwell, & Driscoll, 1998; Twenge & Nolen-Hoeksema, 2002).

Few studies have addressed why ethnically diverse samples of adolescents differ in reports of depressive symptoms. It has been suggested that social disadvantage exposes individuals to higher levels of stressful life events (e.g., violence in neighborhoods and schools, perceived discrimination) leading to increased depressive symptoms and poorer mental health outcomes (e.g., Brown et al., 2007; Kessler, Mickelson, & Williamson, 1999). It is plausible that these factors also may be relevant for adolescents from families from lower SES backgrounds. Although studies of adults suggest that depressive symptoms are associated with lower socioeconomic class (Kessler et al., 2003) studies

with children and adolescents are less consistent. Some studies report a lack of association between depressive symptoms and social class (Costello et al., 2003; Whitaker et al, 1990) while other studies report a significant association, at least for the lowest SES groups (Costello et al., 1996b; Gilman Kawachi, Fitzmaurice & Buka, 2003; Reinherz et al., 1993). Furthermore, the underutilization of mental health services by ethnic minority and socially disadvantaged families may be related to the lack of access to these services in their communities (e.g., Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999). These factors need to be studied in further research before effective treatment and prevention programs can be designed for individuals from diverse ethnic and socioeconomic backgrounds.

Summary of Conceptual/Theoretical Knowledge

The Cognitive Vulnerability-Transactional Stress Model (CV-TSM) (Hankin & Abramson, 2001) was the main theoretical framework used in this dissertation study. The CV-TSM combines concepts from Hopelessness Theory (Abramson et al., 1989) and Beck's Cognitive Theory (Beck, 1987; Clark & Beck, 1999) and adds a third cognitive vulnerability, ruminative response style, to create an improved model. The CV-TSM explains how the three cognitive vulnerabilities (i.e., dysfunctional attitudes, negative inferential style, and ruminative response style) interact with negative life events to predict the development of depressive symptoms.

The cognitive vulnerabilities of dysfunctional attitudes and negative inferential style have been found in numerous studies to be predictors of the development of depressive symptoms in both adults and adolescents (e.g., Farmer, et al., 2001; Joiner &

Wagner, 1995; Lewinsohn, et al., 2001; Weich, et al., 2003). The addition of ruminative response style improves understanding of the role of cognitive vulnerabilities in the development of depressive symptoms. Further research is required that evaluates all three of these cognitive vulnerabilities in younger adolescent samples to clarify the mechanisms through which they interact with negative life events to predict the development of depressive symptoms.

This review of the literature also presented strong evidence that there are age and gender differences in the development of depressive symptoms that emerge during adolescence. By age 13, females begin reporting higher levels of depressive symptoms when compared to males. This review, however, indicated that few studies have been conducted investigating the role of ethnic diversity and SES as factors associated with cognitive vulnerabilities, negative life events, and the development of depressive symptoms. The few studies conducted indicated that ethnically diverse samples of adolescents (e.g., Hispanic American and African American) reported the highest prevalence of depressive symptoms when compared with Caucasian Americans.

Furthermore, the results of studies with adults suggest that depressive symptoms are associated with lower SES, but the studies conducted with children and adolescents are less consistent. Some studies reported a lack of association between depressive disorders and social class whereas others reported an association for lower SES groups. More research studies are needed to uncover the issues involved to obtain a better understanding of the needs of adolescents from diverse ethnic and socially disadvantaged backgrounds as these adolescents might be at higher risk for the development of depressive symptoms.

Given the limited research addressing the combination of the three cognitive vulnerabilities (i.e., dysfunctional attitudes, negative inferential style, and ruminative response style) and their association with negative life events in young adolescents, the following questions were posed in this dissertation study.

1. What is the prevalence and number of negative life events reported by adolescents?
2. What are the univariate relationships of number of negative life events, cognitive vulnerabilities (i.e., dysfunctional attitudes, negative inferential style, and ruminative response style), and personal characteristics (i.e., age, gender, ethnicity, socioeconomic status (SES)) with number of depressive symptoms?
3. What are the relationships among the cognitive vulnerabilities?
 - 3a) What is the nature of the relationship between dysfunctional attitudes and negative inferential style?
 - 3b) What is the nature of the relationship between dysfunctional attitudes and ruminative response style?
 - 3c) What is the nature of the relationship between negative inferential style and ruminative response style?
4. What are the relationships between personal characteristics and cognitive vulnerabilities and type of negative life event?
 - 4a) Are there relationships between personal characteristics and the type negative life events?
 - 4b) Is there a relationship between personal characteristics and cognitive vulnerability?

5. What are the relationships among cognitive vulnerabilities and number of negative life events?
 - 5a) Are there differences in the strength and direction of the relationships between the three cognitive vulnerabilities and negative life events?
6. After controlling for personal characteristics and negative life events, do cognitive vulnerabilities uniquely contribute to number of depressive symptoms?

CHAPTER III

RESEARCH METHODOLOGY

Research Design

A cross-sectional, descriptive correlational design was used to investigate cognitive vulnerabilities, negative life events, and depressive symptoms in a sample of young adolescents.

Description of Setting

This dissertation study was conducted within two middle schools in a single county in rural Tennessee. A total of 1,565 students attend the two middle schools in this county. The middle school students (6th – 8th grade) in this county are predominately Caucasian (~90%), followed by African American (7.7%), Hispanic (2.7%), Asian/Pacific Islander (.4%), and Native American/Alaskan (.2%). Approximately 56% of middle school students in this county are classified as economically disadvantaged as evidenced by participation in the reduced or free school meal program. Data collection took place during the participants' Teen Living class period in a computer lab that had been reserved for the purposes of this study.

Sample and Sampling Plan

A convenience sample of 129 adolescents were the participants in this dissertation study. Participants were recruited through two Middle Schools in a rural county in

Tennessee. A minimum sample size (N=100) was determined based on power analysis with an effect size of 0.3, a power of .80, and an alpha level of .05. The eligibility criteria were purposely broad to allow for fair and equitable enrollment of participants. The following criteria were required in order to be eligible for participation 1) active enrollment in the 7th or 8th grade at a Dickson County middle school, 2) ability to read and write in English, and 3) parent/legal guardian signed informed consent form and adolescent signed assent provided.

Potential subjects were approached through a Teen Living course required for all students. The students enrolled in the Teen Living course were given a packet by their Teen Living instructor to take home containing four forms: 1) Letter to the parents/legal guardians, 2) a parental consent form 3) a child's assent form, 4) and a family information questionnaire to collect demographic data. The students were instructed to return one informed consent form signed by their parent/legal guardian and the family information questionnaire form to their Teen Living instructor in the provided sealed envelope. Eligibility for the study was determined by the adolescent returning a signed parental informed consent and providing their own assent for participation.

The initial round of data collection occurred in September of 2009. 155 packets were provided to the Teen Living instructor to hand out to her students. Initially, only 21 students returned a signed parental informed consent and family demographic questionnaire and completed the questionnaires on the computer. Because of to the poor response rate, funding was sought through Sigma Theta Tau, the International Honor Society of Nursing, to provide an incentive in the form of a \$10.00 Walmart gift card. The remainder of the sample was obtained after the addition of this incentive.

Protection of Human Subjects

Permission to conduct this study was obtained by the Vanderbilt Institutional Review Board (Appendix A) and the Dickson County School District (Appendix B). An introduction letter was included in each packet sent home with the students introducing the Principal Investigator (PI) as a registered nurse and doctoral candidate at Vanderbilt University School of Nursing. The letter stated that the PI was conducting a research study to examine what adolescents thought about negative events that might have happened in their lives during the past three months and how they dealt with those events. The letter informed the parents/legal guardians that if they agreed to allow their child to participate in this study their child would respond to questions on a computer in the school's computer lab during their Teen Living class period. The questions would involve issues related to negative events their child may have experienced and how they felt and/or dealt with those events. The parents/legal guardians were assured that their participation and their child's participation in the study was completely voluntary and that there would be no penalty or consequences to them or their child if they did not want their child to participate in the study.

If permission was granted for their child to participate, the parents/legal guardians of the potential subjects signed two informed consents and were encouraged to keep one copy and return a signed copy along with a completed family demographic questionnaire in a sealed envelope (provided by the PI) to their child's Teen Living classroom teacher. Assurance was given that if at any point during the study, their child did not want to continue they would be allowed to return immediately to their original classroom without penalty or consequence. The Teen Living teachers kept all returned packets in a locked

cabinet until retrieved by the PI. The PI then assigned study numbers from a random list of numbers generated for use in this dissertation study.

On each day of data collection, the adolescents who had returned a signed parental informed consent form were taken to the computer lab and were handed an assent form. The assent form was reviewed verbally by the PI. Potential participants were assured that their answers would be completely confidential and that only a secret code number would identify their answers. The students were encouraged to complete every question, but were informed they were allowed to skip any question they did not feel like answering. After the assent form was reviewed verbally, the students were encouraged to ask any questions. Any questions were answered and students were asked to sign the assent form if they still wished to participate. Only one student who had returned a parental signed informed consent chose not to provide assent and returned immediately to their original classroom. Signatures were obtained on the assent forms for each adolescent who wished to participate in the study before they were instructed on how to begin the computerized survey.

Data Collection Methods

Data collection occurred after receiving the sealed envelope containing the parent/legal guardian's signed informed consent for their child to participate in the study and the family demographic questionnaire. Each participant's packet was assigned a code number selected from a list of random code numbers generated for use for this study. That code number was then used to identify the participants' responses on the computer survey.

Students, who returned a signed parental informed consent form and who provided written assent to participate, were asked to complete a battery of standardized measures (total items = 153) on a computer in a computer lab at the school during their Teen Living class period using the REDCap survey system managed by the Clinical Research Center of Vanderbilt University Medical Center. The REDCap Survey system was developed and designed by Vanderbilt University to help researchers build and administer online surveys. The researcher is able to create survey instruments using a web browser, collect responses from survey participants, and export survey results to Microsoft Excel or a variety of statistical analysis packages (SPSS, SAS, R, Stata) for analysis. REDCap Survey has many advanced options designed specifically for use in the research domain and is hosted at Vanderbilt to eliminate security issues regarding third party websites holding confidential data. REDCap Survey is supported by the Vanderbilt Institute for Clinical and Translational Research (VICTR) with funding provided by Vanderbilt's Clinical and Transitional Science Award (CTSA).

The students who had returned parental signed informed consent forms were taken to the computer lab in the school that had been reserved for the purposes of this research study. The students were asked to sit at a computer that was displaying a webpage containing the link to the survey site and were each handed a blank assent form. The students were asked to print their name and age at the top of the form. The PI read the form aloud and students were encouraged to ask questions and were informed that if they did not wish to participate they could return to their Teen Living class immediately. After each participant's written assent was obtained, they were asked to start the study by clicking on the URL link to the survey website provided by the REDCap survey system

located on a webpage created specifically for use in this study. Participants were provided verbal instructions on navigation through the survey and were encouraged to raise their hands with questions at any point while they were completing the survey. As students completed the survey, they were instructed to close the webpage and return directly to their Teen Living class. Completing the survey took participants 20-40 minutes. Only one participant did not finish within the allotted class period.

Instruments

Adolescent Life Events Questionnaire. The Adolescent Life Events Questionnaire (ALEQ; Hankin & Abramson, 2002) is a 70 item self report check list that assesses a broad range of negative life events typically occurring among adolescents (approximate ages 13-18). The negative events are classified into four domains relevant to adolescents: 1) Family and parents (e.g., “You and your family moved to a new town, but you did not want to move”), 2) romantic relationships (e.g., “Got in a fight/argument with a boyfriend/girlfriend”), 3) school and classes (e.g., “Did poorly on, or failed, a test or class project”), and 4) friends and social activities (e.g., “Don’t have as many friends as you would like to.”). Adolescents are asked to read each event and indicate “Yes” or “No” if the event happened to them in the last three months. Scores were calculated by counting the number of “Yes” items within each domain to obtain a total scale score.

Dysfunctional Attitudes Scale. The Dysfunctional Attitudes Scale (DAS; Weissman & Beck, 1978) assesses pervasive negative attitudes and beliefs regarding self, the outside world, and the future proposed by Beck (1976) to be associated with depressive symptoms. This measure has been utilized with both adult (Brown et al.,

1995; Weich, Churchill, & Lewis, 2003; Weissman & Beck, 1978) and adolescent populations (Andrews, Lewinsohn, Hops, & Roberts, 1993; Lewinsohn, Seeley, & Gotlib, 1997). Participants were asked to read each statement and indicate how much they agree or disagree with the statement most of the time, using a five point Likert-type response from totally agree to totally disagree.

The original format of the DAS contained two parallel 40-item forms. This study utilized nine items from the DAS found to load most highly on three general factors from the DAS: 1) achievement (e.g., “If a person is not a success, then his/her life is meaningless”), 2) dependency (e.g., “I should be able to please everybody”), and 3) self control (e.g., “I should be happy all of the time”). The nine item version of the DAS was used in this study as the internal consistency reliability of the abbreviated scale has been found to be higher than that of either 40-item scale (Andrews et al., 1993). Scores were determined by adding the Likert-type responses to obtain a total scale score (possible range 9-45). Correlation between the nine items to be used in this study and a 20-item version of the DAS was found to be .94. Internal consistency was acceptable ($\alpha = .74$) and test-retest reliability was reported as $r = .44$ (Lewinsohn, Joiner, & Rohde, 2001). Internal consistency reliability of the DAS in this dissertation study was acceptable (Cronbach alpha = 0.70).

Children’s Cognitive Style Questionnaire. The Children’s Cognitive Style Questionnaire (CCSQ; Mezulis, Hyde, & Abramson, 2006) was used to measure negative inferential style. The CCSQ presents six different scenarios with five separate statements regarding the cause of the event, the consequence of the event, and implications for self based on the occurrence of that event. The subject was then asked to rate their agreement

with each statement based on a five point Likert-type response from, “Don’t agree at all” to “Agree a lot.” Of the six scenarios, four present negative scenarios that are used to compute a child’s negative cognitive style, and two positive scenarios are included to avoid tiring the children with repeated negative events. Within the four negative scenarios, two scenarios assess cognitive style in response to achievement events and two scenarios assess cognitive style in response to interpersonal events. Scores were calculated by averaging the responses given for each of the five statements in the four negative scenarios with higher scores indicating more negative inferential styles (possible range 1 to 5). Internal consistencies of $\alpha = .64$ -.84 have been reported in the literature as well as a 2 week test-retest reliability of $r = .81$ (Abela, 2001; Mezulis et al., 2006). In this dissertation study, the internal consistency of the CCSQ was acceptable (Cronbach’s alpha = 0.90).

Response Style Questionnaire. The Response Style Questionnaire (RSQ, Nolen-Hoeksema & Morrow, 1991) is a 71-item questionnaire designed to measure the way an individual typically responds to negative affect and/or depressive symptoms or sad mood. The questionnaire was originally designed to assess four types of responses to depressive symptoms: 1) rumination, 2) distraction, 3) problem-solving, and 4) dangerous activities. Nolen-Hoeksema and Morrow (1991) reported only the rumination and distraction scales had adequate reliability (rumination and distraction scales, respectively; $\alpha = .89$ and $.80$). Because this study examined the concept of rumination, the Ruminative Response Style subscale (RRS) of the RSQ was used. The RRS scale includes 22 items describing responses to depressed mood that are focused on self (e.g., “I think back to other times I have been depressed”), focused on symptoms (e.g., “I think about how hard

it is to concentrate”), or focused on the possible consequences and causes of their mood (e.g., “I go away by myself and think about why I feel this way”).

Participants were asked to indicate how much each item applied to what they generally do when they are feeling down or sad using the responses, “almost never,” “sometimes,” “often,” or “almost always.” Item responses were added to obtain a total scale score with a possible range of 22 to 88 with higher scores indicating more ruminative response styles. The internal consistency of this scale was reported as $\alpha = .89$ (Nolen-Hoeksema & Morrow, 1991). The test-retest reliability has been found to be moderate ($r = .47$ over 1 year, Just & Alloy, 1997) to high ($r = .80$ over 5-months; Nolen-Hoeksema, Parker, & Larson, 1994). The reliability of the RSQ in this dissertation study was 0.95.

Center for Epidemiologic Studies Depression Scale for Children. The Center for Epidemiologic Studies Depression Scale for Children (CES-DC, Weissman, Orvaschell, & Padian, 1980) is a modified version of the CES-D used extensively in adult populations. This modified version is a 20-item self report scale assessing the frequency of depressive symptoms over the past week. Examples of items include, “I felt like I was too tired to do things this past week,” “I felt down and unhappy this week,” and “I didn’t sleep as well as I usually sleep this week.” There are items on the scale that offset depressive symptoms such as, “I feel I was just as good as other kids,” and “I had a good time this week.” Scoring of items range from 0 (“Not at all”) to 3 (“A lot”). Four items were reverse scored and total scale score was calculated by summing item responses. Scores had a possible range from 0-60 with higher scores indicating greater frequency of depressive symptoms. Internal consistency in this dissertation study was 0.92.

The Family Information Questionnaire. The Family Information Questionnaire (FIQ) developed for this dissertation study, gathered demographic data on each participant and their family to include child's gender, age, and grade, parental marital status, number of children living in the home, and socioeconomic status (i.e., education and occupation).

Socioeconomic status (SES) was determined using a combination of Hollingshead's Two Factor Index of Social Position (1965) and Barratt's (2006) Simplified Measure of Social Status (BSMSS). The BSMSS was developed based on Hollingshead's measure of social status. The BSMSS provides an updated list of occupations to improve relevance to present day occupations. The updated occupations of the BSMSS and the highest level of educational attainment were used to determine each participant's social status as defined by Hollingshead's rating index (1965). Five classifications were suggested by Hollingshead to determine SES. The highest class, Class I, includes major business professionals (scores ranging from 11-17). Class II includes lesser professionals (scores ranging from 18-27), Class III includes skilled craftsmen, clerical and sales workers (28-43), Class IV includes semiskilled workers (44-60), and Class V includes unskilled laborers (61-77). In this dissertation study, education and occupation of both parents/guardians was averaged and used to calculate SES unless the adolescent lived with one parent only, in which case only that parent's education and occupation was used. Lower scores indicate higher socioeconomic status.

Data Analysis

Handling of missing data. A total of 129 participants completed this dissertation

study. Initial descriptive analysis and review of the raw data revealed missing data in 18 individual records. Due to the summative nature of the majority of measures utilized in this study, the decision was made to include only the participants that had provided answers to every item. Thus, analysis was conducted with the 111 participants who provided an answer to every question on all questionnaires.

Descriptive statistics. Descriptive statistics were used to summarize and initially inspect the data distributions of the personal characteristics and study measures. To ensure that parametric statistical methods were used appropriately, the shapes of the distributions of the continuous measures were evaluated to determine the extent of any potential violations of parametric statistical assumptions (i.e., normality). Scores on the Adolescent Life Events Questionnaire-Total and the Dysfunctional Attitudes Scales were normally distributed and did not require transformation to meet parametric assumptions (i.e., variable measured on interval/ratio scale, normal distribution of data, and more than 10 cases). Scores on the remaining measures (i.e., negative life event domains, depressive symptoms, negative inferential style, and ruminative response style) met the parametric assumptions of interval/ratio scale and greater than 10 cases, but were not normally distributed. In order to approximate normal distribution, these data were transformed into ranks allowing parametric statistical analysis to be conducted. Following are the research questions addressed in this dissertation study with method of analysis:

1. What is the prevalence and number of negative life events reported by adolescents?

Descriptive statistics and confidence intervals were computed and used to address this question.

2. What are the univariate relationships of number of negative life events, cognitive vulnerabilities (i.e., dysfunctional attitudes, negative inferential style, and ruminative response style), and personal characteristics (i.e., age, gender, ethnicity, socioeconomic status (SES)) with number of depressive symptoms?

Pearson correlations of raw or transformed data were used to address this question as it relates to the continuous variables of age and SES. Point-biserial correlations of raw or transformed data were used to address this question as it relates to the dichotomous variables of gender and ethnicity.

3. What are the relationships among the cognitive vulnerabilities?

Pearson correlations of raw data or transformed data were used to address this question and the three sub-questions.

- 3a) What is the nature of the relationship between dysfunctional attitudes and negative inferential style?

- 3b) What is the nature of the relationship between dysfunctional attitudes and ruminative response style?

- 3c) What is the nature of the relationship between negative inferential style and ruminative response style?

4. What are the relationships between personal characteristics and cognitive vulnerabilities and type of negative life event?

Pearson correlations of raw or transformed data were used to address this question as it relates to the continuous variables of age and SES. Point-biserial correlations of raw or transformed data were used to address this question as it relates to the dichotomous variables of gender and ethnicity and the two sub-questions.

- 4a) Are there relationships between personal characteristics and the type negative life events?

- 4b) Is there a relationship between personal characteristics and cognitive vulnerabilities?

5. What are the relationships between cognitive vulnerabilities and number of negative life events?

Pearson correlation of raw or transformed data were used to address this question.

5a) Are there differences in the strength and direction of the relationships between the three cognitive vulnerabilities and negative life events?

Tests of the differences in dependent correlations were computed using z-statistics.

6. After controlling for personal characteristics and negative life events, do cognitive vulnerabilities uniquely contribute to number of depressive symptoms?

Hierarchical linear regression analysis of raw or transformed data was used to address this research question.

CHAPTER IV

RESULTS

Description of Sample

A convenience sample of 7th and 8th grade students (N=111) from two middle schools in a rural Tennessee county participated in this study (See Table 1). The sample consisted of 63 females (56.8%) and 48 males (43.2%) ranging in age from 12 to 15 years. The majority of the sample reported their age as 13 (45.9%), followed by an almost equal number of 12 and 14 year olds (n= 28, 25.2% and n= 29, 26.1%, respectively). Three participants were 15 years old (2.7%). The parents/legal guardians of the participants reported their marital status as either single (n=23, 20.7%) or married/living with partner (n=88, 79.3%). The majority of participants were Caucasian (n= 103, 92.8%) with the remaining participants identifying as African American (n=3, 2.7%), Hispanic (n=2, 1.8%), or other (n=3, 2.7%).

The number of children in each household ranged from 1 to 6, with 2 children being the most often reported (n=56, 50.5%). The parent/legal guardian(s) of each participant reported their highest educational attainment and their type of occupation. In this sample, approximately 81% (n=164) of the parents/legal guardians reported a high school education/GED or higher, with the highest percentage reporting a high school/GED education (n=66, ~33%). Using the updated occupations in the Barratt Simplified Measure of Social Status (2006) and Hollingshead's Two Factor Index of Social Status (1965) classification system, the participants' social status ranged from

Class II (lesser professionals) to Class V (unskilled laborers) with the majority of respondents (n=50, 45%) falling into Class IV (e.g., clerical and sales workers, technicians, and construction laborers) (See Table 1).

Table 1.
Summary of Participant Demographic Data

Variable	Total Sample (N=111) Frequency (%)
Gender	
Male	48(43.2%)
Female	63(56.8%)
Age (years)	
12	28(25.2%)
13	51(45.9%)
14	29(26.1%)
15	3(2.7%)
Grade	
7 th	46(41.4%)
8 th	65(58.6%)
Parental Marital Status	
Single	
Married/living with partner	23(20.7%) 88(79.3%)
Number of children in home	
1	17(15.3%)
2	56(50.5%)
3	20(18.0%)
4	11(9.9%)
5	4(3.6%)
6	3(2.7%)
Ethnicity	
Caucasian	103(92.8%)
Hispanic	2(1.8%)
African American	3(2.7%)
Other	3(2.7%)
Education Level	
< 7 th grade	1(0.5%)
Junior high	4(2%)
Some high school	34(16.7%)
High school grad/GED	66(32.5%)
Some college	48(23.6%)
College education	32(15.8%)
Graduate degree	18(8.9%)
Socioeconomic Status (SES)	
I	0(0%)
II	2(1.8%)
III	25(22.5%)
IV	50(45%)
V	34(30.6%)

Description of Study Variables

Participants in this study reported a range of scores on the Adolescent Life Events Questionnaire (ALEQ) from 0 to 53 ($M=21.8$, $SD=12.5$). The ALEQ consists of negative life events that are subdivided into four domains: 1) family/parents, 2) romantic relationships, 3) school, and 4) friends/social activities. The scores in the family/parent domain ranged from 0 to 23 ($M= 9.35$, $SD=5.94$). Scores for the romantic relationship domain ranged from 0 to 9 ($M= 2.31$, $SD= 2.34$). Scores for the school domain ranged from 0 to 11, with one participant endorsing all 11 negative life events ($M=4.73$, $SD=2.53$). Scores for the friend domain ranged from 0 to 19 ($M=5.38$, $SD=3.89$). One participant reported 18 out of the possible 19 proposed negative life events in the friend domain.

Depressive symptom scores on the Center for Epidemiological Studies-Depression Scale for Children (CES-DC) ranged from 1 to 53 ($M=16.94$, $SD=12.43$), with 48.6% ($n=54$) of the participants scoring at or above the suggested screening cutoff point of 15. This result suggests that almost 50% of the sample reported high levels of depressive symptoms. Scores on the Dysfunctional Attitudes Scale (DAS) ranged from 10 to 37 ($M=20.00$, $SD=5.74$). Scores on the Children's Cognitive Style Questionnaire (CCSQ) (i.e., negative inferential style) ranged from 1.05 to 3.75 (maximum score of 5) with approximately 96% ($n=106$) of participants scoring below 3. Scores on the Ruminative Response Style Questionnaire (RRSQ) ranged from 22 to 78 ($M=40.17$, $SD=14.13$). Table 2 summarizes the complete descriptive statistics of the key study variables ($N=111$). All of the distributions with the exception of those for the ALEQ (i.e., negative life events) and DAS (i.e., dysfunctional attitudes) were sufficiently skewed to warrant transformation of the scores prior to computing parametric statistical analysis. Those skewed data distributions were transformed to ranks to meet parametric assumptions.

Table 2.
Descriptive Statistics of Measures (N=111)

Scale (score range)	Min, Max	<i>M</i> (<i>SD</i>)	Median	IQR	
				(25 th ,75 th)	95% CI
ALEQ-T (0-70)	0, 53	21.77(12.5)	21	11, 31	[19.53, 24.08]
ALEQ-F (0-29)	0, 23	9.35(5.94)	8	5, 14	[8.22, 10.54]
ALEQ-Rr (0-11)	0, 9	2.31(2.34)	1	0, 4	[1.86, 2.77]
ALEQ-S (0-11)	0, 11	4.73(2.53)	5	3, 6	[4.26, 5.19]
ALEQ-F (0-19)	0, 18	5.38(3.89)	5	2, 8	[4.72, 6.14]
CES-DC (0-60)	1, 53	16.94(12.43)	14	8, 23	[14.71, 19.23]
DAS (0-40)	10, 37	20.01(5.74)	20	15, 24	[18.88, 21.03]
CCSQ (1-5)	1.05, 3.75	1.73(0.54)	1.6	1.4, 2	[1.64, 1.84]
RRSQ (1-88)	22, 78	40.17(14.13)	38	29, 49	[37.57, 42.86]

Note. IQR = interquartile range; CI = confidence interval; ALEQ-T = Adolescent Life Events Questionnaire-Total Scale Score; ALEQ-Rr = Adolescent Life Events Questionnaire-Romantic relationship domain; ALEQ-S = Adolescent Life Events Questionnaire-School domain; ALEQ-F = Adolescent Life Events Questionnaire-Family domain; CES-DC = Center for Epidemiological Studies-Depression Scale for Children; DAS = Dysfunctional Attitudes Scale; CCSQ = Children’s Cognitive Style Questionnaire; RRSQ = Ruminative Response Style Questionnaire

Research Questions

Prevalence and Number of Negative Life Events

In this sample of young adolescents, all but one participant endorsed one or more negative life events in the previous three months. The number of reported negative life events was normally distributed with a 95% confidence interval of 19.53 to 24.08. Negative life event scores ranged from 0-53 out of a possible 70 ($M= 21.77$, $SD= 12.5$). The highest numbers of negative life events were reported in the domains of family, friends, and school (See Table 2).

Number of Negative Life Events, Cognitive Vulnerabilities, and Personal Characteristics with Depressive Symptoms

Total number of negative life events were found to statistically significantly correlate with depressive symptoms ($r=0.61, p<.001$), as well as with each of the four specific negative life event domains: Family ($r=0.57, p<.001$), romantic relationships ($r=0.50, p<.001$), school ($r=0.34, p<.001$), and friends/social activities ($r=0.55, p<.001$). Participants reporting a higher number of negative life events also reported higher depressive symptoms.

All three cognitive vulnerabilities were statistically significantly correlated with depressive symptoms. The univariate associations with depressive symptoms was strongest for ruminative response style ($r=0.88, p<.001$), followed by negative inferential style ($r=0.60, p<.001$), and dysfunctional attitudes ($r=0.41, p<.001$). As shown in Table 3, none of the personal characteristics of gender, age, and socioeconomic status (SES) achieved a statistically significant level of association with depressive symptoms. The strongest pattern, however, was for gender. While not statistically significant, females tended to report more depressive symptoms than males. The sample was essentially homogenous for ethnicity (93% Caucasian), thus no tests of association for ethnicity were conducted.

Table 3.

Correlations with depressive symptoms Measured by the CES-DC (N=111)

Scale	<i>r</i>	<i>p</i> -value
ALEQ-T*	0.61	<.001
ALEQ-F*	0.57	<.001
ALEQ-Rr*	0.50	<.001
ALEQ-S*	0.39	<.001
ALEQ-Fr*	0.55	<.001
DAS*	0.41	<.001
RRSQ*	0.88	<.001
CCSQ*	0.59	<.001
Age*	0.03	.782
SES*	0.08	.433
Gender** (0=Female, 1=Male)	-0.18	.058

Note. The sample was essentially homogenous for ethnicity (93% Caucasian), thus no tests of association for ethnicity were conducted. SES = Socioeconomic status; CES-DC = Center for Epidemiological Studies-Depression Scale for Children; ALEQ-T = Adolescent Life Events Questionnaire-Total Scale Score; ALEQ-Rr = Adolescent Life Events Questionnaire-Romantic relationship domain; ALEQ-S = Adolescent Life Events Questionnaire-School domain; ALEQ-F = Adolescent Life Events Questionnaire-Family domain; DAS = Dysfunctional Attitudes Scale; CCSQ = Children's Cognitive Style Questionnaire; RRSQ = Ruminative Response Style Questionnaire

* Correlations are Spearman correlations ** Correlations are Point-biserial correlations

Relationships Among Cognitive Vulnerabilities

Statistically significant relationships were found among all three measures of cognitive vulnerability (Presented in Table 4). All correlations were positive. Participants who reported higher scores on any of the three cognitive vulnerability measures also reported higher scores on the other two cognitive vulnerability measures.

Table 4.

Correlations among Negative Life Events, Cognitive Vulnerabilities, and Personal Characteristics (N=111)

	ALEQ-T	ALEQ-F	ALEQ-Rr	ALEQ-S	ALEQ-Fr	DAS	CCSQ	RRSQ	Gender ⁺	Age	SES
ALEQ-T	1.00	0.92 ^{***}	0.73 ^{***}	0.68 ^{***}	0.89 ^{***}	0.49 ^{***}	0.49 ^{***}	0.63 ^{***}	-0.17	0.01	0.17
ALEQ-F		1.00	0.59 ^{***}	0.56 ^{***}	0.76 ^{***}	0.53 ^{***}	0.50 ^{***}	0.60 ^{***}	-0.13	0.03	0.20 [*]
ALEQ-Rr			1.00	0.37 ^{***}	0.66 ^{***}	0.27 ^{**}	0.26 ^{**}	0.54 ^{***}	-0.33 ^{**}	-0.04	0.01
ALEQ-S				1.00	0.54 ^{**}	0.21 [*]	0.31 ^{**}	0.42 ^{***}	0.12	-0.01	0.17
ALEQ-Fr					1.00	0.44 ^{***}	0.46 ^{***}	0.55 ^{***}	-0.24 [*]	0.00	0.11
DAS						1.00	0.57 ^{**}	0.47 ^{**}	-0.13	0.16	0.24 [*]
CCSQ							1.00	0.66 ^{**}	-0.07	-0.02	0.18
RRSQ								1.00	-0.15	0.01	0.09

Note. ALEQ-T = Adolescent Life Events Questionnaire-Total Scale Score; ALEQ-F = Adolescent Life Events Questionnaire-Family domain; ALEQ-Rr = Adolescent Life Events Questionnaire-Romantic relationship domain; ALEQ-S = Adolescent Life Events Questionnaire-School domain; ALEQ-Fr = Adolescent Life Events Questionnaire-Friends domain; DAS = Dysfunctional Attitudes Scale; CCSQ = Children's Response Style Questionnaire; RRSQ = Ruminative Response Style Questionnaire. Gender: Female = 0, Male = 1.

⁺Correlation is a Point-biserial correlation; All other correlations are Spearman correlations

^{*}Indicates correlation is significant at $p < 0.05$ ^{**}Indicates correlation is significant at $p < 0.01$ ^{***}Indicates correlation is significant at $p < 0.001$

Personal Characteristics, Cognitive Vulnerabilities, and Type of Negative Life Event

Gender and type of negative life event. Overall, no statistically significant difference was found between total number of negative life events reported by females and males ($r = -.017$, $p = .079$). Evaluation of the relationships between negative life event domains (i.e., family, romantic relationships, school, and friends/social activities) and the personal characteristic of gender yielded two statistically significant correlations. Female participants reported significantly more negative life events in the romantic relationship domain ($r = 0.33$, $p < .001$) and the friend/social activities domain ($r = 0.24$, $p = .012$) than males. There were no statistically significant differences between females and males in the negative life event domains of family ($r = -0.13$, $p = .161$) or school ($r = 0.12$, $p = .209$).

SES, age, and type of negative life event. A statistically significant relationship was found between type of negative life events in the family domain (e.g., quarrels with parents, parental divorce) and SES ($r = 0.19$, $p = .047$). A greater number of negative family life events were reported by participants from lower SES backgrounds. No other statistically significant relationships were found between SES and the three remaining negative life event domains (Romantic relationships, $r = 0.01$, $p = .905$, School, $r = 0.17$, $p = .081$, or Friends, $r = 0.11$, $p = .264$). No statistically significant relationship was found between age and type of negative life events (Family: $r = 0.03$, $p = .719$, Romantic relationships: $r = -0.04$, $p = .700$, School: $r = -0.01$, $p = .933$, or Friends: $r = -0.00$, $p = .981$).

Cognitive vulnerability and SES. One statistically significant relationship was found between the three cognitive vulnerabilities (i.e., dysfunctional attitudes, negative inferential style, and ruminative response style) and SES. The cognitive vulnerability of dysfunctional attitudes was statistically significantly associated with SES ($r = 0.26$, $p = .006$). Participants from

lower SES backgrounds reported more dysfunctional attitudes. The cognitive vulnerabilities of negative inferential style and ruminative response style were not statistically significantly related with SES (negative inferential style: $r=0.18$, $p=.065$; ruminative response style: $r=0.09$, $p=.359$). No statistically significant relationships were found with the three cognitive vulnerabilities and the personal characteristics of age or gender (See Table 4).

Relationships Between Cognitive Vulnerabilities and Number of Negative Life Events

Statistically significant relationships were found for each of the three cognitive vulnerabilities with negative life events. Participants who reported higher numbers of total negative life events (e.g., fights with parents, break-ups with a romantic relationship, failing a test in school) reported more dysfunctional attitudes ($r=0.49$, $p<.001$), negative inferential styles ($r=0.49$, $p<.001$), and ruminative response styles ($r=0.63$, $p<.001$). Within each of the four domains of negative life events statistically significant relationships were also found with each of the three cognitive vulnerabilities. The most robust correlations were found within the negative life events domain of family and the three cognitive vulnerabilities (dysfunctional attitudes, $r=0.53$, $p<.001$, negative inferential style $r=0.50$, $p<.001$, and ruminative response style, $r=0.60$, $p<.001$) (See Table 4 for summary).

Test of differences were calculated among the dependent correlations of the three cognitive vulnerabilities with number of negative life events to determine if there were differences in the strength and direction of those relationships. As noted above, all the correlations were in the same direction. More cognitive vulnerability styles were associated with more negative life events. However, one statistically significant difference in the strength of those relationships was found. The relationship between ruminative response style and negative

life events was statistically significantly stronger than the relationship between negative inferential style and negative life events ($Z_0 = -2.30, p = .021$).

Unique Contribution of Cognitive Vulnerabilities to Number of Depressive Symptoms

The results of the hierarchical modeling of the hypothesized explanatory variables are summarized in Table 5. At step 1, participants' gender and SES accounted for only approximately 4% of the variability in depressive symptoms and the multivariate association was not statistically significant (Multiple $R = 0.197, p = .118, \text{Adjusted } R^2 = .021$)

In the second step of the analysis, the four domains of negative life events were added to the model. With the inclusion of the set of negative life events, there was a statistically significant increase in the ability to explain depressive symptoms that went from 4% (in the previous step) to a total of 38%. The resulting multiple correlation was now statistically significant (Multiple $R = 0.619, p < .001, \text{Adjusted } R^2 = .347$). Within this model, however, only the family negative life events association demonstrated a statistically significant unique association with depressive symptoms ($\beta = .294, p = .022$).

Finally, the last step of the hierarchical analyses included the addition of the set of cognitive vulnerability variables. This addition resulted in another statistically significant increase (~39%) in the ability to explain the variability in depressive symptoms (from the 38% shared variability of the previous step to a final shared variability of 78%). The resulting overall multiple correlation of the entire set of variables (gender, SES, negative life events, cognitive vulnerabilities) with depressive symptoms was 0.880 and was statistically significant ($p < .001$). Given that the adjusted R^2 was .755 (or ~76% shared variance), it could be expected that this finding would not change dramatically upon replication. It is worth noting, however, that after

controlling for the associations of each of the study variables with depressive symptoms, as well as for the inter-correlations among the variables as noted above, ruminative response style remained the only variable that demonstrated a statistically significant unique contribution to the number of depressive symptoms ($\beta = .824, p < .001$) in this sample of young adolescents.

Table 5.
Summary of Hierarchical Multiple Linear Regression (N=111)

Variables	β	p -value	R	p -value	R^2 -Change	p -value
<i>Step 1</i>			0.197	0.118	0.039	0.118
Gender	-.182	.056				
SES	-.079	.406				
<i>Step 2</i>			0.619	<.001	0.344	<.001
Gender	-.059	.495				
SES	-.016	.838				
ALEQ-F	.294	.022				
ALEQ-Rr	.168	.123				
ALEQ-S	.093	.351				
ALEQ-Fr	.155	.245				
<i>Step 3</i>			0.88	<.001	0.392	<.001
Gender	-.046	.382				
SES	-.008	.872				
ALEQ-F	.015	.858				
ALEQ-Rr	-.044	.536				
ALEQ-S	.009	.883				
ALEQ-Fr	.108	.196				
DAS	-.025	.689				
CCSQ	.012	.870				
RRSQ	.824	<.001				

Multiple $R = 0.88, p < .001$; $R^2 = .775$ (Adjusted $R^2 = .755$)

Note. Gender: Female = 0, Male = 1; ALEQ-T = Adolescent Life Events Questionnaire-Total Scale Score; ALEQ-F = Adolescent Life Events Questionnaire-Family domain; ALEQ-Rr = Adolescent Life Events Questionnaire-Romantic relationship domain; ALEQ-S = Adolescent Life Events Questionnaire-School domain; ALEQ-Fr = Adolescent Life Events Questionnaire-Friends domain; DAS = Dysfunctional Attitudes Scale; CCSQ = Children's Response Style Questionnaire; RRSQ = Ruminative Response Style Questionnaire

CHAPTER V

DISCUSSION

This chapter presents discussion of the results from this dissertation study in four main sections: 1) interpretation and summarization of study questions, 2) limitations of the study, 3) implications for nursing, and 4) recommendations for future research.

Prevalence and Number of Negative Life Events

All but one participant reported one or more negative life events in the previous three months, with one participant reporting 53 negative life events out of a possible 70. Participants endorsed negative events in each of the negative life event domains: 1) family, 2) romantic relationships, 3) school, and 4) friends/social activities. Although high numbers of negative events were frequently endorsed in the domains of family, friends, and school, the mean number of responses within the school domain was the highest, suggesting that school and the pressures associated with academic performance were a significant source of stress in this young adolescent sample. The negative events frequently reported by the participants related to school included 1) failing a test or class project, 2) inability to complete homework assignments, and 3) inability to understand the teacher and/or the material being presented. Thus, academic responsibilities and failures in school performance appear to be significant sources of stress in this sample of young adolescents.

The results above are supported by findings of Hilsman and Garber (1995) who examined academic stressors, such as receiving a poor report card in a sample of 5th and 6th graders. Negative affect and depressive symptoms were directly predicted by the poor report card the

morning after the event. Five days later, however, negative affect and depressive symptoms were not predicted by the poor report card, but by the interaction between the negative event and the negative cognitions about its cause (e.g., “I got bad grades because I am not a good student.”). According to these investigators, if the negative patterns of thinking continue to function in the presence of negative life events, they may remain as risk factors for the development of depressive symptoms.

Prevalence and Number of Depressive Symptoms

The mean number and range of depressive symptoms found in this sample was similar to those reported in the literature. The National Longitudinal Study of Adolescent Health (Rushton, et al., 2002) surveyed a nationally representative sample of adolescents in grades 7 through 12 and reported a mean of 12.2 ($SD = 0.15$) and a range of scores from 0-57 on the adult version of the CES-D (Radloff, 1977). When used as a screening tool, consistently high sensitivity for detecting depressive disorders has been presented in the literature when a cutoff score of 15 and above was used (Fendrich, Weissman, & Warner, 1990). It also has been argued that using a score of 15 does not provide enough specificity to be clinically or empirically useful. Rushton et al. (2002) suggested using a categorization of minimal symptoms (0-15), mild symptoms (16-23), and moderate/severe symptoms (≥ 24).

Almost half (~49%) of the young adolescents in this study scored at or above the originally suggested cutoff score of 15. Utilizing the Ruston et al. (2002) framework, approximately 23% of adolescents in this sample reported depressive symptoms in the highest (i.e., moderate/severe) symptom category. According to the National Institute of Child Health and Human Development, approximately one in six youths in the US report depressive

symptoms and the prevalence of depressive symptoms increases with age across adolescence (Saluja et al., 2004). As discussed in the theoretical section of this dissertation study, studies have shown that, as compared with asymptomatic adolescents, adolescents reporting more depressive symptoms had an elevated risk for later major depressive disorders, with recurrence rates ranging from 45% to 72% over three to seven years, and a thirty-fold increased risk of completed suicide. The results of this dissertation study add to the evidence that the prevalence and number of depressive symptoms are pronounced at a young age. Early identification and access to treatment are critically important for the prevention of the persistence of depressive symptoms that could lead to increased risk for major depressive episodes later in adolescence.

Depressive Symptoms with Negative Life Events

Depressive symptoms were found to highly correlate with negative life events. To gain a deeper understanding of the relationship between the development of depressive symptoms and negative life events, each domain (i.e., family, romantic relationships, school, and friends) was examined individually. Each of the negative event domains was significantly associated with depressive symptoms ($p < .001$), but the strongest association was found for the total number of negative life events reported by the participants. Overall, the results indicated that the young adolescents in this study experienced negative life events in a variety of domains, but the results suggest that it is the cumulative effect of multiple negative life events that relate most highly with depressive symptoms.

Studies have shown that increases in negative life events during adolescence are associated with the development of depressive symptoms when adolescents are unable to effectively cope with the increased stress (Carter, Garber, Ciesla, & Cole, 2006; Grant, Compas,

Thurm, McMahon & Gipson, 2004; Shih et al., 2006). A recent longitudinal analysis of 708 young adolescents (7th to 9th grade) showed that self-reported negative life events significantly predicted depressive symptoms over a six year period (Cole, Nolen-Hoeksema, Girgus, & Paul, 2006). The results of the current study provide further support for the link between negative life events and the development of depressive symptoms in young adolescents.

Depressive Symptoms with Cognitive Vulnerabilities

The three cognitive vulnerabilities examined in this dissertation study were positively associated with the development of depressive symptoms. Participants reporting more depressive symptoms also reported more dysfunctional attitudes, more negative inferential styles, and more ruminative response styles. According to Hankin and Abramson's (2001) Cognitive Vulnerability-Transactional Stress Model (CV-TSM), dysfunctional attitudes and negative inferential style provide the negative thought content in response to negative life events while a ruminative response style prevents abandoning those negative thoughts and prevents active problem solving, which leads to the development of depressive symptoms. The findings of the current study provide strong support for the association between the three cognitive vulnerabilities and depressive symptoms and are consistent with the findings reported from the limited research that has been conducted with young adolescent samples.

Dysfunctional attitudes have been shown in the older adolescent and adult literature to be consistently associated with increases in depressive symptoms. This study provides evidence to support the findings from very few studies linking dysfunctional attitudes with depressive symptoms in young adolescents (e.g., Abela & Hankin, 2009; Abela & Skitch, 2007). These investigators also found that higher levels of dysfunctional attitudes were associated with

increases in depressive symptoms in young adolescents. Furthermore, the results of this study also contribute to the growing body of literature documenting the relationship between negative inferential style and increases in depressive symptoms (Abela, 2001; Hilsman & Garber, 1995; Mezulis et al., 2006). Studies have consistently found that negative inferential style (i.e., inferences about cause, consequences, and implications for whether one's responses can influence outcome) is associated with increases in the development of depressive symptoms.

The findings of this study also are consistent with the findings from other studies that found a strong association between a ruminative response style and increases in depressive symptoms (Abela, Brozina & Haigh, 2002; Burwell & Shirk, 2007). Individuals who continue to ruminate about the negative event encounter are unable to direct their attention away from their negative emotional state and fail to take any type of action to relieve their symptoms or change their situation for the better (Nolen-Hoeksema, 1991). Abela et al., (2002) further noted that the association between ruminative response style and increases in depressive symptoms was not moderated by initial symptom levels, suggesting that rumination (i.e., inability to abandon negative thought processes) plays a role in both the development and maintenance of depressive symptoms.

Depressive Symptoms with Personal Characteristics

Although females tended to report more depressive symptoms than males in this dissertation study, the difference did not reach statistical significance. However, the tendency for females to report more depressive symptoms than males is consistent with the findings reported in the literature (Costello et al., 2003; Lewinsohn et al., 1998; Rushton, Forcier, & Schectman, 2002). Costello et al. (2003) found increasing prevalence of depressive symptoms

across adolescence, with females reporting significantly more depressive symptoms than males beginning between the ages of 13 and 15 years, that continued to increase across adolescence and into young adulthood. It is possible that the age range of the young adolescents in this study was too narrow to detect a statistically significant difference between males and females. The results may have been more conclusive using a wider age range.

The suggestion for the use of a wider age range in future research is supported by the findings of Ge et al. (2001) whose 6-year longitudinal study found relatively high levels of depressive symptoms reported by both males and females in 7th and 8th grade. However, beginning in 8th grade, females began reporting significantly more depressive symptoms than males, a trend that increased with the transition to 9th grade and continued steadily through 12th grade. The majority of adolescents in the current study participated during the fall semester of their 7th or 8th grade year. When considering the findings of Ge et al. (2001) it is possible that if data collection had continued at time points throughout the entire academic year, a significant difference between males and females may have been detected.

Relationships among Cognitive Vulnerabilities

This dissertation study is one of the first systematic studies to examine all three cognitive vulnerabilities of dysfunctional attitudes, negative inferential style, and ruminative response style in a sample of young adolescents. Previous research focused primarily on the cognitive vulnerabilities of dysfunctional attitudes and negative inferential style (Alloy et al., 2000; Lewinsohn, Joiner, & Rohde, 2001; Lewinsohn, Rohde, & Seeley, 1998). Hankin and Abramson's (2001) Cognitive Vulnerability-Transactional Stress Model (CV-TSM) is the only cognitive vulnerability stress model that includes a third cognitive vulnerability, namely

ruminative response style.

The addition of ruminative response style in the CV-TSM (Hankin & Abramson, 2001) was conceptualized as a cognitive vulnerability that would improve understanding of the role of prolonged negative thinking in the development of depressive symptoms, thus improving the explanatory power of the overall model. Previous research has supported the link between higher levels of rumination and depressive symptoms (e.g., Abela, Brozina & Haigh, 2002; Nolen-Hoeksema, 1991, 2000; Spasojevic & Alloy, 2001), but the CV-TSM proposes that the tendency to use a ruminative response style constitutes an additional cognitive vulnerability that helps explain the development of depressive symptoms through mechanisms similar to the cognitive vulnerabilities of dysfunctional attitudes and negative inferential style. For example, the participants in this study who reported more dysfunctional attitudes and more negative inferential styles also reported more ruminative response styles. The high intercorrelations found among the three cognitive vulnerabilities provide preliminary support for the addition of ruminative response style as a third cognitive vulnerability that further improves understanding of the development of depressive symptoms.

Relationships Between Personal Characteristics and Negative Life Events

The total number of negative life events reported by the participants in this study was not significantly associated with any of the personal characteristics (i.e., age, gender, SES). However, two significant findings emerged when gender was analyzed individually within the specific negative life event domains. Females reported significantly more negative life events than males in the domains of romantic relationships and friends. These results are consistent with previous research documenting that females tend to experience more interpersonal negative

life events than males (Rudolph & Hammen, 1999; Shih et al., 2006). The results found between gender and negative life events in this dissertation study further suggest that females may be at greater risk for developing depressive symptoms during adolescence because they experience more interpersonal stressors (e.g., peer conflict, romantic relationship stress), attach more importance to these negative events, and are more troubled by negative events in these interpersonal domains than males (e.g., Nolen-Hoeksema & Girgus, 1994; Rose & Rudolph, 2006; Rudolph, 2002).

A positive association between lower socioeconomic status (SES) and negative life events in the family domain (e.g., parental divorce, quarrels with parents, family members being arrested) was found. A probable explanation of this finding is that the family dynamics of lower SES families are characterized by more stressful interactions and negative events than families of higher SES. This interpretation is supported by previous studies. For example, McLeod and Kessler (1990) noted that the association between psychological distress and individuals reporting lower SES is one of the most well documented phenomena in mental health epidemiology. Sociodemographic variables, such as social class, ethnic minority status, and growing up in single parent households, have all been found to be significantly related to a wide range of child and adolescent psychopathologies including the development of depressive symptoms (Kessler, Avenevoli, & Merikangas, 2001). However, these sociodemographic variables are found to often overlap and are difficult to evaluate for their individual contributions to development of depressive symptoms.

This sample was almost completely Caucasian (~94%) and a large percentage of the families were also from lower SES backgrounds, suggesting that lower SES may provide unique risks for increases in negative events in the family domain. This result suggests that stressors

within the family context are significant contributors to overall negative life events experienced by adolescents from lower SES backgrounds. Further research examining the nature of family dynamics and possible sources of conflict may help inform future interventions aimed at minimizing conflict and stress, while maximizing positive interactions and communication in families of lower SES.

Relationships between Personal Characteristics and Cognitive Vulnerabilities

SES and cognitive vulnerabilities. Only one significant relationship was found with the personal characteristics examined in this study (i.e., gender, age, SES) and the three cognitive vulnerabilities (i.e., dysfunctional attitudes, negative inferential style, and ruminative response style). Participants from lower SES families reported significantly more dysfunctional attitudes than participants from higher SES families. This relationship has not been previously reported in the literature. Beck's Cognitive Theory (1987, 1999) provides some insight about why this finding may have emerged. The theory proposes that the developmental origins of dysfunctional attitudes are rooted in early childhood adversity and stress, but hypothesizes that the negative cognitive schemas that lead to dysfunctional attitudes are not solidified until middle to late adolescence or even early adulthood. The finding that the young adolescents from lower SES families in this study reported more dysfunctional attitudes and negative family events provide preliminary support for the proposition that childhood stressors and conflict within the family context may be related to the development of dysfunctional attitudes much earlier than previously hypothesized.

Gender and cognitive vulnerabilities. No significant difference was detected between males and females with any of the three cognitive vulnerabilities (i.e., dysfunctional attitudes,

negative inferential style, and ruminative response style). Consistent with previous research females and males reported similar levels of dysfunctional attitudes and negative inferential styles. Noteworthy is that this dissertation study failed to replicate the findings of previous research that found that females reported more ruminative response styles than males (e.g., Broderick, 1998; Papadakis, Prince, Jones, & Strauman, 2006; Schwartz & Koenig, 1996; Spasojevic & Alloy, 2001). These investigators concluded that females tended to report more ruminative response styles than males beginning around middle adolescence and continuing throughout adulthood, and that higher levels of rumination were associated with higher levels of depressive symptoms. It is possible that no significant gender difference in ruminative response style was found in this study because the adolescents were younger. A wider age range may be needed to detect differences between females and males and ruminative response style.

This explanation is supported by the inconsistent findings of two separate studies utilizing samples of adolescents of different ages. Abela, Brozina, and Haigh (2002) found no difference between males' and females' tendency to report a ruminative response style in 3rd and 7th grade participants, while Schwartz and Koenig (1996) found that females in the 9th through 12th grades reported significantly more ruminative response styles than males. These results suggest that future research with adolescent samples using a wider age range (e.g., young, middle, and older adolescents) is needed to clarify the nature of the relationship between ruminative response style and gender.

Relationships between Cognitive Vulnerabilities and Number of Negative Life Events

Cognitive vulnerabilities and negative life events. All three cognitive vulnerabilities (i.e., dysfunctional attitudes, negative inferential style, and ruminative response style) were

highly associated with the total number of negative life events reported by the participants in this study. Participants who reported higher numbers of negative events in all four domains (i.e., family, romantic relationships, school, and friends) reported more dysfunctional attitudes, more negative inferential styles, and more ruminative response styles. The cognitive vulnerabilities of dysfunctional attitudes and negative inferential style were highly associated with negative life events in the domains of family and friends. However, the most robust relationships were found between the cognitive vulnerability of ruminative response style and negative life events in the family domain and total number of negative life events. The Cognitive Vulnerability-Transactional Stress Model of Depression (CV-TSM) (Hankin & Abramson, 2001) and previous research with a focus on the developmental origins of cognitive vulnerability may provide a framework within which the current results can be understood.

Hankin and Abramson's (2001) cognitive vulnerability model proposes a cyclic process that involves cognitive vulnerabilities, negative life events and the development of depressive symptoms. The activation of cognitive vulnerabilities by an individual in response to an initial negative life event can lead to increases in depressive symptoms that can lead to the development of further negative life events. For example, an adolescent girl who activates the proposed three cognitive vulnerabilities in her response to a negative life event (e.g., break-up of a romantic relationship) will interpret and process that event through a dysfunctional attitude (I'm no good because my boyfriend broke up with me), a negative inferential style (My boyfriend broke up with me because I am ugly and no one will ever want to date me), and a ruminative response style that prevents her from abandoning these negative cognitions, which are proposed to lead to increases in depressive symptoms (e.g., irritability and insomnia).

The cycle is hypothesized to continue with the new symptoms. Insomnia can make it

more difficult for the adolescent to concentrate in class, possibly resulting in failing grades, and irritability can lead to new negative events such as increased interpersonal conflicts with peers, teachers, and family members. The activation of the cognitive vulnerabilities in response to the new negative events places the adolescent at risk for persistence of and/or increases in depressive symptoms.

Since ruminative response style had the most robust relationship with negative events in this study, this result warrants further discussion. The CV-TSM proposes that activation of a ruminative response style exacerbates and prolongs emotional distress through several mechanisms. First, rumination enhances the effects of negative mood on thinking, making it more likely that individuals will use the negative thoughts and memories to understand and interpret their current circumstances. Second, rumination interferes with effective problem solving, in part by making thinking more pessimistic and fatalistic. Third, individuals who tend to ruminate may lose social support from family and peers because their continuous pattern of negativity pushes people away, which, in turn, may lead to increases in and persistence of depressive symptoms (e.g., Feldner et al., 2006 ; Riso et al., 2003; Spasojevic & Alloy, 2001).

Further, the finding that ruminative response style was shown to have the highest association with negative events within the family domain is particularly important to highlight. Previous research of cognitive vulnerability and parenting may help explain why this result occurred. For example, a prospective investigation regarding the developmental origins of cognitive vulnerability, Mezulis et al. (2006) reported that negative life events such as negative parenting (e.g., high anger expression, negative feedback, and/or high negative affect towards child), predicted 27% of the variance in children's negative cognitive responses at age 11. Garber and Flynn (2001) also reported that maternal parenting styles and previous history of

depressive illness predicted negative cognitive styles in a young adolescent sample. Alloy et al.'s (2001) study further demonstrated that cognitive vulnerability in an undergraduate sample was predicted by both maternal and paternal cognitive and parenting styles.

Given that the participants in this study reported significant stressors within the family domain, such as quarrels with parents, parental divorce, and family members being arrested, it may be that the highly volatile nature of these negative events may have an especially deleterious effect when viewed as outside of the adolescent's control. Further, the activation of a ruminative response style (inability to abandon negative patterns of thinking) within the context of conflicts with parents and family members may place the adolescent at greater risk for the development of depressive symptoms. Future research is needed to clarify the link between cognitive vulnerabilities and stressors reported by adolescents in the family domain.

Strength and direction of the relationships between cognitive vulnerabilities and negative life events. As noted in the result section of this dissertation study, all the relationships between cognitive vulnerabilities and negative life events were in the positive direction. However, the analysis among the dependent correlations of the three cognitive vulnerabilities with negative life events found one significant difference. The relationship between ruminative response style and negative life events indicated a much stronger relationship when compared with the association between negative inferential style and negative life events. A ruminative response style may have emerged as being strongly related to negative life events in this study because rumination is conceptualized as a repetitive focus on the negative event where individuals direct their attention to their emotional state but fail to take any action to relieve their emotional state or change their situation for the better.

According to the CV-TSM (Hankin & Abramson, 2001), a negative inferential style

provides the negative content for the immediate response to a negative event, while a ruminative response style drains cognitive resources, prevents active problem-solving behaviors, and leads to prolonged periods of stress. It is plausible that the relationship between ruminative response style and negative events emerged more strongly than the relationship between negative inferential style (i.e., one's responses can influence outcome in the short-term) and negative life events because the participants in this study reported retroactively on negative events that had occurred in the previous three months. Adolescents who were unable to abandon negative patterns of thinking generated by the unresolved conflict may have continued to ruminate about the issues associated with the negative event.

Unique Contribution of Cognitive Vulnerabilities to Number of Depressive Symptoms

Hierarchical linear regression was used to examine the unique contribution of the three cognitive vulnerabilities to number of depressive symptoms. At the first step, the personal characteristics (i.e., gender and SES) accounted for only 4% of the variance of depressive symptoms. The addition of negative life event domains increased the shared variance from 4% to 38%. Following the addition of personal characteristics and negative life events in step two, only negative life events in the family domain demonstrated a unique contribution to number of depressive symptoms (~9% variance, $p=.022$). This result is consistent with the correlational results discussed earlier that negative events within the family domain demonstrated the strongest association with number of depressive symptoms ($r=0.57$, $p<.001$). Controlling for all independent variables (e.g., personal characteristics, negative life events, and cognitive vulnerabilities), in the full regression model, indicated that ruminative response style remained the only unique contributor to the number depressive symptoms reported (68% of variance

explained). The cognitive vulnerabilities of dysfunctional attitudes and negative inferential style, while not contributing uniquely, increased the explanatory power of the full model to 78%. The result that rumination was the unique contributor to prevalence of depressive symptoms in this young adolescent sample is highly suggestive that this concept may be instrumental in explaining both the development and maintenance of depressive symptoms.

The cognitive vulnerability of ruminative response style has recently been expanded to include two subtypes: reflection and brooding (Treyner, Gonzalez, & Nolen-Hoeksema, 2003). Findings from a short-term longitudinal study support the two factor conceptualization of rumination in young adolescents, and proposes that the concept of rumination actually contains both adaptive self-focus (i.e., reflection) and maladaptive self-focus (i.e., brooding) (Burwell & Shirk, 2007). The maladaptive self focus (i.e., brooding) was found to be associated with depressive symptoms at baseline and with increases in depressive symptoms at follow up, while the adaptive self-focus (i.e., reflection) was found to be unrelated to self-reported depressive symptoms after controlling for brooding. The finding that the cognitive vulnerability of ruminative response style was the unique contributor to the prevalence of depressive symptoms in the young adolescents in this dissertation study suggests that future research would benefit from utilizing this expanded conceptualization to further understand the development of depressive symptoms in adolescents.

Limitations

This dissertation study examined cognitive vulnerabilities, negative life events, and the development of depressive symptoms in a computerized survey format in a classroom setting at a single time. The cross-sectional nature of this study is a limitation. The developmental stage of

adolescence is characterized by multiple transitions in a variety of domains. The diverse biological, psychological, and social transitions that interact during this period of rapid change would be captured more completely with prospective longitudinal designs. This type of design would enable evaluation of both interindividuals- and intraindividual changes over time and would help elucidate the nature of the complex interactions between cognitive vulnerabilities, negative life events and personal characteristics and the development of depressive symptoms.

Self report questionnaires (within a computerized format) were used as the sole means of data collection. While the reliability of the measures used was excellent, the utilization of a single modality to capture the phenomenon of interest in this study is a limitation. A criticism of the research methodologies examining the impact of negative live events on the development of depressive symptoms is the frequent use of self report measures, or checklists, to assess the occurrence of negative life events. Future research would benefit from the use of more thorough assessment of negative life events to determine the value placed on those events by the adolescent. For example, interview methods provide more insight than checklists and allow assessment of information concerning the context of the negative event, consequences of the event, and resources available for coping with the stressors generated by the event (Hammen, 2009). Understanding the contextual data associated with the negative event would enable investigators to distinguish its meaning and impact and its role in the development and/or maintenance of depressive symptoms.

The lack of ethnic diversity in this sample of young adolescents is a major limitation of this study. Although representative of the population from which the study sample was recruited, the lack of diversity in ethnicity limits the generalizability of findings to adolescents from different ethnic backgrounds. Very few studies have addressed why ethnically diverse

samples of adolescents differ in reports of depressive symptoms. It has been suggested that social disadvantage exposes individuals to higher levels of stressful life events (e.g., violence in neighborhoods and schools, perceived discrimination) leading to increased depressive symptoms and poorer mental health outcomes (e.g., Brown, Meadows, & Elder, 2007; Kessler, Mickelson, & Williamson, 1999). These factors need to be studied in future research before effective treatment and prevention programs can be designed for individuals from diverse backgrounds.

Implications for Nursing

This dissertation study introduced cognitive vulnerability-stress models as explanatory of the development of depressive symptoms in young adolescents to the nursing literature. Nurses work in a wide range of settings that provide care for the adolescent population. Public health and community health nurses, primary care nurses, school nurses, and acute care nurses all interact with adolescents and each encounter is an opportunity to enter into a therapeutic relationship. The results from this dissertation study contribute knowledge about how cognitive vulnerabilities (i.e., negative patterns of thinking) help explain the factors predictive of the development of depressive symptoms in adolescents. This study is the first step towards achieving the ultimate goal of developing prevention and early intervention protocols that can be easily translated into diverse practice settings. The practice of nursing is based in theory and research and as a practice discipline has the potential to develop practical solutions and provide meaningful support to adolescents and their families.

Implications for Future Research

This study contributes to the research evidence that cognitive vulnerabilities are predictive of depressive symptoms in a community based sample of young adolescents. The results strongly support the importance of rumination as a predictor of the development of depressive symptoms in this population. Because of the cross-sectional nature of this study, the question about whether the tendency to ruminate operates as a risk factor for the development of depressive symptoms or emerges after the development of depressive symptoms, remains to be determined.

Adolescence is a period of transitions when the nature of the developmental cognitions concerning people, peers, and social events changes. The life challenges that occur during these years provide opportunities for growth but also increase conflicts with peers and the world outside the family unit. Future research utilizing prospective longitudinal designs with diverse adolescent samples that capture the entire range of adolescent transitions may provide a clearer understanding of the factors associated with the development of depressive symptoms. More sophisticated methodologies are needed to test how well cognitive vulnerabilities accurately and reliably predict the causal components of the development of depressive symptoms during this time of transition. This knowledge is needed to achieve the goal of identifying the development of depressive symptoms before they escalate into diagnosable depressive disorders during adolescence.

Summary

In this dissertation study, cognitive vulnerability, characterized by negative patterns of thinking, was shown to be positively correlated with the prevalence and number of negative life events and increased depressive symptoms in young adolescents. The three cognitive vulnerabilities found to be correlated with increased depressive symptoms were 1) dysfunctional attitudes (negative biases about self or events), 2) negative inferential style (inferences about cause, consequence, and one's ability to influence the outcome of an event), and 3) ruminative response style (attention is fixated on one's emotional state). The relationships between cognitive vulnerability, negative life events, and number of depressive symptoms were not significantly different by age, gender, or ethnicity. However, adolescents from lower socioeconomic backgrounds reported significantly more dysfunctional attitudes and more negative life events within the family. This study provides important information about the unique contribution of cognitive vulnerabilities to prevalence and number of depressive symptoms in young adolescents. This knowledge is needed to increase awareness that screening and preventative efforts need to be initiated early before adolescents develop persistent negative patterns of thinking and multiple depressive symptoms.

APPENDIX A

Vanderbilt Institutional Review Board Approval Letter

Institutional Review Board

September 15, 2009

Cara Calloway, RN,MSN
Nursing
601 Godchaux Hall 37240-0008

Lynda L. LaMontagne
Nursing
516 Godchaux Hall, 5th floor 37240-0008

RE: IRB# 091007 "Cognitive Vulnerabilities, Negative Life Events, and Depressive Symptoms in Young Adolescents"

Dear [Cara Calloway, RN,MSN](#):

At the meeting on [9/8/2009](#), the Institutional Review Board reviewed the research application identified above. The Committee determined the study poses Minimal Risk to participants. Approval is extended for the Application for Human Research dated [9/10/2009](#), the Consent Form(s) dated [9/10/2009](#) for Principal Investigator [Cara Calloway, RN,MSN](#).

The Consent Form(s) have been stamped with the approval and expiration date and this copy should be used when obtaining the participant's signature. Federal regulations require that the original copy of the participant's consent be maintained in the principal investigator's files and that a copy be given to the subject at the time of consent. An additional record (i.e., case report form, medical record, database, etc.) of the consent process should also be maintained in a separate location for documentation purposes.

As the Principal Investigator, you are responsible for the accurate documentation, investigation and follow-up of all possible study-related adverse events and unanticipated problems involving risks to participants or others. The IRB Adverse Event reporting policy III.L is located on the IRB website at <http://www.mc.vanderbilt.edu/irb/>.

Please note that approval is for a 12-month period. According to federal regulations, this period is calculated from the date of the convened meeting as noted above. Any changes to the research study must be presented to the IRB for approval prior to implementation.

If an approval is required from an additional source other than the Vanderbilt IRB, this must be obtained prior to study initiation. These approvals may include, but are not limited to CRC, SRC, , IND, IDE.

DATE OF IRB APPROVAL: 9/15/2009 DATE OF IRB EXPIRATION: 9/7/2010

Sincerely,
Todd A. Ricketts, Ph.D., Chair
Institutional Review Board
Behavioral Sciences Committee
TAR/ss

Electronic Signature: Todd A Ricketts/VUMC/Vanderbilt : (5A2CD2A6DC6DF9701E3EE8A9FEA5F072)
Signed On: 09/15/2009 04:26:16 PM CDT

APPENDIX B

Dickson County Schools Approval Letter



Johnny Chandler
Director of Schools
(615)446-7571 FAX (615) 441-1375

Dickson County Board of Education
817 North Charlotte Street
Dickson, TN 37055

August 24, 2009

Cara S. Calloway, RN, FNP-BC
Doctoral Candidate
Vanderbilt University School of Nursing

Dear Cara:

I am writing to express my enthusiastic support for your research project entitled, "Cognitive Vulnerabilities, Negative Life Events, and Depressive Symptoms in Young Adolescents." As director of the Dickson County School District, I initially offered my support of your project following our meeting on July 8, 2009. I invited you to return to address the nature of your study to the Dickson County School Board on July 23, 2009. After learning about your proposed research study, the School Board also enthusiastically supported and approved your study.

As we discussed, the students at Dickson Middle School where the study will take place take an elective course entitled, "Teen Living" that addresses topics such as how to deal with difficult situations, bullying, self-esteem, and who to contact for help for dealing with these stressors. It is my belief that your research project fits well with this course content and will be beneficial to our curriculum following its completion.

Dickson Middle School currently has 772 enrolled students in the 7th – 8th grades. The lead teacher for the Teen Living class is Carol Ragan and you will be coordinating with her to ensure minimal disruption to the children's classroom experience.

Good luck with your research project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Johnny Chandler', written over a white background.

Johnny Chandler
Director of Schools

M.Ed

APPENDIX C

Adolescent Life Events Questionnaire

INSTRUCTIONS: In this questionnaire we are interested in whether certain events have happened to you in the past **3 months**. Please answer yes to the following events have happened to you in the past **3 months** using this scale:

FAMILY AND PARENTS

- 1. Your parents divorced. _____
- 2. Your parents separated. _____
- 3. A close family member (parent, brother, sister) hospitalized for serious injury/illness. _____
- 4. A close family member (parent, brother, sister) had an unwanted, unplanned pregnancy. _____
- 5. A close family member (parent, brother, sister) died. _____
- 6. A close family member (parent, brother, sister) was arrested. _____
- 7. You and your family moved to a new town, but you didn't want to move. _____
- 8. You had an argument with a close family member (parent, brother, sister). _____
- 9. A close family member (parent, brother, sister) lost their job. _____
- 10. A close family member (parent, brother, sister) can't work due to injury/illness. _____
- 11. Have to do chores/ work you don't want to do. _____
- 12. Have to take care of brothers/ sisters when you don't want to. _____
- 13. Don't spend as much time with close family members as you want to. _____
- 14. Parents are upset because you haven't lived up to their standards. _____
- 15. You can't seem to please your parents. _____
- 16. You can't seem to get close to one or more family members. _____
- 17. Did something you didn't want to do to please a close family member. _____
- 18. Found out that close family member has been criticizing you behind your back. _____
- 19. Parents put you down. _____
- 20. Seems like your parent are disappointed with you. _____
- 21. Close family member has significant medical or emotional problems (examples: heart disease, cancer, depression, etc.). _____
- 22. Don't receive the love, respect, or interest from parents that you wanted (example: parents didn't notice or compliment you on a good job). _____
- 23. Fight with parents over personal goals, desires, or choice of friends. _____
- 24. Your parents force you to achieve things you don't want to do. _____
- 25. Close family members withdraws love or affection from you. _____
- 26. Parents criticized you or yelled at you for not doing well in school. _____
- 27. Your parents grounded you. _____
- 28. Your parents won't let you go out with your friends. _____
- 29. You get in a fight with your parents over friends/ boyfriend/ girlfriend. _____

RELATIONSHIPS

- 30. A boyfriend/girlfriend breaks up with you, but you still want to go out with them. _____

- 31. Became pregnant/ made someone pregnant when you didn't want to. _____
- 32. Had a baby that you didn't plan or want. _____
- 33. Don't have a boyfriend/ girlfriend when you want one. _____
- 34. Got in a fight/ argument with a boyfriend/ girlfriend. _____
- 35. Can't seem to please girlfriend/ boyfriend when you want to. _____
- 36. Girlfriend/ boyfriend criticizes you. _____
- 37. Can't seem to get close to your boyfriend/girlfriend when you want to. _____
- 38. Found out that boyfriend/ girlfriend has been criticizing you behind your back. _____
- 39. Found out that boyfriend/ girlfriend has been cheating on you. _____
- 40. Did something to please you boyfriend/ girlfriend that you didn't want to do. _____

SCHOOL AND CLASSES

- 41. Did poorly on, or failed, a test or class project. _____
- 42. Do not have time to do well in school (example, working too many hours at work). _____
- 43. Got a bad report card. _____
- 44. Didn't get to take a class you wanted to take. _____
- 45. Didn't make the honor roll when you wanted to. _____
- 46. Had a bad teacher. _____
- 47. Didn't understand the material the teacher was teaching you. _____
- 48. Have to attend a class that you don't like. _____
- 49. Didn't complete required homework assignment for class. _____
- 50. Got in trouble with the teacher or principal. _____
- 51. Didn't get accepted for an extracurricular activity you wanted to be a part of. _____

FRIENDS AND SOCIAL ACTIVITIES

- 52. Don't have as many friends as you would like to. _____
- 53. Aren't friends with the people you want to be friends with. _____
- 54. Don't get invited to parties. _____
- 55. Don't get invited to dances when you want to go. _____
- 56. Didn't have anyone to go out with on the weekends when you wanted to go out. _____
- 57. You had an argument with a close friend. _____
- 58. Your friends don't seem to understand you. _____
- 59. People don't call you when they are going out. _____
- 60. Don't have time to spend with your friends when you want to be with them. _____
- 61. Don't talk or share feelings with your friends. _____
- 62. Got in a fight/ argument with your friends. _____
- 63. Friends pressure you to do things you don't want to do. _____
- 64. A close friend was arrested. _____
- 65. A close friend had an unwanted, unplanned pregnancy. _____
- 66. A close friend was hospitalized for a serious injury/illness. _____
- 67. A close friend died. _____
- 68. A close friend moved away. _____
- 69. You can't seem to get close to one of your friends. _____
- 70. Close friends withdraw their affection from you. _____

Please list any other stressful, negative events that you can remember happening to you since school started:

APPENDIX D

DYSFUNCTIONAL ATTITUDES SCALE

Please read each statement carefully and indicate how much you agree or disagree with the statement most of the time using the following scale:

- a) Totally agree
 - b) Agree somewhat
 - c) Neither agree nor disagree (neutral)
 - d) Disagree somewhat
 - e) Totally disagree
1. I should be able to please everybody.
 2. My life is wasted unless I am a success.
 3. My value as a person depends greatly on what others think of me.
 4. If a person has to be alone for a long period of time, it follows that he/she has to feel lonely.
 5. If a person is not a success, then his/her life is meaningless.
 6. If someone performs a selfish act, this means he/she is a selfish person.
 7. I should be happy all the time.
 8. If I do well, it is probably due to chance: if I do badly, it is probably my own fault.
 9. Turning to someone else for advice or help is an admission of weakness.

APPENDIX E

CHILDREN'S COGNITIVE STYLE QUESTIONNAIRE

Directions: Children should respond to each item as to how they agree based on the provided 1-5 Likert scale.

1	2	3	4	5
Don't agree at all	Agree a little	Sort of agree	Mostly agree	Agree a lot

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

- 1) If I did bad on a math test, it was probably because I'm not very smart.
- 2) If I did bad on a math test, it was probably because I always do bad at math.
- 3) If I did bad on a math test, it was probably because everything at school was hard that day.
- 4) If I did bad on a math test, it means there is something wrong with me.
- 5) If I did bad on a math test, other bad things will probably happen to me.

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

- 1) 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.
- 2) If the kids wouldn't let me play with them, it was probably because they are never nice to me.
- 3) If the kids wouldn't let me play with them, it was probably because I'm not good at most games.
- 4) If the kids wouldn't let me play with them, it means there is something wrong with me.
- 5) If the kids wouldn't let me play with them, other bad things will probably happen to me.

C. Imagine you did really well on a science project at school.

- 1) If I did well on my science project, it was probably because I'm good at science.
- 2) If I did well on my science project, it was probably because I always do well at school.
- 3) If I did well on my science project, it was probably because the teacher liked everyone's projects that time.
- 4) If I did well on my science project, it means I am a good person.
- 5) If I did well on my science project, other good things will probably happen to me.

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

- 1) If my friend wouldn't talk to me, it was probably because I did something to make my friend mad at me.
- 2) If my friend wouldn't talk to me, it was probably because my friend is the kind of person who gets mad a lot.
- 3) If my friend wouldn't talk to me, it was probably because I am not a nice person in general.
- 4) If my friend wouldn't talk to me, it means there is something wrong with me.
- 5) If my friend wouldn't talk to me, other bad things will probably happen to me.

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

- 1) If I got the answers wrong, it was probably because I wasn't good at reading that day.
- 2) If I got the answers wrong, it was probably because I always do poorly at school.
- 3) If I got the answers wrong, it was probably because all the assignments the teacher gives are too hard.
- 4) If I got the answers wrong, it means there is something wrong with me.
- 5) If I got the answers wrong, other bad things will probably happen to me.

F. Imagine you were invited to a party by a kid at school who you really like.

- 1) If I was invited to a party, it was probably because I did something nice for the kid recently.
- 2) If I was invited to a party, it was probably because the kid always invites me to his/her parties.
- 3) If I was invited to a party, it was probably because I'm a fun person in general.
- 4) If I was invited to a party, it means I am a good person.
- 5) If I was invited to a party, other good things will probably happen to me.

APPENDIX F

RUMINATIVE RESPONSE STYLE QUESTIONNAIRE

People think and do many different things when they feel down. Please read each of the items below and indicate whether you almost never, sometimes, often, or almost always think or do each one when you feel down, sad, or depressed. Please indicate what you generally do, not what you think you should do.

	Almost never	Sometimes	Often	Almost always
1. Think about how alone you feel	①	②	③	④
2. Think “I won’t be able to do my job if I don’t snap out of this”	①	②	③	④
3. Think about your feelings of fatigue and achiness	①	②	③	④
4. Think about how hard it is to concentrate	①	②	③	④
5. Think “What am I doing to deserve this?”	①	②	③	④
6. Think about how passive and unmotivated you feel	①	②	③	④
7. Analyze recent events to try to understand why you are depressed	①	②	③	④
8. Think about how you don’t seem to feel anything anymore	①	②	③	④
9. Think “Why can’t I get going?”	①	②	③	④
10. Think “Why do I always react this way?”	①	②	③	④
11. Go away by yourself and think about why you feel this way	①	②	③	④
12. Write down what you are thinking and analyze it	①	②	③	④
13. Think about a recent situation, wishing it had gone better	①	②	③	④
14. Think “I won’t be able to	①	②	③	④

concentrate if I keep feeling this way”

15. Think “Why do I have problems other people don’t have?”

16. Think “Why can’t I handle things better?”

17. Think about how sad you feel

18. Think about all your shortcomings, failures, faults, mistakes

19. Think about how you don’t feel up to doing anything

20. Analyze your personality and try to understand why you are depressed

21. Go someplace alone to think about your feelings

22. Think about how angry you are with yourself

①	②	③	④
①	②	③	④
①	②	③	④
①	②	③	④
①	②	③	④
①	②	③	④
①	②	③	④
①	②	③	④

APPENDIX G

CENTER FOR EPIDEMIOLOGIC STUDIES DEPRESSION SCALE FOR CHILDREN

Please read each statement carefully and indicate on a scale from 0 to 3 how closely that statement refers to the way you have been thinking and/or feeling over the past week.

1. I was bothered by things that usually don't bother me.
2. I did not feel like eating; I wasn't very hungry.
3. I wasn't able to feel happy, even when my family or friends tried to help me feel better.
4. I felt like I was just as good as other kids.
5. I felt like I couldn't pay attention to what I was doing this week.
6. I felt down and unhappy this week.
7. I felt like I was too tired to do things this past week.
8. I felt like something good was going to happen.
9. I felt like things I did before didn't work out right.
10. I felt scared this week.
11. I didn't sleep as well as I usually sleep this week.
12. I was happy this week.
13. I was more quiet than usual this week.
14. I felt like kids I knew were not friendly or that they didn't want to be with me.
15. I had a good time this week.
16. I felt sad.
17. I felt people didn't like me this week.
18. It was hard to get started doing things this week.

Code (children's response category)

- 0 Not at all
- 1 A little
- 2 Some
- 3 A lot

APPENDIX H

FAMILY INFORMATION QUESTIONNAIRE

Date: _____

1. Your child's gender
 - Male
 - Female
2. Your child's age _____
3. Your child's grade _____
4. Number of children living in the house _____
5. Does your child receive free or reduced breakfast and/or lunch at school?
 - Yes
 - No
6. Marital Status
 - a. Single
 - b. Married or living with partner
7. Ethnic background/race of your child
 - a. Caucasian
 - b. Hispanic
 - c. African American
 - d. Native American/Alaska native
 - e. Asian/Pacific Islander
 - f. Other _____

Head of Household

Occupation: _____

Education

- Less than 7th grade
- Junior high/Middle school (9th grade)
- Some high school (10th or 11th grade)
- High school graduate
- Some college (at least one year)
- College education
- Graduate degree

Spouse/Partner

Occupation: _____

Education

- Less than 7th grade
- Junior high/Middle school (9th grade)
- Some high school (10th or 11th grade)
- High school graduate
- Some college (at least one year)
- College education
- Graduate degree

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