

---

Theses, Dissertations, and Projects

---

2013

## From anxiety to panic disorder : effectiveness of cognitive behavioral therapy and mindfulness based stress reduction as treatment in adolescence

Carrie-Anne Swiatek  
*Smith College*

Follow this and additional works at: <https://scholarworks.smith.edu/theses>



Part of the [Social and Behavioral Sciences Commons](#)

---

### Recommended Citation

Swiatek, Carrie-Anne, "From anxiety to panic disorder : effectiveness of cognitive behavioral therapy and mindfulness based stress reduction as treatment in adolescence" (2013). Masters Thesis, Smith College, Northampton, MA.

<https://scholarworks.smith.edu/theses/610>

This Masters Thesis has been accepted for inclusion in Theses, Dissertations, and Projects by an authorized administrator of Smith ScholarWorks. For more information, please contact [scholarworks@smith.edu](mailto:scholarworks@smith.edu).

Carrie-Anne Swiatek  
From Anxiety to  
Panic Disorder: Effectiveness  
of Cognitive Behavioral  
Therapy and Mindfulness  
Based Stress Reduction  
as Treatment in Adolescence

ABSTRACT

Research has shown that mental illness often surfaces during adolescence and early adulthood, and can frequently extend throughout adulthood. Without treatment, the consequences of mental illness for individuals and society can be overwhelming. Untreated individuals often fall victim to unnecessary disabilities, unemployment, substance abuse, homelessness, inappropriate incarceration, comorbid health issues and even suicide. Further, there is a continuing need for supportive services for adolescents who are specifically diagnosed with an anxiety disorder, such as panic disorder, or who self-identified as having excessive anxiety and other stress-related symptoms. Research has shown the cognitive-behavioral and mindfulness-based treatment interventions may be effective for a broad range of mental health issues in adults (Pincus, May, Whitton, Mattis & Barlow, 2010; Thompson, M., & Gauntlett-Gilbert, J., 2008); however, fewer studies exist in regards for treatment with such interventions for adolescents. The objective of this study was to explore the role of cognitive-based and mindfulness-based therapeutic stress reduction interventions for anxious and panic disordered youth who are in early

adolescence with consideration of developmental roles and norms within treatment applications.

*Keywords:* adolescent, CBT, MBSR, mindfulness, youth, cognitive-behavioral, anxiety, panic disorder

FROM ANXIETY TO PANIC DISORDER:  
EFFECTIVENESS OF COGNITIVE BEHAVIORAL THERAPY AND MINDFULNESS  
BASED STRESS REDUCTION AS TREATMENT IN ADOLESCENCE

A project based upon an independent investigation,  
submitted in partial fulfillment of the requirements  
for the degree of Master of Social Work.

Carrie-Anne Swiatek

Smith College School for Social Work  
Northampton, Massachusetts 01063

2011

## ACKNOWLEDGMENTS

This thesis could not have been accomplished without the assistance of many people whose contributions are gratefully acknowledged. An enormous debt of gratitude and many thanks are owed to my thesis advisor, Jean LaTerz; who never doubted my ability to pull off an enormous feat and provided the meticulous guidance that assisted my success.

I also wish to thank my three amazing children: Taylor, Nathan and Hannah. Without their patience, love, understanding, and ability to tolerate “good enough mothering” throughout my academic and clinical training, I would almost certainly have not made it through. My hope is they always remember that the many gifts they have bestowed upon me will be given back in kind...to the world through my work.

Additionally, I wish to thank my partner Craig for showering me with love, support, and a graciousness of spirit that allows for a sharing of my heart with those whom I work with and advocate so passionately for.

I further wish to thank my parents, Robert and Christine Swiatek, for rallying behind my efforts to provide myself a better education and the ability to provide an improved life for their grandchildren; my brother and sister, Michele and Michael, as well as many other friends, family and neighbors for endless encouragement and support; and for my supervisors and advisors past and present, especially, David Vaughan, Jan Tesini, John Nagy, Robert Madden and Stephen Bradley for their ever-present support and encouragement – Blessings and many thanks to all!

## TABLE OF CONTENTS

ACKNOWLEDGMENTS .....	ii
TABLE OF CONTENTS.....	iii
CHAPTER	
I. INTRODUCTION.....	1
II. RESEARCH CONCEPTUALIZATION AND METHODOLOGY.....	5
III. ANXIETY AND PANIC DISORDER IN EARLY ADOLESCENCE.....	12
IV. COGNITIVE BEHAVIORAL THERAPY .....	28
V. MINDFULNESS BASED STRESS REDUCTION .....	47
VI. DISCUSSION.....	56
REFERENCES .....	71

# **CHAPTER I**

## **Introduction**

This objective of this study is to explore the role of cognitive based interventions and mindfulness stress reduction techniques and for anxious and panic disordered youth who are in early adolescence with consideration of developmental roles and norms within treatment applications. There is a continuing need for support services for adolescents who are either diagnosed with an anxiety disorder, such as panic disorder, or who self-identified as having excessive anxiety and other stress-related symptoms (Roy-Byrne, Craske & Stein, 2006)

According to the National Alliance on Mental Illness (NAMI, 2008c), a mental illness is a medical condition that disrupts an individual's thinking, feelings, moods, ability to relate to others, and activities of daily living. Serious mental illnesses include major depression, schizophrenia, bipolar disorder, obsessive compulsive disorder (OCD), panic disorder, post traumatic stress disorder (PTSD), and borderline personality disorder. The onset of mental illness usually occurs during adolescence and early adulthood but can extend throughout adulthood. Without treatment, the consequences of mental illness for the individual and society can be overwhelming. Untreated individuals often fall victim to unnecessary disability, unemployment, substance abuse, homelessness, inappropriate incarceration, or suicide.

The NAMI (2008b) reports that in the U.S., the annual economic, indirect cost of mental illnesses is estimated to be \$79 billion. Most of the cost—approximately \$63 billion—reflects the loss of productivity as a result of the illnesses. Moreover, it is noted that roughly 6 percent or 1 in 17 Americans suffer from a serious mental illness. Also, it

is estimated that mental illness affects 1 in 5 families in America. Additionally, racial and ethnic minorities are less likely to have access to mental health services and often receive inferior care (NAMI, 2008b).

As stated by Roy-Byrne et al., (2006), throughout the past 25 years, panic disorder has been the most comprehensively studied of all anxiety-related syndromes. Furthermore, the findings of these studies contradicted the idea that anxiety is a minor problem (i.e., affecting anxious yet healthy individuals) not requiring definitive treatment, and has increased comprehension of the psychological and neurobiological aspects of anxiety. Moreover, even with an increased, but imprecise understanding of the causes of panic disorder, evidence suggests that the use of combined treatments such as pharmacotherapy and cognitive-behavioral therapy is effective (Roy-Byrne, Craske & Stein, 2006). The application of effective treatments to the forefront of health care delivery models should be fundamental aspirations for the community of health providers

The American Academy of Child and Adolescent Psychiatry (AACAP) (2004) further claims that during their lifetime, over three million Americans will experience panic disorder; sometimes beginning in childhood, but often beginning in adolescence. Moreover, devastating complications can ensue if left untreated or if symptoms are unrecognized (AACAP, 2004). Without treatment and with the onset of a panic attack, adolescents and children can begin to feel anxious most of the time. Further, panic attacks can often interrupt normal development, affect familial and peer relationships, and interfere with academic growth (AACAP, 2004). Hence, some youth even begin to withdraw from social situations, which include avoiding situations where one would have to separate from caregivers and being absent from school. Lastly, some panic disordered



adolescents turn to drug and alcohol in attempts to decrease feelings of anxiety; and others may be at further risk for suicide and/or developing severe depression (AACAP, 2004).

Costello, Copeland and Angold (2011) also acknowledge the need for further research across developmental stages, and more specifically relevant this to writer's research quest, an attempt to uncover trends in psychiatric disorders across adolescence. These researchers completed a meta-analysis of the literature to date, which encompasses the past fifteen years, that indicates an approximate number of one out of every five adolescents as having a psychiatric disorder. Moreover, from the stages of childhood to adolescence, rates increase in the areas of depression, anxiety, panic disorder, and substance use disorders. An increase of panic disorders, specifically, was found during the transition from adolescence to early adulthood. Accordingly, Costello et al. conclude that further research designed to investigate developmental change and psychopathology can help guide treatment interventions, as well as be informative regarding the degree of social burden caused by these types of disorders during different developmental stages. Finally, further research may help clarify causes of disorders or patterns of disorder development during distinct life stages (Costello, et al., 2011, pp. 1015, 1019 & 1022).

The intent of this study is to further explore current limited research regarding anxiety and panic disordered adolescents and discuss the efficacy of a combined group intervention grounded in cognitive behavior therapy and mindfulness based stress reduction treatment strategies. The following chapter will provide a more detailed discussion of the methodology and theoretical orientation of the study. Chapter Three provides a comprehensive discussion of this study's population, together with theories of

development, and reviews literature relevant to experiences of anxiety and panic disorder. Chapters Four and Five present a more detailed picture of cognitive-behavioral theory and mindfulness based stress reduction. Finally, Chapter Six provides a developed model for treatment with the given population.

## CHAPTER II

### Research Conceptualization and Methodology

Within this chapter, the theoretical framework for the following chapters will be described. As mentioned previously, this study aims to review and integrate literature targeting anxious and panic disordered adolescents using the lens of development theory, alongside models of cognitive-behavioral and mindfulness based stress reduction models of treatment. The focus of this study is to explore a theoretically combined treatment approach to care of adolescents with anxiety and panic disorder. Thus, this chapter will describe the concept of anxiety and panic, along with the development perspective and its relation to the research population. Further, fundamental concepts of both cognitive-behavioral and mindfulness-based stress reduction theories will be introduced. In the following section, an exploration of the theoretical research population will begin.

#### Definition of Terms

This study specifically focuses on the experiences of anxious and panic disordered adolescence. The term *adolescence* often brings forth incongruences within formalized definitions. Adams (2005) adds that a singular consistent definition of adolescence is elusive, given the nature of teenage year experiences (p. 3). For the purposes of this study, the population considered affected within the phenomenon will consist of what is defined as *early adolescence* as described by Newman and Newman (2006). The definition contained hereafter will consist of youth within the middle and high school years, generally between the ages of twelve to eighteen years of age.

An *anxiety disorder* consists of a chronic condition characterized by excessive and persistent nervousness combined with physical symptoms and feelings of distress

(American Psychological Association [DSM-IV-TR], 2000). People who suffer from anxiety disorders may present with different symptoms but each share commonalities such as extreme, unfounded fear and dread. Anxiety disorders included in the literature research include the following: panic disorder without agoraphobia, panic disorder with agoraphobia, and generalized anxiety disorder, as defined by the American Psychological Association [DSM-IV-TR], 2000, (p. 429).

The *DMSR-IV-TR* (2000) describes *panic disorder* as the presence of reoccurring, unexpected panic attacks, followed by at least one month of persistent concern about having another panic attack, concern about possible consequences of panic attacks, or significant behavioral change in relation to the attacks. *Panic attacks* are described as discrete periods of intense fear or discomfort in the absence of real danger that is accompanied by at least four out of thirteen somatic or cognitive symptoms. It is also noted that panic attacks have a sudden onset and peak quickly, usually within ten minutes or less, and is often combined with a sense of immediate danger and an urgency to escape (pp. 433-434). Panic Disorder, which falls within the umbrella of anxiety disorders, is often quite dysregulating, especially within typical adolescent developmental growth trajectories. Furthermore, social and developmental tasks can become quite derailed for this population, which may further be challenged with the presence of panic attacks.

### **Developmental Perspective**

Hutchison & Charlesworth (2008) describe the *developmental perspective* as a way of comprehending individuals by focusing on how human behavior manifests over the life span with development occurring in clearly defined age-categorized stages. When beginning to research adolescence, extracting specific generalized depictions of

adolescent development from the various theories can be challenging. This perspective provides a fundamental view whereby one can begin to make sense of adolescent development.

Newman and Newman (2006) developed their own stages of development within adolescence, which includes distinct stages within adolescence. These theorists also ascribed to a psychosocial approach to development by taking into consideration the biological, psychological and societal systems that can affect and influence an individual over the lifespan. Additionally, Newman and Newman separated one distinct period of adolescent psychosocial development into Early Adolescence, which targets youth between ages twelve through eighteen (Newman & Newman, 2006, p. 302).

For the purposes of this study, Newman and Newman's Early Adolescence phase (ages 12 to 18) will be further explored in Chapter Three. What is important to mention here is Newman & Newman's defined core developmental tasks of this stage to include emotional development, membership gains within peer group system, physical maturation, development of higher conscious thought (problem solving and reasoning, etc.), as well as engagement in romantic and sexual relationships. Conversely, Newman and Newman note that the core pathology, or core challenge indicated within this phase, to be that of dissociation. In this theory, *dissociation* refers to an inability and/or reluctance to make commitments to others. Moreover, dissociation here implies social distancing, feelings of separateness and a withdrawal from social connections (Newman & Newman, 2006, 340-345). Newman and Newman's theoretical perspective was chosen to examine phenomenon due to inclusions of developmental factors, such as

intersecting aspects of gender, family, biology and cultural challenges that influence development, as well as influence intervention design and methodology.

### **Adolescent Anxiety and Panic Disorder**

Stress is a part of everyday life for most individuals. However, when stressful situations lead to levels where one may become overwhelmed, anxiety often becomes heightened. This increase in anxiety can then lead to maladaptive behavior, a decreased sense of well-being and may even contribute to disruptions in development. The *DSM-IV-TR* (APA, 2000) describe some features of panic disorder that are commonly found in adolescents and include an intermittent and consistent worry about unspecified incidents, which for some can also lead to excessive apprehension about separating from family and relationships. Moreover, routine daily events such as separation from loved ones and/or common health problems/symptoms are over consuming and often greeted with dread. There is often a disruption and loss of significant relationships, or at the very least strained, due to effects of emotional instability (American Psychological Association [DSM-IV-TR], 2000, pp. 435-436). Chapter Three will further explore areas of functioning often affected by adolescent anxiety and panic, which include: academics, gender and socialization experiences, racial-ethnic experiences, socio-economic experiences and challenges related to co-morbidity.

### **Cognitive Behavioral Theory**

*Cognitive Behavioral Therapy* (CBT) is a form of psychotherapy that calls attention to the thought process and its importance in forming beliefs and determining behavior. Leichsenring, Hiller, Weissberg, and Leibing (2006) identified the goal of CBT to include teaching people how to reframe unwanted reactions, therefore learning

new ways of reacting (Leichsenring et al., 2006, pp. 234-236). Beck (1997) notes looking more recently at affective states (feelings) in addition to one's thought processes, especially when applying the cognitive model to symptomology related to anxiety and panic disorders (p. 281). In Chapter Four, a comprehensive overview of cognitive behavioral therapy will be presented as well as an examination of how cognitive-based stress-reduction methods may provide relief for anxious and/or panic disordered youth.

### **Mindfulness-Based Stress Reduction**

Hick (2008) describes *mindfulness* in the therapeutic context to be a cultivation of compassion, acceptance, awareness, attitude of nonjudgment, focused attention, deliberateness/intentionality. Further, in light of practiced cultivations, one's sensations, thoughts, feelings are noted, recognized and accepted just as they are, without attempts to change. Hick (2008) adds that the core of mindfulness to consist of practiced exercises (such as mediation and focused breathing) that promote an intense introspection, which is tied back to centuries old meditative practices (p. 5).

Kabat-Zinn, Massion, Kristeller, Gay Peterson, Fletcher, Pbert, Lenderking and Santorelli (1992) note one difference between CBT and MBSR approaches, in that MBSR focuses on the formal meditation practice itself is the focus of treatment, rather than the specific illness or symptomology (i.e., panic and anxiety disorders and/or panic attacks themselves) being the focus of treatment/intervention. Meditation is also taught as 'a way of being' in MBSR training, meditation itself is not a single simple technique one may implement during times of panic, but rather, remains constant regardless of one's state of stress and anxiety (Kabat-Zinn et al., 1992). In Chapter Five, a comprehensive overview of mindfulness based stress reduction will be presented as well as an

examination of how MBSR methods may provide relief for anxious and/or panic disordered youth.

## **Methodology**

This theoretical thesis is comprised of six chapters. Within Chapter One, clarification of research purpose, population and phenomenon is provided. Chapter Two outlines definitions of important terms and concepts, while providing an organization of study body. Chapter Three provides a detailed description of the phenomenon, which includes the significance of anxiety and panic disorders in adolescence, as well as possible repercussions of inadequate treatment options. Also within Chapter Three, an exploration of the developmental perspective will be introduced, followed by the theoretical applicability to adolescence. Chapter Four will examine how cognitive-based stress-reduction methods may provide relief for anxious and/or panic disordered youth. Cognitive behavioral therapy and relevant literature will also be presented and discussed there. In Chapter Five, a review of literature regarding mindfulness-based stress reduction will ensue, including its applicability to provide relief for anxious and/or panic disordered youth. Finally, Chapter Six discusses a theoretically combined treatment approach to care of adolescents with anxiety and panic disorder.

## **Conclusion**

In this chapter, the developmental perspective was introduced, with an emphasis on its importance when designing and implementing treatment applications within the given population. A brief overview of theoretical perspectives and core concepts further used in Chapters Four, Five and Six was also offered within this chapter. The subsequent chapter further addresses experiences of the identified population and examines literature



relevant to theoretical frameworks that ground proposed treatment interventions with the population.

## **CHAPTER III**

### **Anxiety and Panic Disorder in Early Adolescence**

In the following chapter, a comprehensive overview of the phenomenon will be presented, including a detailed description of the research question, as well as a clear statement of the problem. The phenomenon of this study includes the significance of anxiety and panic disorders in adolescence, including possible repercussions of inadequate treatment options. Also within this chapter, an exploration of the developmental perspective will be introduced, followed by the theoretical applicability to adolescence. Lastly, a brief overview of two specific behavioral techniques will be introduced that may be effective in improving symptomatic anxiety and panic symptomology for youth in adolescence.

Stress is a part of everyday life for most individuals. In many cases, stress and low to mid level anxiety will continue to lead an individual through adaptive growth trajectories. When stressful situations lead to levels where one may become overwhelmed, anxiety often becomes heightened. This increase in anxiety can then lead to maladaptive behavior, a decreased sense of well-being and may even contribute to disruptions in development. For instance, the Harvard Mental Health Letter (HMHL) (2004) states that most childhood fears and anxieties are normal and eventually outgrown; however, if certain anxieties are persistent and pervasive, then one's familial system, education, and social relationships may become problematic. Furthermore, the newsletter reports research that continues to show anxiety disorders as the most common childhood psychiatric disorder, which in a high number of cases, could have prevented adult onset of

anxiety disorders if the symptoms present in early childhood were recognized, diagnosed and/or treated (HMHL, 2004).

### **Anxiety and Panic Disorders**

As defined previously, an *anxiety disorder* is a chronic condition characterized by excessive and persistent nervousness combined with physical symptoms and feelings of distress (American Psychological Association [DSM-IV-TR], 2000). Anxiety disorders include maladaptive anxiety, which is responsive anxiety that is out of proportion in relation to an actual threat (Shear, 2003). Furthermore, anxiety disorders have different degrees of severity and are widespread throughout the population. People who suffer from anxiety disorders may present with different symptoms but each share commonalities such as extreme, unfounded fear and dread. Anxiety disorders include the following: panic disorder without agoraphobia, panic disorder with agoraphobia, agoraphobia without history of panic disorder, specific phobia, social phobia, obsessive-compulsive disorder, posttraumatic stress disorder, acute stress disorder and generalized anxiety disorder (American Psychological Association [DSM-IV-TR], 2000, p. 429).

Also previously noted, the *DMSR-IV-TR* (2000) describes *panic disorder* as the presence of reoccurring, unexpected panic attacks, followed by at least one month of persistent concern about having another panic attack, concern about possible consequences of panic attacks, or significant behavioral change in relation to the attacks. Furthermore, panic attacks are described as discrete periods of intense fear or discomfort in the absence of real danger that is accompanied by at least four out of thirteen somatic or cognitive symptoms. These symptoms include palpitations, sweating, trembling or shaking, sensations of shortness of breath or smothering, feeling of choking, chest pain or

discomfort, nausea or abdominal distress, dizziness or lightheadedness, derealization or depersonalization, fear of losing control, fear of dying, paresthesia, and chills or hot flashes. It is also noted that panic attacks have a sudden onset and peak quickly, usually within ten minutes or less, and is often combined with a sense of immediate danger and an urgency to escape (pp. 433-434).

Panic disorder affects approximately 6 million American adults ages 18 and older (National Institute of Mental Health, 2008b). According to the American Psychiatric Association (*DSM-IV-TR*) (APA, 2000), it is estimated that women are twice as likely as men to experience panic disorders although there are no other distinguishing factors that contribute to the frequency of panic disorder among the population such as ethnicity, economic or social class, or geographical background (2000). More than three million Americans will experience panic disorder within their lifetime (American Psychological Association [DSM-IV-TR], 2000). Additionally, the *DMS-IV-TR* (2000) states that first-degree blood relatives of people with panic disorders are up to eight times more likely to develop panic disorder. Further, if panic disorder develops before the age of 20; first-degree relatives have been found to be up to 20 times more likely to have panic disorder. Moreover, the Harvard Mental Health Letter (2001) reports that individuals affected with panic disorder are prone to other problems such as drug or alcohol abuse, some of whom are undeniably trying to self-medicate in attempts to alleviate symptoms. More than half of those with panic disorder will experience depression at least once during their lifetime (American Psychological Association [APA], 2006).

The National Alliance for the Mentally Ill (NAMI) (2008b) reports that the best treatments for serious mental illnesses today are highly effective, with 70 to 90 percent of

individuals reporting a significant reduction in symptoms and an improved quality of life when a combination of pharmacological and psychosocial treatments and supports are used. The NAMI (2008b) also notes that most people who live with serious mental illnesses can significantly reduce the impact of their illness and find a satisfying measure of achievement and independence when they have access to a wide range of services designed to meet their needs coupled with appropriate and effective medication. The NAMI (2008b) believes that a significant step has been the development of expertise in building strategies that manage the illness process. It is further stated that early identification and treatment of mental illness is of vital importance; which could be promoted by ensuring that individuals with mental illness have access to treatment and recovery supports that are proven most effective. Individuals with mental illness are frequently stigmatized, which often causes deterioration in the belief that mental disorders are real, treatable health conditions. The NAMI (2008b) believes that these stigmas, espoused with an unnecessary sense of hopelessness, build structural, financial and attitudinal, barriers against effective treatment methods.

### **Panic Disorder**

Panic Disorder, which falls within the umbrella of anxiety disorders, is often quite dysregulating, especially within typical adolescent developmental growth trajectories. Furthermore, social and developmental tasks become quite derailed for this population. Additionally and more importantly, Graczyk, P.A., Connolly, S.D., & Corapci, F. (2005) note that these disorders often go undetected by teachers and parents, even though the symptoms considerably interrupt academic performance and interpersonal relationships.

The *DMSR-IV-TR* (2000) reports a varying age of onset for panic disorder, with most typical onset ranging from late adolescence to mid thirties. Some cases begin in childhood and may even peak - once in adolescence and slightly again in one's mid thirties (DSM-IV-TR 2000). Ollendick, Mattis and King (1994) maintain that panic attacks occur more frequently in adolescence than previously realized. The authors added that roughly forty to sixty percent of adolescents report having panic attacks, with nearly one out of every one hundred adolescents reporting historical or existing symptoms that could sufficiently meet the DMS-IV-TR (2004) criteria needed in order to be diagnosed with panic disorder.

### **Developmental Perspective**

This section presents a fundamental view whereby one can begin to make sense of individual/adolescent development. Hutchison & Charlesworth (2008) describe the developmental perspective as a way of comprehending individuals by focusing on how human behavior manifests over the life span with development occurring in clearly defined age-categorized stages.

When beginning to research adolescence, extracting specific generalized depictions of adolescent development from the various theories can be challenging. Adams (2005) similarly notes a wide variety of terms that describe this developmental stage such as; evolving adulthood, early/middle/late adolescence, and even the terms youth, young people and the teenage years. Adams adds that, "given the scope of the cultural and geographical teenage year experience, a singular definition of adolescence is rightfully non-existent" (p. 3).

Several theories of development exist and have been widely accepted. These epigenetic theories vary somewhat in terms of nomenclature, stages and tasks of development. The following sections will briefly describe two prevailing developmental perspectives: Peter Blos (1962) and Erik H. Erikson (1963). An additional developmental theory provided by Newman and Newman (2006) will also be discussed, followed by a conclusion of how described theories were applied to adolescence and also utilized for clarification purposes within this study.

### **Peter Blos.**

To begin, Blos (1962) offers an often-cited and widely applied theory of development. Blos is unique in that much of his theory does not include pre-latency stages. Unlike other theorists, Blos focused most of his research on those generally over the age of six. Blos specifically designated phases of adolescent development, which included stages from latency to postadolescence. Blos (1962) created a model of development that was divided into five phases that include: a) *Latency*, generally from ages 7 to 10, b) *Preadolescence*, generally from ages 11 to 13; c) *Adolescence*, generally from ages 13 to 18, which was later further divided into two distinct subcategories of *Early Adolescence* (13 to 15) and *Adolescence Proper* (around 15 to 18); d) *Late Adolescence*, generally from ages 18 to 20; and finally e) *Postadolescence*, which generally covers the years into emerging adulthood, ages 18 and above.

Blos (1962) noted that one encounters three separate developmental tasks within each phase, which if navigated successfully, has better outcomes in regards to development of an integrated sense of self (self-identity). The three developmental tasks within each phase have to do with 1) ego functions and drive activities; 2) changing

relationships with their parental relationships and 3) how one copes and interacts with their social environment. A brief examination will be limited to the stages of Preadolescence and Adolescence (including both Early Adolescence and Adolescence Proper) as this is the population for investigation in the current study.

During the Preadolescence phase, one essentially navigates through issues related to puberty, separation from parental system, and increased necessity of peer approval. In the Early Adolescence phase of Adolescent stage, one steers through issues regarding self-control, (especially of emotions), separation from conformity of standard community rules, peer pressures (which include uneasy feelings of separateness, isolation and loneliness), and finally a replacement of historical love objects (parents & family members) with new relationships (peers and love interests). In the Adolescence Proper phase of Adolescent stage, one navigates through challenges related to increased sexual drives, development of higher order thought processes (increased fantasy and creativity), resolution of separation from parental unit/family system, and finally an more solidified construction of sexual identity (Blos, 1962).

### **Erik Erickson.**

Walsh (2008) notes that early life span theorist, Erik Erickson, divided the life span into eight stages, each with an identified psychosocial crisis. Mastery of developmental tasks and reaching positive resolutions to psychosocial crises within each life stage is considered essential for positive human growth (Walsh, 2008, p. 176).

Erickson's (1963) eight stages of development include the following: Stage 1) ages birth through year one, involving tasks and challenges related to *trust versus mistrust*; Stage 2) ages two to three, involving tasks and challenges related to *autonomy versus shame* and



doubt; Stage 3) ages three to five, involving tasks and challenges related to *initiative versus guilt*; Stage 4) ages six to twelve, with tasks and challenges related to *industry versus inferiority*; Stage 5) ages twelve through eighteen, with tasks and challenges related to *identity versus role confusion*; Stage 6) from early to late twenties, involving tasks and challenges related to *intimacy versus isolation*; Stage 7) from late twenties through mid fifties or so, involving tasks and challenges related to *generativity versus stagnation*; Stage 8) late adulthood ages, including mid-fifties and beyond, with tasks and challenges related to *integrity versus despair* (Erikson, 1963).

Regarding adolescent development, Erikson (1963) suggests that during years twelve through eighteen, Stage 5, the central conflict entails identity versus role confusion. Erikson believed that if developmental tasks in this stage are mastered, a resolution of identity will ensue. For adolescents, this a crucial stage where developing a cohesive and consistent sense of self is paramount. Role development and experimentation is also key - especially in relation to one's peer system. Walsh (2008) states that difficulty mastering the tasks within this stage of development may include the inability to negotiate a place within the world (developing self-certainty an sense of self-esteem) as well as the inability for one to recognize and/or develop their own potential (Walsh, 2008, p. 176).

### **Newman and Newman.**

Newman and Newman (2006) developed their own stages of development within adolescence, which extend and also depart from Erikson's theoretical framework and includes two distinct stages within adolescence. These theorists also ascribed to a psychosocial approach to development by taking into consideration the biological,

psychological and societal systems that can affect and influence an individual over the lifespan. Additionally, Newman and Newman found a need, based on an assessment of literature and their own adolescent research, for a separation of stages within the traditional depiction of adolescence. In comparison to Erikson, whose stage of adolescence spanned approximately ten years, Newman and Newman separated the two periods of psychosocial development into: 1) Early Adolescence, targeting ages twelve through eighteen years; and 2) Later Adolescence, targeting ages eighteen through twenty-four (Newman & Newman, 2006, p. 302).

For the purposes of this study, a brief focus on Newman and Newman's Early Adolescence phase (ages 12 to 18) will be presented. Newman & Newman (2006) defined the core developmental tasks of this stage to include emotional development, membership gains within peer group system, physical maturation, development of higher conscious thought (problem solving and reasoning, etc.), as well as engagement in romantic and sexual relationships. The authors defined the psychosocial crisis of this stage as *group identity versus alienation* and the central process for conformation of group norms is peer pressure. In addition, the positive resolution of this stage psychosocial crisis is the prime adaptive ego quality defined by Newman and Newman as *fidelity to others*. In short, this achievement of fidelity to others contains the ability for an individual to unreservedly promise loyalty to a group, while maintaining commitments made to the group, which results in feelings of usefulness, utility and significance. Conversely, Newman and Newman note that the core pathology, or core challenge indicated within this phase, to be that of dissociation. In this theory, *dissociation* refers to an inability and/or reluctance to make commitments to others. Moreover, dissociation

here implies social distancing, feelings of separateness and a withdrawal from social connections. Contributing maladaptive factors of dissociation include alcohol and drug use, mental illness (depression and anxiety), teenage pregnancy, and delinquent behavior (Newman & Newman, 2006, 340-345).

For the purposes of this study, the population considered affected within the phenomenon will consist of what is defined as *early adolescence* as described by Newman and Newman. As noted in Chapter Two, the definition contained in this body of research will include youth within the middle and high school years, generally between the ages of twelve to eighteen years of age. The approach of this study will follow the developmental perspective outlined by Newman and Newman (2006), with the focus of developmental tasks and crises contained to their Early Adolescence phase. Newman and Newman's specific theoretical perspective was chosen for this study due to the inclusion of factors of development often left out by more traditional theorists, such as the interrelating aspects of gendered, familial, biological and cultural challenges that influence development.

### **Adolescent Anxiety and Panic Disorder**

The *DMSR-IV-TR* (APA, 2000) describe some features of panic disorder that are commonly found in adolescents and include an intermittent and consistent worry about unspecific incidents, which for some can also lead to excessive apprehension about separating from family and relationships. Moreover, routine daily events such as separation from loved ones and/or common health problems/symptoms are over consuming and often greeted with dread. There is often a disruption and loss of

significant relationships, or at the very least strained, due to effects of emotional instability (American Psychological Association [DSM-IV-TR], 2000, pp. 435-436).

Schneider (2009) further elaborated on the loss and strain in relationships in regards to anxious early adolescents. He noted that social withdrawal and isolation itself is not always necessarily problematic. However, isolative behavior and withdrawal is strongly associated with anxiety disorders, depression and also psychosis. During the adolescent stage of development, withdrawal from peer interactions robs these youth of much needed social skill-building opportunities, which further exacerbates anxiety. Schneider (2009) presented findings showing that anxious adolescents often do have peer relationships. But, they are lacking in intimacy and closeness and these friendships often share anxiety and withdrawal symptomology in common.

Interestingly, Heyne, Sauter, Windenfelt, Vermeiren, and Westenberg (2011) noted in their study on school refusal and anxiety in adolescence that social anxiety disorder was a prominent factor in their sample of adolescent school refusers. The researchers also reported that these adolescents having increased levels of anxiety often had difficulty attending school. Heyne, et al. added that, after self-reported anxiety levels decreased, improvement in school attendance increased. These two common symptoms presenting in anxiety and panic disordered youth (school refusal and social challenges) reveal important distinctions between adult and adolescent presentations, simply because successful competency in peer relationships and positive academic outcomes are significant developmental tasks of this particular age group. Further school challenges will be explored below.

### **Academic considerations.**

In the academic setting, students are expected to follow rules regarding the academic and behavioral expectations of the school in which they attend. There are also familial expectations to consider, with students facing the similar demands, rules and academic/behavioral expectations of their caregivers in the home setting. Duchesne and Ratelle (2010) noted that when children and adolescents perceive their caregivers to be supportive instead of demanding and controlling of activities, they are less inclined to present with symptoms of anxiety and depression (p. 499). High levels of academic and behavioral expectations set forth by the school, parents and staff is problematic for some students in the academic setting. Additionally, the demanding workload established by many current school policies often causes psychosocial maladjustments from the increased levels of stress and anxiety in the students who are already at risk due to issues associated with age/adolescence, social location, self-esteem or level of development.

Buxton (2005) completed a study at an urban school and noted that most incoming students were quite unprepared to be shaped into the students who others were expecting them to become. Buxton also found that many of the students quickly became overwhelmed by the academic standards and workload that was expected of them (Buxton, 2005, pp. 407-408). All of these factors contribute to current school culture. The lack of school-based supportive services also contributes to negative outcomes for students.

Windle and Windle (1996) found that maladjustment occurs across many areas of functioning when adolescents experience negative daily life events. Such events include school related stress, which has a significant effect on academic performance, behavior

and adjustment (Windle & Windle, 1996, pp. 555-558). Students who are stressed and who are without access to support services are further at risk for engaging in negative coping behaviors. As described by Dube and Orpinas (2009) and Mendez and Knoff (2003), coping behaviors that occur because of unresolved or increased stress include increased school suspensions and absenteeism. These negative coping behaviors are quite disruptive for family systems as well as for schools. Students and families are often significantly stretched psychologically and emotionally, on top of an already demanding academic workload. As already noted by Heyne, et al., (2011), increased and /or unattended anxiety symptoms only add to the bigger presentation of youth struggling in the academic setting.

#### **Gender considerations.**

Graczyk, P.A., Connolly, S.D., & Corapci, F. (2005) note a slight increase in occurrence of anxiety disorders in adolescent girls than boys even though rates are similar in prepubescent girls and boys. Likewise, the *DMSR-IV-TR* (APA, 2000) describes specific gender features of panic disorder that includes a diagnosis rate of two to three times higher for women than men. Much of the literature to date in regards to adults concurs with DSM-IV-TR findings, with similar findings in for youth.

For example, within their much cited research, Ollendick, et al., (1998), set out to explore panic disorder in children and adolescents. Participants in one study included youngsters between the ages of 12-17-years-old, (N=649). Some findings of this study show gender differences in symptom endorsement and frequency. Of the total number (16% of the total sample) who reported at least one full-blown panic attack in their lifetime (as met in DSM-IV-TR, 2000, which includes trembling, sweating, pounding

heart, etc.), almost twice as many girls (21.3%) reported having one full-blown panic attack in contrast to the boys (10.8%) who reported having at least one full-blown panic attack. Symptom presentations of the panic attack were similar across genders with the exception of more reports of nausea and dizziness/faintness by the girls (Ollendick et al., 1998).

### **Racial-ethnic & socio-economic considerations**

Graczyk, Connolly and Corapci (2005) note that even in spite of sparse research designed to understand risk factors between adolescent anxiety disorder, development and cultural/environmental factors, some possible correlations exist. Graczyk, et al. (2005) report that exposure to community violence may lead to decreased feelings of safety and also expose individuals to acts of violence. Singer, Anglin, Song and Lunghofer (1995) note consistent increased symptomology of anger, disassociation, depression, anxiety and posttraumatic stress linked violence exposure. The risk of exposure to violence sometimes increases in communities of Color and/or in neighborhoods of lower socioeconomic status. Cooley, Turner and Biedel (1995) also note that exposure to higher rates of community violence increases in disadvantaged adolescents and/or youth of color.

### **Co-morbid considerations.**

The DMSR-IV-TR (2000) states that with individuals with panic disorder, rates of comorbidity with Major Depressive Disorder vary from 10% to 65%. Further, approximately 2 to 3% of individuals that have both disorders reported that their depression occurred either parallel with or following the onset of panic disorder. The DMSR-IV-TR adds that a number of these depressed/panic disordered individuals may

develop a substance related disorder in an effort to treat their anxiety and panic with medications and/or alcohol (APA, 2000).

Other anxiety disorders, such as severe agoraphobia (fear of going outdoors), social phobia, specific phobias, obsessive-compulsive disorder, post-traumatic stress disorder and hypochondria (fear of illness) may also be present in this population. Also common in children, is the comorbidity of separation anxiety disorder (American Psychological Association [DSM-IV-TR], 2000). Graczyk, et al., (2005) report that having anxiety disorders in adolescence heightens one's risk for 1) additional anxiety disorders, 2) coinciding with other disorders, 3) mood disorders (depression), 4) suicide, 5) alcohol and substance use, 6) schizophrenia and 7) psychiatric hospitalizations (p. 131).

### **Efficacy of Existing Treatment**

There are several existing courses of treatment for anxiety and panic disorders that tend to be similar in method. Panic disorder, specifically, is most often treated with psychopharmacology, psychotherapy or a combination of the two. Graczyk et al., (2005) note that for reasons related to effective management of co-morbid disorders, serious reductions of symptom presentation in acutely anxious children and tackling risk factors, psychopharmacological medication regimens might often be combined with cognitive-behavioral techniques (pp. 146-147).

According to the National Institute of Mental Health (NIMH) (2010), medication(s) alone may also be quite effective for some individuals. However children and teens may be at special risk during specific treatment regimens. For example, the NIHM (2010) reports that anti-anxiety and anti-depression medications are the most



commonly prescribed medications to treat panic disorder. Nevertheless, anti-anxiety medications may not be best continued over long periods of time, as many medications have adverse side effects (NIHM, 2010). Although antidepressants may be quite effective in abating symptoms, young adults, children and teens are sometimes especially vulnerable to side effects of antidepressants, which include but are not limited to suicidal ideation (thoughts) and suicidal gestures (actions) (NIHM, 2010, pp. 1-2).

### **Summary**

In this chapter, a comprehensive overview of the phenomenon was presented that provides evidence for the continuing need for support services for early adolescents who are either diagnosed with an anxiety disorder, such as panic disorder, or who self-identified as having excessive anxiety and other stress-related symptoms. Newman and Newman's (2006) developmental theory was described with special attention to the early adolescent developmental stage. Some gender and cultural differences were also described. Lastly, since the objective of this study is to explore the role of cognitive based interventions and mindfulness stress reduction techniques for anxious and panic disordered youth in early adolescence, the next two chapters will further examine the theoretical framework that grounds these proposed interventions.

## CHAPTER IV

### Cognitive Behavioral Therapy

Since one goal of the identified research is to examine how cognitive-based stress-reduction methods may provide relief for anxious and/or panic disordered youth, cognitive behavioral therapy and relevant literature will be presented and discussed. First, an overview of cognitive behavioral therapy will be presented; followed by a presentation of the literature regarding anxious and panic disordered adults. Finally, a highlight of relevant literature in regards to anxious and panic disordered adolescence will be provided.

*Cognitive Behavioral Therapy* (CBT) is a form of psychotherapy that calls attention to the thought process and its importance in forming beliefs and determining behavior. Leichsenring, Hiller, Weissberg, and Leibing (2006) explain that within the cognitive-behavioral framework, therapists and patients work together to identify and understand problems in terms of the relationship between thoughts, feelings, and behavior. They also note that CBT focuses on the present and therapy is often time-limited and individualized. Additionally, the authors identified the goal of CBT to include teaching people how to reframe unwanted reactions, therefore learning new ways of reacting (Leichsenring et al., 2006, pp. 234-236).

The National Association of Cognitive-Behavioral Therapists (2008) defines the term “cognitive-behavioral therapy (CBT)” as a broad term for a group of therapies that share similar characteristics. There are several approaches to CBT, including Rational Emotive Behavior Therapy, Rational Behavior Therapy, Rational Living Therapy,

Cognitive Therapy, and Dialectic Behavior Therapy (National Association of Cognitive-Behavioral Therapists (NACBT), 2008).

### **Historical Context of CBT**

Wright, Bosco and Thase (2006) note that since the 1960's, several practitioners have been influential in developing what is currently practiced as CBT, taking into account some of the cognitive features first noticed by Greek and Stoic philosophers. Moreover, Wright, et al describe the founding origins of CBT, which consists of a therapeutic model based on two central concepts that include: 1) an individual's emotions and way of thinking can be strongly affected by our behavior and 2) our thoughts have a tremendous influence on our behaviors and emotions. Wright, et al. credit Aaron T. Beck (1963, 1964) with the core construct of this theoretical approach, along with fully developed theories and methods used for implementing this this mode of therapy (pp. 1,2 & 22).

In one of his more recent articles, Beck (1997), himself, describes his personal experience in the development of CBT, noting that it was his own concept of an internal communication system that consisted of *automatic thoughts*, or messages one "broadcasts to themselves" but not aloud to others. Beck also describes *erroneous thinking*, which are thinking errors that often lead individuals into how she/he interprets experiences and processes information. Meaning, in short, how an individual interprets their own experiences largely determines their feelings about themselves and others (Beck, 1997, p. 278).

Beck (1997) added that, "the cognitive model states that dysfunctional disorders, psychiatric disorders and psychological or behavioral disorders are characterized by

dysfunctional thinking and that the dysfunctional thinking accounts for the affective and behavioral symptoms” (p. 281). Beck (1997) also notes looking more recently at affective states (feelings) in addition to one’s thought processes, especially when applying the cognitive model to symptomology related to anxiety and panic disorders. To illustrate, the Beck states that in his experience, fixations on anxiety (i.e. I’m dying, this is horrible, etc.) tends to be especially problematic in panic disorder. Beck adds that individuals tend to fixate themselves “into an almost hypnotic trance”, having erroneous beliefs that they are dying, and noting that the “panic attacks are the worst experiences of their lives” (Beck, 1997, p. 281). Beck (1997) writes that historical methods of distraction (or blocking these kinds of beliefs and/or anxiety producing thoughts) were “not curative but only symptom relieving” and in the future, he suggests, the focus of therapeutic interventions should look at how clients can reconstruct experiences based on seeing that their existing beliefs are not based in reality (i.e. I am dying right now) (Beck, 1997, p. 281).

### **Underlying Theory of CBT**

Wright et al., (2006) highlight that during the 1950’s and 1960’s, various behavioral portions of the current CBT model were adapted using relaxation and desensitization techniques, such as brief exposures to objects/situations of fear. However, the authors note that little attention was paid to one’s cognitive processes. In later years, cognitive processing was given more attention, with current theory assuming that emotional reactions are often directly linked to cognitions (Wright et al., 2006, p. 4).

Graczyk et al., (2006) assert that current CBT models of treatment pay special attention to how certain behaviors are learned, reinforced and formed through

maladaptive cognitions experienced in one's environment (Graczyk et al., 2006, pp. 134-135). Wright et al., (2006) further explain that within the cognitive-behavioral model, cognitive processing is designated as the central role in treatment, simply because individuals continuously assess events in their environment and often associate emotional reactions to the cognitions about those events. For example, events in one's environment or within oneself prompt a cognitive assessment of the situation; those cognitions then attach to emotion/feelings, and then lead one to behave in a particular way in response to the emotions. Within this cycle, maladaptive responsive behaviors or the beginnings of pathological functioning may ensue (Wright, et al. p. 4).

Wright et al. (2006) provide a poignant example of how this cycle may lead to a maladaptive response in the following: an individual has an event to attend (a party or dinner), they begin to 1) cognitively assess the event ("I won't have anyone to talk to", "I will appear foolish", "I may get too boisterous"); followed by 2) attaching emotions to the thoughts (increased anxiety, tension); and then 3) behavior follows suit (avoiding the party all together) (p. 6). CBT uses both cognitive as well as behavioral strategies for cyclical change. Treatment may include several techniques such as recognizing automatic thoughts one has about an event, as well as evaluating for cognitive errors (or errors in thinking). In the example above, one may find an example of a cognitive error to include assessing one's core beliefs, such as "I am unlovable", "I am unapproachable" or even dichotomous thinking such as "this party is going to be a total failure", "I will be totally alone if I go" (Wright et al., p. 12).

In regards to the applicability of this theoretical approach to anxiety disorder treatment, Sauter, Heyne and Westenberg (2009) describe more specifically how CBT is

framed. Within the CBT model, “behaviorally based strategies involve the conceptualization of anxious symptoms in terms of conditioned responses to stimuli, with corresponding interventions emphasizing the blocking and extinction of avoidance behavior through exposure.” (Sauter, et al., p. 311). Anxiety reduction may be accomplished through various techniques, such as those mentioned earlier, that include self-monitoring cognitions, feelings and behaviors (Sauter et al., 2009). The following sections include more specific examples of CBT implementation with anxious/panic disordered adults and adolescents.

### **CBT and the Treatment of Panic Disorder in Adults**

Recent advances have been made in the application of cognitive models to the treatment of panic disorder. A new type of psychological treatment evolved from the current research that directly targeted panic disorder specifically (Margraf, Barlow, Clark and Telch as cited in Telch et al., 1995). . The more progressive forms of CBT focused on the affected person’s hypersensitivity to signals of physical arousal and the misinterpretation of these sensations as signs of immediate threat. There are five key treatment components that are specific in CBT treatment of panic disorder. These components include 1) education regarding the features and physiology of panic and anxiety, 2) cognitive reframing of patient’s distorted risk assessments and irrational thoughts (e.g., “because of these sensations I am experiencing, I will have a heart attack,” “I will lose control”), 3) implementation of breathing techniques designed to control hyperventilation and help manage anxiety, and 5) repeated exposure to feared somatic symptoms, such as dizziness or heart palpitations (Margraf, Barlow, Clark and Telch as cited in Telch et al., 1995).

Petterson and Cesare (1996) investigated the relationship between panic disorder and cognitive-behavioral therapy. They conducted a quantitative, randomized controlled research study that was experimental in design. The purpose of this study was to test the relationship between CBT, the independent variable, and panic disorder, the dependent variable. The research is explanatory because the goal was to demonstrate some level of causation between specified variables. This study met the criteria to be classified as a true experimental study with research being implemented within an experimentally-controlled framework that focused on a six week treatment intervention intended to reduce the severity of panic disorder. Patterson and Cesare's (1996) research design incorporated a 2 (Patient) x 2 (Time) experimental design. The independent variable of Patient Type consisted of a Treatment condition, which received six weeks of CBT (i.e., consisting of breathing retaining, progressive relaxation, cognitive restructuring, and interoceptive training) and a no-treatment Control group. Time consisted of a pretest-posttest design, each of which was separated by six weeks. The authors first hypothesized that the Treatment group would experience significantly less anxiety than the Control group at the conclusion of six weeks of CBT. The researchers measured anxiety outcome using three self-reporting indices: Anxiety Sensitivity Index (ASI), State-Trait Anxiety Inventory Scale (STAI)—Trait Scale, and number of panic attacks. Secondly, the researchers hypothesized that the treatment group would experience a reduction in physiologic arousal at the end of six weeks of CBT. They operationalized physiologic arousal by using definitions of blood pressure, pulse rate, and finger temperature. Each of these physiological measures was taken immediately before and at

the end of each of the six therapy sessions. Collection of Treatment group data was prospective and occurred on repeated occasions.

The subjects of this experiment were selected from several health professional referrals, newspaper/radio/magazine advertisements, and self-help newsletters. A homogeneous group of 27 adults completed the study; they ranged in age from 20 to 63 years old. The Treatment group consisted of six males and eight females with a mean age of 40.21 years. The Control group was composed of four males and nine females with a mean age of 35.54 years. Subjects met the criteria for panic disorder according to the Anxiety Disorder Interview Schedule-revised. The subjects were randomly assigned to either the Treatment (n = 14) or Control (n = 13) groups.

An exhibited strength of this study was the completion of a series of one-way Analysis of Variance (ANOVA) tests that were conducted at the time of pretest on the variables of age, gender, race, marital status, education, and annual income. The ANOVA tests revealed that there were no statistically significant differences between the groups on the three self-report measures at the time of pretest. Patterson and Cesare (1996) noted that the lack of statistical significance illustrated that two groups included in this study were equivalent prior to the implementation of the experiment.

The findings showed that the ANOVA tests conducted on the Anxiety Sensitivity Index (ASI) revealed that the Treatment group differed in the amount of change from pretest to posttest. Specifically, when Treatment and Control groups were examined separately, using the test of simple main effects, only the Treatment group had a significant reduction in ASI scores. This finding confirmed Patterson and Cesare's (1996) first hypothesis. Furthermore, the ANOVA tests conducted on the State Trait



Anxiety Inventory (STAI) revealed a greater change in the Treatment group over time relative to the Control group. Only the Treatment group had a significant change in STAI-T scores over time. This finding also confirmed the first hypothesis. In addition, the ANOVA conducted on the number of panic attacks monitored in the Panic Attack Record revealed that the Treatment group reported a greater reduction in number of panic attacks than did the Control group. These results confirmed the first hypothesis and findings indicate that the number of panic attacks declined over time for the Treatment group in relation to the Control group. Lastly, the ANOVA conducted on each physiological variable demonstrated a consistent pattern of results; there were no statistical differences between pretest and posttest measures of physiological indices. Therefore, the authors acknowledged that this study did not improve physiological conditions and thereby did not confirm the hypothesis that CBT could create a decrease in baseline physiological activity. This finding implies that further research is needed to determine if there are different profiles of baseline physiological measures for panic disorder individuals compared to non-panic disorder persons, as well as between panic disorder individuals themselves (Petterson and Cesare, 1996)

The authors suggested that the findings of significant change on the cognitive, affective, and panic attack measures appeared to be a reflection of the cognitive emphasis of the CBT model as related to misinterpreted bodily sensations. Furthermore, the findings revealed that a decrease in anxiety sensitivity is associated with a decrease in the occurrence of panic attacks. According to the Petterson and Cesare, a replication of the study is needed to support the finding that six weeks of CBT significantly reduced anxiety levels in panic disorder individuals related to cognitive, affective, and behavioral

indices. Furthermore, replicated studies may reveal that brief CBT interventions (6 weeks) may be as sufficient as longer term CBT treatment (12-15 weeks) (Petterson and Cesare, 1996).

This study suggests that a longer-term model of CBT treatment may be more beneficial, therefore increasing positive outcomes. This may be especially helpful during the the stage of adolescence given that there often are continual changes in a young person's cognitive, behavioral and affective processes under ordinary developmental trajectories. Continual psychoeducation and implementation of new skills over time during this developmental stage may continue to increase and/or maintain positive results.

Telch, Schmidt, Jaimez, Jacquin & Harrington (1995) examined the impact of cognitive-behavioral therapy (CBT) as treatment in the quality of life (QOL) of patients with panic disorder. According to the authors, although the evaluation of therapeutic end results in published writings had been of elevated value, which included several symptom indexes such as anticipatory anxiety, panic attacks, depression, avoidance, agoraphobia, as well as measures of end state functioning, the impact of CBT on a panic disorder patient's QOL had not yet been evaluated (Telch et al., 1995).

It was hypothesized that CBT as treatment would have a significant beneficial impact on the QOL of patients with panic disorder and that the gains would be maintained at follow-up. It was also hypothesized that changes in anxiety and phobic avoidance during CBT treatment would have a greater impact on improving QOL, compared with changes in panic attack frequency. Consistent with previous studies, the authors noted patients with panic disorder presented a considerable impairment in quality

of life at intake. Moreover, patients displayed greater QOL impairment in areas such as, work inside the home, social and leisure activities, and functioning as a family unit. Telch, et al (1995) highlighted the assessment ratings for work inside the home and family functioning because it illustrates the invasive debilitation of panic disorder. They also observed that panic disorder not only affects patients when they leave their home, but its effects seem to invade the place where they typically feel the most safe, their home.

The sample for Telch, et al.'s study was a homogenous group of 156 individuals. Participants were randomly assigned to either group administered CBT or a delayed-treatment control group. Treatment consisted of twelve sessions over an eight week period. The treatment procedure was operationalized having four major components which consisted of: a) education and corrective information concerning the causations and maintenance of panic disorder, b) cognitive therapy, c) training in diaphragmatic breathing techniques, and d) interceptive exposure to feared bodily signs.

Participants in the CBT group received an assessment battery measuring the major clinical features of panic disorder as well as quality of life was administered at baseline (Week 0), post-treatment (Week 9), and at six month follow-up (Week 35). Participants in the delayed-treatment control group received treatment after the post-treatment assessment and were not assessed further. For both groups, the collection of data occurred repeatedly and prospectively. The assessment battery consisted of two QOL measures: the Social Adjustment Scale – Self-Report (SAS) and the Sheehan Disability Scale (SDS). Three features of panic disorder were assessed with the following measures; (a) the Texas Panic Attack Form, (b) the Sheehan Patient-Rated

Anxiety Scale (SPRAS), and (c) the Agoraphobic scale of the Marks and Matthews Fear Questionnaire (FQ-Ago) (Telch et al., 1995).

The authors concluded that the group receiving CBT treatment displayed considerably less impairment on most QOL measurements, compared to the post-treatment levels of untreated participants. Telch, et al, felt confident that the observed improvements resulted from CBT and not from extraneous factors such as passage of time, or maturation effects. Furthermore, the authors explained that the preliminary data from the six-month follow-up assessment suggest that the QOL improvements reported by CBT-treated patients are maintained after termination of treatment. Accordingly, these findings were consistent with data from other published literature showing relatively low rates of relapse among panic disorder patients who were treated with CBT (Margraf et al. as cited in Telch et al., 1995). Consistent with another hypothesis, the authors reported that anxiety was considerably associated with both pretreatment QOL measures, whereas phobic avoidance was considerably associated with pre-treatment SDS scores. In contrast, panic attack occurrences displayed no considerable connection to of the QOL measures. These research findings suggest that panic attacks had a significantly less impact on QOL than did anxiety and avoidance.

One weakness of this study was the sample that was researched. Telch et al. (1995) noted that although the QOL of patients improved, the sample failed to improve in several role areas that were evaluated by the Social-Adjustment Scale – Self-Report (SAS) assessment battery. This phenomenon was most likely explained by a floor effect because the sample scores in those specific role areas were close to or in the normal range at baseline recordings. The SAS in this study consisted of nine role areas: work outside

the home, work at home, work as a student, social and leisure, extended family, marital, parental, family unit and economic. An additional weakness is that the QOL battery used in this study did not assess other multiple relevant QOL domains such as suicide attempts, alcohol and substance abuse, or health care. Strengths of this study include the methods in which data were gathered, analyzed and presented. For example, to reduce inaccuracies, highly skewed panic attack frequency data collected at baseline was normalized using logarithmic transformation. Additionally, multiple regression analyses were used to inspect the connection between baseline severity of panic disorder and changes in QOL. Also, stepwise regression analyses were performed to examine whether changes in panic disorder symptoms predicted variances in QOL at posttreatment. A similar stepwise regression method was utilized to determine QOL of patients at follow-up (Telch et al., 1995). The authors put a significant effort into assessing the clinical significances of treatment gains by evaluating data during several stages of the study, including post-treatment and at a six-month follow-up. It is also noted that their data demonstrated the importance of evaluating treatment effectiveness that spanned several areas instead of relying only on panic frequency in patients. One interesting research study would include an investigation of multiple panic disorder treatments to assess which has the greatest affect on QOL of patient's with panic disorder.

Telch et al's study suggests that further research, specifically targeting panic disordered adolescents, may be beneficial. For example, within this study, the SAS consisted of several role areas that may not be applicable to this population such as: work outside the home, extended family, marital, parental, and economic work outside the home. Role areas may be extended to introduce and include specific age-appropriate

roles, such as peer relational, caregiving, and intimate relational. Additional important QOL information, specifically geared towards adolescent research, includes challenges that this research QOL battery did not assess such as multiple relevant QOL domains of suicide attempts, alcohol and substance abuse, and comorbidity.

Kenardy, Robinson and Dob (2005) conducted a long-term follow-up of patients with panic disorder who received cognitive behavior therapy within a randomized controlled trial. The goal of their retrospective, longitudinal study was to determine longer-term outcomes in patients who were treated for panic disorder, based on treatment with CBT. Additionally, data collected occurred on a single occasion and follow-up scores were predicted by using a series of regression analyses which included baseline avoidance (Fear Questionnaire), (Marks & Matthews as cited in Kenardy et al., 2005), panic frequency, depression (Beck Depression Inventory), (Beck, Steer & Garbin as cited in Kenardy et al., 2005), and duration of disorder.

The sample for this study came from 89 panic disorder patients who received CBT during a treatment outcome study (Kenardy et al., 2005). Of the homogenous group researched, 28 of the original 89 patients were reassessed between five and seven years after entry into the study. As indicated by the authors, the baseline assessment was completed using the Structured Clinical Interview for DSM-IV Axis I Disorders (First, Spitzer, Gibbon & Williams as cited in Kenardy et al., 2005). Other baseline measures included self-reported indices, the Fear Questionnaire, and the Beck Depression Inventory. These self-report measures were subsequently used in the follow-up study.

The findings of Kenardy, et al's (2005) study showed that none of the patients were panic free at baseline; however, at follow-up, 57.1% (n=16) reported being panic-

free. The results also revealed that panic frequency was significantly reduced from baseline to follow-up. Moreover, the total score on the Fear Questionnaire decreased considerably from baseline to follow-up, which was also the case for the agoraphobia and social phobia follow-ups. In summary, outcomes at long-term follow-up were found to be significantly better than baseline measures of panic, avoidance, and depression. In the original study, between 63% and 67% of patients were panic-free at 6-month follow up (Kenardy et al. as cited in Kenardy et al., 2005). These results compared reasonably well with the 57.1% panic-free patients reported at long-term follow-up. Furthermore, presenting evidence from all outcome measures showed that patients continued to remain improved in measures of avoidance and depression. Kenardy, et al, noted that even though the results suggest that there is a degree of maintenance of treatment outcome following CBT for panic disorder; the findings should be mitigated with the probability that other influences had an impact on the follow-up time period.

It is important to note that when this study was conducted, it was the longest duration of follow-up outcomes study of a group of patients treated for panic disorder with CBT. As communicated by the authors, the strengths of the study were that it implemented overlapping measures of the original study and that the sample size seemed to be largely representative of the original sample; however the possibility that those lost to follow-up had relapsed following treatment was also hypothesized. Kenardy, et al, (2005) reflected that the limitations of the research included the relatively small sample size and that the follow-up was only one-third of the original sample. Moreover, they pointed out that the study only used reports of self-measure, whereas the implementation

of interview measures may have provided a different picture of patients' status (Kenardy et al., 2005).

In conclusion, longitudinal studies, as compared to controlled experiments, may be less able to identify causations of variables because these studies are observed without the manipulation of the variables being studied. However, because several patients in this study were observed repeatedly over time, the authors were able to establish some degree of maintenance of treatment outcome following CBT for panic disorder patients.

The findings of Kenardy, et al's study again suggests that a longer-term model of CBT treatment may be more beneficial and provide higher percentages of positive outcome maintenance in adolescence. Additionally, methodology used within this study may direct changes in methods of data collection when researching CBT with adolescents. For example, this particular study used a self-reporting method, which may or may not be appropriate fit in all populations/age groups. In future research, adolescents may benefit from including family members, caregivers, peers, and/or educators in the data collection process.

### **CBT for Adolescents with Anxiety and Panic Disorders**

Much research exists regarding the effectiveness of CBT with anxious and panic disordered adults, but is limited within stage of adolescence. To illustrate, Pincus, May, Whitton, Mattis and Barlow (2010) note that despite substantial risks of poor health and emotional outcomes, research within this specific population is rare and limited in size. Moreover, they report that as of their research date (2010), the only studies specifically targeting CBT treatment with panic disordered youth has been limited to a total size of two studies (Pincus et al., 2010, p. 639). In the following, an investigation of research



will take place in efforts to explore the applicability of CBT interventions with anxious and panic disordered youth.

Pincus, et al., (2010) implemented a treatment protocol for adolescents with Panic Disorder. In their randomized controlled study, 13 self-monitoring control group members participated, in addition to 13 adolescents who had 11 weekly treatment sessions of Panic Control Treatment for Adolescents (PCT-A). Both treatment and control groups consisted of adolescents from 14 through 17-years of age. Measures include the Multidimensional Anxiety Scale for Children (MASC; March, 1997), the Childhood Anxiety Sensitivity Index (CASI; Silverman, Fleisig, Rabian & Peterson, 1991), and the Children's Depression Inventory (CDI; Kovacs, 1992) (as cited in Pincus et al., 2010).

The authors describe PCT-A as a “downward extension” of Panic Control Treatment (PCT), an empirically supported treatment protocol designed for panic disordered adults (Carske & Barlow, 2000 & 2006 as cited in Pincus et al., 2010). PCT-A itself consists of eleven 50-minute sessions over a 12-week period, which is designed to target three key features of panic disorder symptomology which include: conditioned response to physical sensations, cognitive errors/misinterpretations, and the hyperventilation issues (hyperventilating due to anxiety/panic). PCT-A sessions intend to support the cognitive errors via psychoeducation to caregivers/parents, as well as to participants. Through psychoeducation, adolescents are taught to recognize and challenge anxiety-producing thoughts. Within hyperventilation education, deep diaphragmatic breathing is taught in attempts to decrease physical sensations that may trigger panic states. Additionally, within the PCT-A treatment protocol, adolescents begin to learn to separate physical sensations from usual automatic responses to fear (Pincus, et

al., 2010, pp. 642-643).

Results of this study indicate that in comparison to the control group, in both self-reports and in clinician reports, the treatment group receiving PCT-A showed a significant decrease of depressive, anxiety, and panic disorder symptomology, with treatment gains maintained at three and six month post-follow up. Interestingly, one result was that the PCT-A group's negative panic symptomology continued to improve and stabilize over time, indicating the possible significance of psychoeducation for parents/caregivers in addition to the adolescents themselves. One limitation of this study is the small number of participants and need for further research in efforts to generalize findings to larger samples.

### **The Stress Inoculation Program: Group CBT for Adolescents with Panic Disorder**

Studies exist regarding integrated CBT and stress-reduction management interventions specifically designed for group training. One such method implements specific stress management training known as the *stress inoculation training* (SIT) program, where muscle relaxation and cognitive restructuring are coupled with basic stress-reduction techniques such as breathing techniques, relaxation techniques, journaling, etc. Researchers Kiselica, Baker, Thomas and Reedy (1994) implemented a similar program with a group of 48 adolescents and found that SIT may be an effective psychosocial and anxiety management strategy for this population. This empirical study implemented an experimental design that used randomized pretest and posttest control and treatment groups. Self-reports and inventory measures were used to collect data. Participants were found to have decreased levels of anxiety and stress-related symptoms and significant improvements on self-report measures after the program ended.

Additionally, the authors claimed the improvements to be maintained after a four-week follow up (Kiselica et al., 1994).

Kiselica et al. (1994) also described the SIT program as containing three overlapping phases of training. One is education, another is coping-skills training and the third is an application of learned skills. In these phases, adolescents are taught to better understand anxiety; they develop coping skills and then practice new skills in response to daily anxiety provoking situations (as cited in Meichenbaum & Deffenbacher, 1998). One limitation of this study is a lack of generalizability since the entire sample was comprised of white students from a rural school and community.

Even though some research shows promise with SIT interventions, others show deficits and challenges within these models. For example, Maag and Kotlah (1994) presented theoretical literature regarding the cognitive behavioral model that was descriptive and exploratory in nature. In their article, they provided an overview of SIT as well as a description of SIT in relation to addressing adolescent difficulties. They also reviewed eight treatment studies that implemented SIT within the adolescent population. One finding included that it was difficult to operationalize the three phases of SIT since previous studies did not adequately explain procedural methods or the rationale for the methods of specific behavioral techniques chosen. The authors noted that a major limitation of the findings of the studies was the inability to generalize and duplicate results, especially since the variety of intervention techniques and potential combinations were exhaustive (Maag & Kotlah, 1994).

One very recent and interesting study by Nakamura, Pestle and Chorpita (2009) looked at the change process and timing of positive changes during CBT treatment with

anxious youth. The study's results suggest that exposure to anxiety producing stimuli after finishing the self-monitoring and psycho educational pieces is central in triggering positive changes. This was a single subject research design in which the researchers used a multiple-baseline design with four participants in efforts to examine the timing of changes in relation to different sequencing of treatment pieces during treatment of the youth (Nakamura, et al., 2009). This is an important finding to keep in mind for my research since one piece of SIT consists of exposure to previously anxiety-provoking stimuli. The findings of Nakamura, et al's study suggest that future treatment models may want to incorporate psycho-educational and self-monitoring behavioral techniques prior to future exposures to stimuli. An unfortunate limitation of this study is the small sample size of four.

In this chapter, a comprehensive overview of cognitive behavioral therapy was presented. Relevant literature further examined the theoretical framework that grounds cognitive behavioral interventions, which were designed to provide relief to individuals who are either diagnosed with an anxiety disorder, and panic disorder more specifically. The following chapter will continue to explore an additional intervention, mindfulness stress reduction techniques specifically, through the grounding lens of the theoretical framework.

## **CHAPTER V**

### **Mindfulness Based Stress Reduction**

A second identified goal for this study is to examine how mindfulness based stress reduction techniques may provide relief for anxious and/or panic disordered youth. What follows is a presentation and critique of the relevant and current literature.. Mindfulness-based approaches are relatively new and emerging in the field, especially within research with identified population. Literature is also bare at best, especially in applying the theoretical model to adolescents. Within her review of mindfulness-based approaches with children and adolescents, Burke (2009) adds that this type of research, within child and adolescent populations, is still in the beginning stages (p. 133). The following chapter will provide an overview of Mindfulness Based Stress Reduction (MBSR) in relation to anxiety and panic disorder, even with the limited bodies of research and literature.

#### **Historical Context of MBSR**

Collard, Anvy and Boniwell (2008) note that Mindfulness is one of the eight components in the Noble Eightfold Path that guide individuals on the path of spiritual enlightenment and toward the end of suffering. Further, this Eightfold Path and concept of Mindfulness is strongly grounded in Buddhist tradition (Collard et al., 2008, p. 324). Moreover, Collard et al., (2008) also acknowledge John Kabat-Zinn as the founder of MBSR, which is an approach to treatment that was originally comprised of an eight-week program, with a two-hour weekly session per week (Collard, et al., 2008, p. 324).

Hick (2008) concurs and further explains that the first MBSR interventions were implemented by Kabat-Zinn in the 1990's, which followed a core program that comprises

the following: a one day long class in addition to eight weekly 2-3 hour classes that includes formal guided instructions in mindfulness meditation, mindful body movement or yoga practices, awareness assignments, as well as 45-minute long meditation assignments designed to improve communication skills. The MBSR program also focuses on first developing skills needed to gain aware of bodily sensations, then further expanding awareness to emotions and thoughts. Hick also stated that a main aim of MBSR is the cultivation of daily meditation practice, where individuals are provided with audio instruction entailing several guided meditation practice sequences (p. 8).

Hick (2008) also speaks about the difficulty in defining mindfulness using mere words, since he himself feels it to be best understood while cultivating and experiencing it in practice, rather than something to be learned through verbal or written language. The author adds that most view mindfulness as “a way of being in the world” (p. 4). Hick (2008) describes mindfulness in the therapeutic context to be a cultivation of compassion, acceptance, awareness, attitude of nonjudgment, focused attention, deliberateness/intentionality. Further, in light of practiced cultivations, one’s sensations, thoughts, feelings are noted, recognized and accepted just as they are, without attempts to change. Finally, Hick (2008) concludes the core of mindfulness to consist of practiced exercises (such as mediation and focused breathing) that promote an intense introspection, which is tied back to centuries old meditative practices (p. 5).

### **Underlying Theory of MBSR**

Kabat-Zinn, Massion, Kristeller, Gay Peterson, Fletcher, Pbert, Lenderking and Santorelli (1992) note several differences in the theoretical approaches for MBSR techniques/programs as compared to cognitive/behavioral techniques. One such noted

difference is that in MBSR approaches, the formal meditation practice itself is the focus of treatment, rather than the specific illness or symptomology (i.e., panic and anxiety disorders and/or panic attacks themselves) being the focus of treatment/intervention. Moreover, since meditation is taught as ‘a way of being’ in MBSR training, meditation itself is not a single simple technique one may implement during times of panic, but rather, remains constant regardless of one’s state of stress and anxiety. Further, Kabat-Zinn et al., (1992) add that cognitive/behavioral therapy may be less effective in populations where comorbidity of psychological and medical challenges are experienced, since single disorders are often a point of focus within CBT approaches. Consequently, MBSR techniques focus on the formal meditation practice itself, rather than a disorder(s), which may open up an alternative treatment approach for a broader range of individuals than historically available within other therapeutic approaches (Kabat-Zinn et al., 1992). Hick (2008) similarly describes MBSR to be a more standardized or “generic” approach to mindfulness treatment, with techniques that serve a wide range of individuals, rather than a manualized form of treatment designed for specific disorders (p.12).

Importantly, Kabat-Zinn, et al., (1992) note another difference between other psychotherapy techniques and MBSR. Some aspects of other treatment approaches focus on desensitization exercises (controlled exposure to fearful stimuli) as a way to cultivate behavioral and cognitive changes in response to experienced fearful stimuli. In contrast, MBSR does not to evoke such experiences intentionally nor avoid such experiences when naturally occurring. Instead, individuals are instructed to experience fearful situations and feelings as “opportunities” and to engage in mindful coping strategies in lieu of historical patterns of emotional reactivity. Further, the MBSR treatment protocol

includes training in focused attention (often through concentrated breathing exercises) in the attempt to further develop observational skills. It is hoped that such new skills will promote the ability for an individual to observe fearful feelings and thoughts in a less reactive way (p.942).

Thompson and Gauntlett-Gilbert (2008) emphasize significance of cultivated observational skills as they describe how mindfulness, cognitive and behavioral theories share the notion that individuals are not very aware of what is driving their behavior. Consequently, Thompson and Gauntlett-Gilbert state that this “mindless” living actually drives ingrained automatic behaviors, which may contribute to the continuation of symptomatic behavior, as well as suffering in general. Moreover, Thompson and Gauntlett-Gilbert (2008) suggest that developing a mindful way of being can promote increasingly adaptive and flexible behavior (p. 396).

### **MBSR and the Treatment of Anxiety and Panic Disorder in Adults**

In their much-cited study, Kabat-Zinn, et al., (1992) conducted a study assess the efficacy of an MBSR program for the treatment of anxiety disorders. This study was exploratory in nature with subjects serving as their own controls on multiple pre and post-treatment measures. The length of the study was approximately eight weeks, with further data collected post-treatment during weekly intervals for an additional three months. An addendum to original research data analysis was also included, which found that 18 out of the 22 original subjects had maintained post treatment levels of anxiety and depression even after three years (p. 943).

The assessment scales used in Kabat-Zinn et al’s study included: the Beck Anxiety Inventory Scale (Beck, A. T. & Steer, R. A, 1993), the Beck Depression



Inventory Scale (Beck, A. T., 1961), the Hamilton Rating Scale for Anxiety (Hamilton, M., 1959), the Hamilton Rating Scale for Depression (Hamilton, A., 1960), the Fear Survey Schedule (Wolpe, J., & Lang, P. J., 1969), as well as a self-rating report of panic attack severity and frequency. Telephone interviews by trained interviewers were also completed (p. 938).

An initial 321 “patients” met study-screening criteria, however, only 24 met the DMS-III-R criteria for Generalized Anxiety Disorder (GAD) or Panic Disorder with or without Agoraphobia. Two of these subjects did not complete the pilot program and were not included in outcome data analyses. Subjects’ ages ranged from 26-64 years-of-age, with the average age equaling 38-years-old. Gender sampling comprised of 5 men and 17 women (Kabat-Zinn, 1992, p. 938).

The theoretical framework that grounded Kabat-Zinn’s study differed from other cognitive and behavioral models. These differences were: 1) unlike cognitive therapy, where thoughts may be considered faulty, thoughts were observed as “just” thoughts, without attempts to necessarily change them; 2) the learned meditation practice was instructed to be practiced daily, not just in times of increased stress or anxiety; and 3) the subjects themselves encompassed a wide range of other psychological and medical challenges, not solely comprised of challenges related to the research, which is often not the case in cognitive and behavioral studies (p. 942).

Results of this exploratory study included repeated measures of the Hamilton and Beck anxiety and depression scales that showed slight non-statistically significant reductions from baseline to pretreatment. However, results did show highly significant reductions over the course of treatment (pre-treatment to post-treatment), with

maintenance of noted changes from post treatment to follow-up. In short, 20 of the 22 participants displayed marked improvement on the Beck and Hamilton depression and anxiety scales (showed improvement in both depression anxiety) (p. 939). More importantly, within the 20 improved post-treatment group, self-reports and interview ratings showed maintenance of the post-treatment improvement at the three-month follow-up. There was a marked reduction of self-reported number and severity of panic attacks. Fear Survey scores also improved but may have been a result of exposure to therapeutic setting during evaluation visits (p. 941).

It might be worthwhile to replicate Kabat-Zinn et al's (1992) in a sample of adolescents, since the outcomes showed significant promise and the teaching material is widely accessible and mostly non-discriminatory in regards to participation inclusions. It is also important to note that the measures used in the study available revised forms for this age group, such as the Hamilton Rating Scale for Anxiety (noted to be used with children also)(Hamilton, M., 1959), The Reynolds Adolescent Depression Scale -2 (Reynolds, W. M., 1987), and the Kutcher Adolescent Depression Scale (Kutcher, S., 2007).

### **MBSR and the Treatment of Adolescents**

Previous literature on MBSR and the treatment of anxiety/panic disorder in adolescents is quite sparse. Thompson and Gauntlett-Gilbert (2008) describe similar findings in their own search of the literature (p#). . They note that preliminary research results indicate positive results for use of mindfulness interventions with adult populations; however, research with use of similar techniques with children and adolescents is nearly non-existent. Thompson and Gauntlett-Gilbert searched the

literature using keywords linked to “mindfulness” along with “children, young people and/or adolescents”, with scant results. However, researchers cautioned that the results may not be due to limited mindfulness interventions within this population, but rather that mindfulness approaches do not encompass the main research question, and tends to be just a portion of the bigger treatment approach within studies (p. 397).

Biegel, Brown, Shapiro and Schubert (2009) similarly report that little research has been done on mindfulness-based interventions (MSBR specifically) within adolescent treatment even though the findings of some studies promise using MBSR treatment options for adult psychiatric populations (p. 855). Therefore, the purpose Biegel, et al’s study (2009) was to examine the efficacy of MBSR for treatment with a broad range of outpatient psychiatric adolescents (p. 855).

This randomized clinical trial study of 102 adolescents ranging from ages 14 to 18 years of age, with diverse diagnoses within an outpatient psychiatric facility, were assessed as to the effectiveness of MBSR as treatment. Study participants were assessed in contrast to a “treatment-as-usual” control group from the same facility. Measures for the sample of “completer” and “intent-to-treat” study group include self-reports of symptom reduction in anxiety, somatic concerns, and depression, as well as self-reports of increased quality of sleep and improved rates of self-esteem (p. 864). Further, research results pointed to the clinical significance of the 5-month study period showing higher diagnostic improvements that include higher percentages of self-reported self-esteem increases, depressive symptom decreases, sleep improvements, and decreased interpersonal difficulties. Moreover, in relation to control group, “condition-naïve

clinicians” reported significant growth in their ability to perform activities of daily living as well noted an increase in basic levels of functioning (p. 855 & 864).

The above study, conducted by Biegel, et al., (2009), implemented the MBSR intervention program designed by Kabat-Zinn as mentioned in the contextual MBSR section/discussion that consisted of a manualized training program of techniques taught in eight weekly sessions, each two hours in length. Since this noted study replicates adult research of MBSR and positive gains were shown, it seems to point to an area of research that may show promise. This research points to potential efficacy with MBSR and anxiety/panic disordered adolescents specifically, since the Biegel, et al., (2009) study reflects specifically using MBSR with “psychologically symptomatic” adolescents, with an intention of assessing the impact of MBSR on stress-related symptomology like anxiety and depression (p. 856). The co-morbidity of such symptoms and future related diagnoses has already been discussed to pose a challenge for adolescents, as well an indication of future mental health and system challenges within this population.

### **Summary**

In this chapter, an overview of mindfulness based stress reduction was presented. Relevant literature further examined the theoretical framework that grounds mindfulness based interventions, which were designed to provide relief to a broad range of individuals. Burke (2009) points out that after also reviewing scant relevant literature, which does not provide substantial empirical evidence proving effectiveness due to limited studies; mindfulness based approaches to treatment continue to gain increased popularity. She further notes that the field needs to advance in kind by designing large well-designed studies, with standardized measures, as well as standardized methods of

interventions across groups (pp. 133 & 143). Based on findings and discussion of reviewed literature in chapters above, the following chapter presents a model group that could serve as a case example to address the phenomenon, as well as identified research question and proposed population.

## CHAPTER VI

### Discussion

This study aimed to review and integrate literature, albeit limited, targeting anxious and panic disordered adolescents using the lens of development theory, alongside models of cognitive-behavioral and mindfulness based stress reduction models of treatment. The focus of this study was to explore a theoretically combined treatment approach to care of adolescents with anxiety and panic disorder. The objective of this chapter further is to synthesize information and research by providing an integrated and developed model of treatment within the given population.

This chapter also considers the applicability of previous findings to future clinical work within the targeted population. Given the role of academics in the lives of many adolescents, the findings of the studies discussed in the previous chapters may be relevant to school social work practice when designing and implementing treatment interventions for anxious and panic disordered students. Perhaps the proposed combined treatment approach could be used with a wider range of students within diverse school settings. One option for future research might be an exploration of the effects of a combined cognitive-based intervention and MBSR training group with anxious youth within an urban school setting. In the following sections, one such combined theoretical approach that exists in literature (Williams, Duggan, Crane and Fennell, 2006); *mindfulness based cognitive therapy* (MBCT) will be applied as a possible future model of treatment for anxious and panic disordered adolescents within the academic setting.

## **Mindfulness-Based Cognitive Therapy**

Williams et al., (2006) explain that Mindfulness-Based Cognitive Therapy (MBCT) integrates both cognitive therapeutic approaches and mindfulness techniques. Williams, et al. add that MBCT instructs individuals to develop an approach to daily living where moment-to-moment experiences are accepted as they are, without judgment. In addition, the authors state that with the use of MBCT, participants are better able to view their thoughts as just that – moments of thoughts - rather than factual events of historical or future oriented foci (p. 201).

Hicks (2008) notes that MBCT was initially developed as a treatment approach to depression (p. 8). Williams et al., (2006) concur and add that Zindel Segal, Mark Williams and John Tisdale developed MBCT for the treatment of depression, which is an extended mode of treatment derived from Kabat-Zinn's MBSR treatment approach (p. 202), as defined in the previous chapter.

Williams et al., (2006) further explain that the MBCT model involves training of informal and formal meditative practices. Some formal practice work includes breath work, yoga, and walking meditative exercises. Informal meditative practices include daily incorporation of focusing one's attention on everyday experiences, such as noticing how emotions and thoughts are experienced and held within the body (p. 202). In addition, Williams et al. describe how the MBCT approach includes cognitive aspects such as psychoeducation regarding symptoms of depression/anxiety, as well as the role negative/inaccurate thoughts have in perpetuating suffering and symptom occurrence. Likewise, individual learn how rumination, avoidance and suppression of negative thoughts and emotions often inhibit resolution of one's distress (p. 202).

## **Study Purpose and Design**

The following proposed study will explore the role of MBCT for anxious youth within an urban school setting. There seems to be a re-current need for support services for adolescents who are either diagnosed with an anxiety disorder or self-identified as having excessive anxiety and other stress-related symptoms. To begin, some specific needs within the identified population.

In the school setting, students are expected to follow rules regarding the academic and behavioral expectations of the school. There are also familial expectations to consider, with students facing the similar demands, rules and academic/behavioral expectations of their caregivers. Duchesne and Ratelle (2010) noted that when children and adolescents perceive their caregivers to be supportive instead of demanding and controlling of activities, they are less inclined to present with symptoms of anxiety and depression (p. 499). High levels of academic and behavioral expectations set forth by the school, parents and staff is problematic for some students in schools. Additionally, the demanding workload established by our current school policies often causes psychosocial maladjustments from the increased levels of stress, anger and anxiety in the students who are already at risk due to issues associated with age/adolescence, social location, self-esteem or level of development.

Buxton (2005) experienced this situation at an urban school and noted that most incoming students were quite unprepared to be shaped into the students who others were expecting them to become. Buxton also found that many of the students quickly became overwhelmed by the academic standards and workload that was expected of them (Buxton, 2005, pp. 407-408). All of these factors contribute to current school culture.



The lack of supportive services also contributes to negative outcomes for students. To illustrate, Windle and Windle (1996) found that maladjustment occurs across many areas of functioning when adolescents experience negative daily life events. Such events include school related stress, which has a significant effect on academic performance, behavior and adjustment (Windle & Windle, 1996, pp. 555-558). Students who are stressed and without access to services are further at risk for engaging in negative coping behaviors. As described by Dube and Orpinas (2009) and Mendez and Knoff (2003), coping behaviors that occur because of unresolved or increased stress include increased school suspensions and absenteeism. These negative coping behaviors are quite disruptive for family systems as well as for schools. School social work services for these students and families are often significantly increased on top of an already demanding workload (Dube & Oprinus (2009), Mendez & Knoff (2003)).

The purpose of this new research will be to explore the effects of a MBCT training group with anxious youth in an urban school and later using data analyses from a quasi-experimental design to evaluate intervention success and treatment outcomes. The research question will attempt to determine if the rates of absenteeism and school suspensions will be affected by the implementation of a MBCT training group for anxious and/or panic disordered youth within an educational setting.

The design for this study would be quasi-experimental in order to evaluate intervention success and treatment outcomes. The objective of such a study would be to determine if the rates of absenteeism and school suspensions (dependent variables) would decrease after the implementation of a MBCT training program (independent variable) for anxious youth in the educational setting.

It is hypothesized that implementing an MBCT model of treatment for the students may lessen students' levels of stress and anxiety. A quasi-experimental design would include multiple pre and post measures in order to evaluate possible posttest changes. More specifically, a simple interrupted time series design could be used. This research design was selected because it may be helpful to understand how these combined types of interventions may affect certain indicators of stress (absenteeism, suspensions) for this population over a length of time. Baseline measures would be taken before the interventions or independent variables are introduced, with repeated measures taking place after interventions begin. The baseline measures would act as a control and a comparison group would not be required, which is often necessary for other experimental designs. This design was chosen for feasibility reasons, since a comparison group would not be available in this setting. For this design, the dependent variables being measured would be the total number of suspensions as well as the total number of absences for the group.

By choosing a quasi-experimental research design, some questions may be answered as to how this intervention worked with some students and not with others. By taking multiple measurement points, it may be possible to better understand if and how changes on students behaviors/symptoms changes with intervention implementation. Further, by introducing the interventions with multiple individuals within the same study, we may be able to see if the same conclusions and/or experiences are duplicated among each other.

For the purpose of defining major concepts, both indicators/dependent variables as well as the independent variable will be further explained. The first indicator,

suspension totals, will be the number of suspensions that are given both inside and outside of school. Both are equally important since classroom time and learning opportunities are missed. The second indicator, absence totals, will not include those absences that are due to out of school suspensions. Absence totals are important to measure to better determine if post-intervention totals are manipulated by the interventions. If totals go down, then it may indicate that some prior absences were a result of avoidance behavior, such as school refusal behavior. Dube and Orpinas (2009) describe one aspect of school refusal behavior by which a student purposely misses school in order to avoid a fearful or anxiety producing environment or situation at school (p. 87). As noted previously, increased stress may contribute to onset of anxiety and panic symptomology. Therefore, it is hypothesized that increased stressors and onset of anxiety and panic may contribute to school avoidance and school refusal behaviors that may be better understood by tracking rates of absenteeism and suspensions.

The independent variable within the proposed research will be the MBCT group training intervention. This school-based treatment intervention will consist of the program based on the traditional MBCT layout. Williams et al., (2006) define the MBCT program to include eight weekly training classes, typically with up to 12 participants. Further, each class is approximately two-hours in length, with one all-day practice in between class seven and eight. Also, because of the degree of commitment undertaken by individuals within MBCT programs, each are expected to practice various meditative practices (including following guided audio recordings provided by trainers) for up to an hour a day, six days out of the week. The eight weekly MBCT practices include: 1) mindful eating exercises; 2) mindfulness/focused attention of basic every day activities,

such as hand washing, brushing teeth and showering; 3) body scanning, which includes paying attention to different parts of the body at different times; 4) mindfulness breathing exercises 5) using mindfulness to identify pleasant and unpleasant thoughts, feelings, emotions, sensations and activities and how body reacts as a result; 6) using mindfulness of the body in regards to how somatic or physical sensations arise within the body; 7) mindful walking, stretching and yoga postures in attempts to gain attention of body while performing and finally 8) using thoughts and feelings as a focus of attention in attempts to learn different ways of relating to them when they occur naturally (Williams et al., 2006, pp. 202-204).

### **Sample**

The study population of the purposed research would be school age children within an urban high school, who are attending high school grades 9-12 and have been identified by school staff as having recent increased stress and anxiety symptoms or markers, such as increased conflictual behavior, increased absenteeism, increased school suspensions, or other observed or self-identified increased stress/anxiety symptoms. The sample frame will consist of adolescents in one specific urban high school who are exhibiting these observed symptoms and markers and who have parental consent to participate. The exact sample will be the students who participate in the study.

One school selected for the purpose of this model study is a school with pseudonym “Metro High School” (MHS), which is located in a major New England city that serves students from grades 9 -12. This particular school attends to the traditional ills of society in addition to urban ills, such as poverty and a greater exposure to violence and substance abuse. As of 2010, the student body consisted of 50% urban students and

50% suburban students. Approximately 700 students attend, with 20% being Caucasian and 80% being of other ethnicities. Since the exact sample is not known at this time, the exact demographics are unknown, but they would consist of the representing student body at the time of research

For the purpose of being aware of issues affecting the sample, it is important to understand that main mission of the MHS is to prepare students for acceptance into competitive colleges and universities. With this in mind, the MHS learning community participates in a rigorous classical liberal arts curriculum, which focuses on the study of Latin, literature, philosophy, mathematics and science. To further promote personal development, all students also attend a daily, extended enrichment program

The principal's belief and main priority is that students have a safe place to learn and flourish. Another feature is the shared interest of staff and parents to help promote academic success while supporting student's demanding workloads. Entrance into the MHS is based on a lottery system. However, not everyone can stay in the school once admission is gained. Students, parents and staff subscribe to and follow a contract regarding academic and behavioral expectations. These factors contribute to the distinctive MHS school culture and also create both positive and negative outcomes for students. The high level of academic expectation set forth by the school, parents and staff can be problematic for some students. The demanding workload often causes psychosocial problems due to the increased levels of stress, anger and anxiety in the students who are already at risk.

In the proposed study, the sample would consist of the students that will be attending the MBCT program. The actual sample would likely be a nonprobability

convenience sample. Students would be selected based on observable criteria as reported by school staff members. The MHS already has a student assistance team (SAT) in place that identifies students in need or crisis so that all support staff are in collaboration with one another and services are not duplicated or missed. The SAT currently consists of the school social worker, the school psychologist, all four school counselors, the school nurse and the school special education teachers. Referrals to the SAT are typically students with social/emotional/behavioral difficulties, family issues, academic issues, physical/health issues, grief, attendance, and other issues. For this study, referrals for the group come from the SAT.

### **Data Collection**

The initial form of data measurement would be to extract data from existing student absenteeism and suspension records from a continuous 12-week period during the beginning of the school year. Approximately the first three months of school would be used for the weekly baseline pretest data measures. After the interventions/ independent variable is introduced, the following 16 continuous weeks would be used to collect posttest measurement data. To try to increase validity, when there seems to be a incident specific reason for absences, such as a hospitalization, physical illness, family situation, vacation, time of year (holiday), etc., it would be noted. Also, the same would be noted for a specific sequence of suspensions, such as if they were in a physical altercation on school grounds, or if a participant was found to be threatening violence against another student, etc., which results in an automatic lengthy out of school suspension for students involved.

The initial information regarding the research study would be issued to the whole

school in conjunction with other literature regarding stress reduction programs for students. For the upcoming school years, there are already special focus for the SAT teams in place, and the school as a whole, on stress management options/education for students. In presenting these interventions in conjunction with a blanket statement on their stress-reduction focus, the introduction of an intervention program and possible participation would not likely be a surprise for parents and students. Currently, all attending students are English speaking; therefore the intervention program would be conducted in English. Informational packets or permission papers would be provided in whatever language is needed. Most likely, the students, if necessary, could translate the information provided to caregivers.

### **Data Analysis**

The demographic data would include students who are in the 9-12th grades. It is important to limit the grades that are included, since developmental levels and needs vary greatly between lower and upper grades, as well as between age levels. Also, students who have been retained and are repeating the 9-12th grade would not be included. Since it is hypothesized that the school culture and demanding school curriculum is contributing to negative outcomes, a repeat student may not experience the work as being as challenging as it was experienced the first time. Therefore, improvements may be really contributed to a lower level of stress because of exposure to repeated curriculum instead of improvement from the intervention itself. Also, repeating students are likely older than their classmates that are of the general ages that attend the attempted grade the first time. All of these variables could possibly lead to the collection of spurious data.

As noted previously, quantitative data collected would consist of rates absenteeism and out of school suspensions. A quasi-experimental design would be implemented to evaluate and measure pre and post-test outcomes. This research would consist of weekly measures over an eight week time period. The unit of measure/analysis is one student/study participant. Data would be recorded for each student individually and each would be represented by their own graph. Each graph would be analyzed individually, with data to be analyzed using visual displays of the data collected. The means and standard deviations of collected data would be used for statistical analysis purposes to determine outcome findings.

### **Study Biases and Limitations**

One conscious bias of the chosen sampling technique is that these students will be convenient to gather in one location, since they all attend the same school. Another bias of this method is that the staff may single out a particular student for other reasons, such as wanting them to be in a group instead of being disruptive in their classroom. It may be convenient for the teachers to have students attend the program, and not necessarily for the intended possible benefits of the program. Additionally, this sample may not be representative of the entire population but it is also not feasible to get the ideal population within the school setting. Initially, it would likely be easier to implement this intervention in one school and then replicate it another school to get a better understanding of generalizability of research findings.

Another bias of this research design selection is that the study will be missing rich qualitative data of the subjective experiences of the students themselves. Other than having data regarding suspensions and absenteeism, there will be no other indications of



how well the students feel the intervention may or may not be helpful for them.

One present measurement bias is a personal specific interest in wanting to gain more information and knowledge about interventions with youth and anxiety. Outcomes may be exciting or disappointing. Will students be ultimately selected based on their possible success with the intervention? Will students who are less “severe” in representation, along with more skill sets, be selected for this reason? Will the sample really properly represent the actual population that is being sought? These biases have been noted and honest attempts will be made to keep them to a minimum.

### **Ethics and Safeguards**

Ethical considerations of this research study include that youth are a vulnerable population requiring special consideration, especially in relation to their age and developmental needs. Specific issues of diversity will influence the design of the group intervention. In doing so, for example, the developmental level of students may vary considerably, and would have to be taken into account. An awareness of the current cultural structure when designing interventions and tools for the group regarding anxiety management would also have to be considered. Additionally, during this stage of development, it would be helpful to keep in mind that autonomy is a goal even though there is often a need for dependence.

Given the research design, generalizability of findings and the ability to make conclusions beyond this particular study may be limited. First, since the sample would consist of students from within the same school, there are likely parts of the MHS school culture that are not representative of other schools in the urban district. For example, the MHS has a very purposeful curriculum that reflects their particular mission. The rigorous

workload may add greatly to the levels of stress for some students that may not be similar in other schools. Further, this particular school borders affluent towns, whereas the other district schools may not. This may affect MHS students differently by being exposed to dissimilar neighborhoods, different socio-economic classes, different racial and ethnic mixtures, etc.

As far as feasibility and overcoming agency obstacles to the initiation of such a research project/group, I could implement a number of steps. I could first utilize agency and community contacts and explore how both can be utilized in collaboration to provide services (the group intervention) for the adolescents. Often communities and agencies are supportive of vulnerable populations and are commonly willing to provide support for future generations. I would try to do my best to educate all stakeholders about the importance and relevance of the MBCT group by presenting research to support the proposed intervention highlighting how students who are stressed and without access to services are further at risk for engaging in negative coping behaviors.

### **Summary and Conclusion**

As previously noted, two coping behaviors that occur because of unresolved or increased stress include increased school suspensions and absenteeism. I believe that both of these negative outcomes would be important to those whose support and permission is needed in order to create the group. I believe that this would be especially true since both factors can be seen and measured and both affect academic performance and behavior. To end, if necessary, it may likely be beneficial to reiterate that it is the responsibility of the school to provide services for this identified population. As noted by Mendez and Knoff (2003), school staff and administrators are responsible for quickly

analyzing and meeting the needs of students engaging in negative coping behaviors. Intervention strategies and appropriate interventions are necessary to support these students (Mendez & Knoff, 2003, p. 45).

An article by Sauter, Heyne, and Westenberg (2009) provides some of the latest information in designing developmentally appropriate treatment plans and delivery methods for adolescents with anxiety. Sauter et al note that paying attention to motivation for treatment is essential when working with this age group as well as the importance of including peer support in part of a treatment options. These suggestions were taken into consideration when selecting the sample and designing the specific program intervention, but limitations regarding knowing the student's real motivation may be in question, since they are being picked by staff at the school. Selected students may only be participating in the study to be with friends or only because they do not want to upset/offend a staff member. Also, there may be a motivation to please others, which would likely affect outcomes.

What is encouraging is that there is a great deal of literature pointing to the efficacy of CBT and MBSR in treatment of anxiety and panic disorders. However, even though CBT and MBSR have been empirically found to be an effective treatment for anxiety overall, a gap in knowledge base continues to exist in regards to the efficacy of CBT and/or MBSR interventions with anxious and panic disordered adolescents. One such finding regarding a review of CBT as an approach for mood disorders in adolescents lead me to further explore intervention strategies, such as MBCT, designed for youth who present with anxiety disorders or identify as having stress-related symptoms. For example, researchers Emslie, Mayes, Lappook and Batt (2003) found that even with a

significant success rate of 35%-40% showing CBT treated adolescents in diagnostic remission, 55%-60% still persisted with impairment (as cited in Biegel, Brown, Shapiro & Schubert, 2009, p. 835). Further, researchers are pointing to the need for further exploration of interventions as well as the implementation of coping skills that may reduce the use of non-productive coping skills (Frydenberg, et al., 2004).

I find this area of research to be very necessary and exciting. In addition to standard cognitive therapy and mindfulness-based approaches, very recent literature is finding success with interventions based on these hybrid branches cognitive and mindfulness-based practices, such as mindfulness based cognitive therapy (MBCT). The findings of such intervention efficacy within adult populations points to the availability of further research for applicability of these techniques with more vulnerable populations, such as our anxious and panic disordered youth.

## References

- Adams, G. R. (2005). Adolescent development. In T. P. Gullota & G. R. Adams (Eds.), *Handbook of adolescent behavior problems: Evidence-based approaches to prevention and treatment* (pp. 3-16). New York, NY: Springer.
- American Academy of Child and Adolescent Psychiatry (AACAP). (2004). *Facts for families: Panic disorder in children and adolescents*. Retrieved on October 24, 2011 from [http://www.aacap.org/galleries/FactsForFamilies/50\\_panic\\_disorder\\_in\\_children\\_and\\_adolescents.pdf](http://www.aacap.org/galleries/FactsForFamilies/50_panic_disorder_in_children_and_adolescents.pdf)
- American Psychiatric Association. (2000) *Diagnostic and statistical manual of mental disorders* (Revised 4<sup>th</sup> ed.). Washington, DC: Author.
- American Psychiatric Association (APA). (2006). *Let's talk facts about panic disorder*. Retrieved on October 23, 2011 from <http://www.healthyminds.org/Document-Library/Brochure-Library/Lets-Talk-Facts--Text-Only-Panic-Disorder.aspx>
- Beck, A. T. (1963). Thinking and depression. *Arch Gen Psychiatry*, 9, 324-333.
- Beck, A. T. (1964). Thinking and depression II: Theory and therapy. *Arch Gen Psychiatry*, 10, 561-571.
- Beck, A. T. (1997). The past and future of cognitive therapy. *Journal of Psychotherapy Practice and Research*, 64(4), 276-284.
- Biegel, G., Brown, K., Shapiro, S., & Schubert, C. (2009). Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial. *Journal of Consulting and Clinical Psychology*, 77(5), 855-866. doi:10.1037/a0016241.

- Blos, P. (1962). *On adolescence*. New York, NY: The Free Press.
- Burke, C. (2010). Mindfulness-Based approaches with children and adolescents: A preliminary review of current research in an emergent field. *Journal of Child & Family Studies, 19*(2), 133-144.
- Buxton, C. A. (2005). Creating a culture of academic success in an urban science and math magnet high school. *Science Education, 89*(3), 392-417.  
doi:10.1002/sce.20057.
- Children's fears and anxieties. (2004). *Harvard Mental Health Letter*. Harvard Health Publications, Harvard University. Retrieved on October 26, 2001 from [http://www.health.harvard.edu/newsweek/Childrens\\_fears\\_and\\_anxieties\\_0405.html](http://www.health.harvard.edu/newsweek/Childrens_fears_and_anxieties_0405.html)
- Collard, P., Avny, N., & Boniwelly, I. (2008). Teaching Mindfulness Based Cognitive Therapy (MBCT) to students: The effects of MBCT on the levels of mindfulness and subjective well-being. *Counseling Psychology Quarterly, 21*(4), 323-336.  
doi:10.1080/09515070802602112
- Cooley, M. R., & Turner, S. M. (1995). Assessing community violence: The children's report of exposure to violence. *Journal of the American Academy of Child & Adolescent Psychiatry, 34*(2), 201.
- Costello, E., Copeland, W., & Angold, A. (2011). Trends in psychopathology across the adolescent years: What changes when children become adolescents, and when adolescents become adults? *Journal of Child Psychology & Psychiatry, 52*(10), 1015-1025. doi:10.1111/j.1469-7610.2011.02446.x

- Dowd, E., Clen, S., & Arnold, K. (2010). The specialty practice of cognitive and behavioral psychology. *Professional Psychology: Research and Practice, 41*(1), 89-95. doi:10.1037/a0018321.
- Duchesne, S., & Ratelle, C. (2010). Parental behaviors and adolescents' achievement goals at the beginning of middle school: Emotional problems as potential mediators. *Journal of Educational Psychology, 102*(2), 497-507. doi:10.1037/a0019320.
- Dube, S., & Orpinas, P. (2009). Understanding excessive school absenteeism as school refusal behavior. *Children & Schools, 31*(2), 87. Retrieved from PsycINFO database.
- Emslie, G. J., Mayes, T. L., Laptook, R. S. & Batt, M. (2003). Predictors of response to treatment in children and adolescents with mood disorders. *Psychiatric Clinics of North America, 26*, 435-456.
- Erikson, E. H. (1963). *Childhood and society* (2nd ed.). New York, NY: W.W. Norton & Company.
- Frydenberg, E., Lewis, R., Bugalski, K., Cotta, A., McCarthy, C., Luscombe-Smith, N. & Poole, C. (2004). Prevention is better than cure: Coping skills training for adolescents at school. *Educational Psychology in Practice, 20*(2), 117-134. doi:10.1080/02667360410001691053.
- Graczyk, P.A., Connolly, S.D., & Corapci, F. (2005). Anxiety disorders in children and adolescents: Theory, treatment and prevention. In T. P. Gullota & G. R. Adams (Eds.), *Handbook of adolescent behavior problems: Evidence-based approaches to prevention and treatment* (pp. 131-157). New York, NY: Springer.

- Gullotta, T.P. (2005). Understanding primary prevention. In T. P. Gullotta & G. R. Adams (Eds.), *Handbook of adolescent behavior problems: Evidence-based approaches to prevention and treatment* (pp. 17-25). New York, NY: Springer.
- Heyne, D., Sauter, F. M., Van Widenfelt, B. M., Vermeiren, R., & Westenberg, P. (2011). School refusal and anxiety in adolescence: Non-randomized trial of a developmentally sensitive cognitive behavioral therapy. *Journal of Anxiety Disorders, 25*(7), 870-878.
- Hick, S. F. (2008). Cultivating therapeutic relationships: The role of mindfulness. In: S. F. Hick & T. Bien (Eds.), *Mindfulness and the therapeutic relationship* (pp. 3-18). New York, NY: The Guilford Press.
- Hutchison, E. D. & Charlesworth, L. W. (2008). Theoretical perspectives on human behavior. In E. D. Hutchison (Ed.), *Dimensions of human behavior: Person and environment* (3<sup>rd</sup> ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain and illness*. New York, NY: Delta.
- Kabat-Zinn, J., Massion, A. O., Kristeller, J., & Peterson, L. G. (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *The American Journal of Psychiatry, 149*(7), 936-943.
- Kenardy, J., Robinson, S., & Dob, R. (2005). Cognitive behavior therapy for panic disorder: Long-term follow up. *Cognitive Behaviour Therapy, 34*(2), 75-78.
- Kiselica, M., Baker, S., Thomas, R., & Reedy, S. (1994). Effects of stress inoculation training on anxiety, stress, and academic performance among adolescents. *Journal of Counseling Psychology, 41*(3), 335-342. doi:10.1037/0022-0167.41.3.335.



- Leichsenring, F., Hiller, W., Weissberg, M., & Leibing, E. (2006). Cognitive-behavioral therapy and psychodynamic psychotherapy: Techniques, efficacy, and indications. *American Journal of Psychotherapy, 60*(3), 233-259.
- Maag, J., & Kotlash, J. (1994). Review of stress inoculation training with children and adolescents: Issues and recommendations. *Behavior Modification, 18*(4), 443-469. doi:10.1177/01454455940184004.
- Meichenbaum, D. H., & Deffenbacher, J. L. (1998). Stress inoculation training. *The Counseling Psychologist, 16*(1), 69-90. doi:10.1177/0011000088161005.
- Mendez, R. L., & Knoff, H. (2003). Who gets suspended from school and why: A demographic analysis of schools and disciplinary infractions in a large school district. *Education and Treatment of Children, 26*(1), 30-51. Retrieved from PsycINFO database.
- Nakamura, B., Pestle, S., & Chorpita, B. (2009). Differential sequencing of cognitive-behavioral techniques for reducing child and adolescent anxiety. *Journal of Cognitive Psychotherapy, 23*(2), 114-135. doi:10.1891/0889-8391.23.2.114.
- National Association of Cognitive- Behavioral Therapists (NACBT). (2008). *What is cognitive-behavioral therapy?* Retrieved on October 23, 2011 from <http://nacbt.org/whatiscbt.htm>
- National Alliance on Mental Illness (NAMI). (2008a). *Cognitive-behavioral therapy.* Retrieved on October 23, 2011 from [http://www.nami.org/Content/NavigationMenu/Inform\\_Yourself/About\\_Mental\\_Illness/About\\_Treatments\\_and\\_Supports/Cognitive-Behavioral\\_Therapy.htm](http://www.nami.org/Content/NavigationMenu/Inform_Yourself/About_Mental_Illness/About_Treatments_and_Supports/Cognitive-Behavioral_Therapy.htm)

- National Alliance on Mental Illness (NAMI), (2008b). *Mental Illness: Facts and numbers*. Retrieved on October 23, 2011 from [http://www.nami.org/Template.cfm?Section=About\\_Mental\\_Illness&Template=/ContentManagement/ContentDisplay.cfm&ContentID=53155](http://www.nami.org/Template.cfm?Section=About_Mental_Illness&Template=/ContentManagement/ContentDisplay.cfm&ContentID=53155)
- National Institute of Mental Health (NIMH). (2010). Panic Disorder: When fear overwhelms. Retrieved October 26, 2011 from <http://www.nimh.nih.gov/health/publications/panic-disorder-when-fear-overwhelms/panic-disorder-when-fear-overwhelms.shtml>
- Newman, B. M., & Newman, P.R. (2006). *Development through life: A psychosocial approach* (9th ed.). Belmont, CA: Thomson Wadsworth.
- Ollendick, T. H. (1998). Panic disorders in children and adolescents: New developments, new directions. *Journal of Clinical Child Psychology*, 27(3), 234.
- Ollendick, T. H., Maths, S. G., & King, N. J. (1994). Panic in children and adolescents: A Review. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 35(1), 113-134. doi:10.1111/1469-7610.ep11826742
- Panic disorder. (2001). *Harvard Mental Health Letter*, 17(9).
- Palombo, J., Bendiczen, H. K., & Koch, B. J. (2009). *Guide to psychoanalytic development theories*. New York, NY: Springer.
- Petterson, K., & Cesare, S. (1996). Panic disorder: A cognitive-behavioural approach to treatment. *Counseling Psychology Quarterly*, 9(2), 191.
- Pincus, D. B., May, J. E., Whitton, S. W., Mattis, S. G., & Barlow, D. H. (2010). Cognitive-behavioral treatment of panic disorder in adolescence. *Journal of Clinical Child & Adolescent Psychology*, 39(5), 638-649.

- Roy-Byrne, P., Craske, M., & Stein, M. (2006). Panic disorder. *The Lancet*, 368(9540), pp.1023-1032.
- Thompson, M., & Gauntlett-Gilbert, J. (2008). Mindfulness with children and adolescents: Effective clinical application. *Clinical Child Psychology & Psychiatry*, 13(3), 396-408. doi:10.1177/1359104508090603
- Sauter, F., Heyne, D., & Westenberg, P. (2009). Cognitive behavior therapy for anxious adolescents: Developmental influences on treatment design and delivery. *Clinical Child and Family Psychology Review*, 12(4), 310-335. doi:10.1007/s10567-009-0058-z.
- Schneider, B. H. (2009). An observational study of the interactions of socially withdrawn/anxious early adolescents and their friends. *Journal of Child Psychology & Psychiatry*, 50(7), 799-806. doi:10.1111/j.1469-7610.2008.02056.x
- Singer, M. I., & Anglin, T. (1995). Adolescents' exposure to violence and associated symptoms of psychological trauma. *JAMA: Journal of the American Medical Association*, 273(6), 477.
- Telch, M. J., Schmidt, N. B., Jaimez, T. L., Jacquin, K. M. & Harrington, P. J. (1995). Impact of cognitive-behavioral treatment on quality of life in panic disorder patients. *Journal of Consulting and Clinical Psychology*, 63(5), 823-830.
- Thompson, M., & Gauntlett-Gilbert, J. (2008). Mindfulness with children and adolescents: Effective clinical application. *Clinical Child Psychology and Psychiatry*, 13(3), 395-407. doi:10.1177/1359104508090603

- Walsh, J. (2008). The psychosocial person: Relationships, stress and coping. In E. D. Hutchison (Ed.), *Dimensions of human behavior: Person and environment* (3<sup>rd</sup> ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Williams, J. G., Duggan, D. S., Crane, C., & Fennell, M. V. (2006). Mindfulness-based cognitive therapy for prevention of recurrence of suicidal behavior. *Journal of Clinical Psychology*, *62*(2), 201-210.
- Windle, M., & Windle, R. (1996). Coping strategies, drinking motives, and stressful life events among middle adolescents: Associations with emotional and behavioral problems and with academic functioning. *Journal of Abnormal Psychology*, *105*(4), 551-560. doi:10.1037/0021-843X.105.
- Wright, J. H., Basco, M. R. & Thase, M. E. (Eds.), (2006). *Learning cognitive behavioral therapy: An illustrated guide* (1st ed.). Arlington, VA: American Psychiatric Publishing, Inc.
- Zindel, S. V., Williams, M. G., & Teasdale, J. D. (2001). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York, NY: The Guilford Press.