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Evaluating the Mindfulness-Based and Cognitive-Behavior Therapy for Anger Management Program

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PHILADELPHIA COLLEGE OF OSTEOPATHIC MEDICINE
DEPARTMENT OF PSYCHOLOGY

Dissertation Approval

This is to certify that the thesis presented to us by Brett Pellegrino on the 21st day of May, 2012, in partial fulfillment of the requirements for the degree of Doctor of Psychology, has been examined and is acceptable in both scholarship and literary quality.

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Abstract

Problems related to adolescents who present with extreme anger, disruptive behavior, and aggression is an ever increasing concern for school officials (Christner, Friedberg & Sharp, 2006). There continues to be a need for effective interventions that can be utilized within the school setting to assist adolescents with anger management difficulties. This study examined changes in anger management difficulties and mindfulness for four high school students who participated in the Mindfulness-Based and Cognitive-Behavior Therapy for Anger Management Program (Kelly, 2006). The data were generated through pre and post assessments with the State Trait Anger Expression Inventory, Second Edition Child and Adolescent (STAXI-2 C/A), the Freiburg Mindfulness Inventory, the Mindful Attention and Awareness Scale, student discipline records, as well as teacher, parent, and student surveys. Results suggest that all four students demonstrated a reduction in anger management difficulties and increased mindfulness after participating in the intervention.

Chapter One

Statement of the Problem

Violence in American schools has captured many headlines throughout the past twenty years and has led to a growing concern regarding the social and emotional health of our nation's adolescent population. The mass killings at Littleton, Colorado; Jonesboro, Arkansas; Springfield, Oregon; and Edinboro, Pennsylvania have resulted in school officials becoming increasingly concerned with identifying and addressing the behavioral, social, and emotional needs of students. Although the events previously mentioned are horrific and impactful, they are statistically rare. A more common concern faced by many school is handling students who present with extreme anger, disruptive behaviors, and aggression on a daily basis (Christner, Friedberg & Sharp, 2006).

The Indicators of School Crime and Safety: 2010 (Robers, Zhang, & Truman, 2010) report is the thirteenth in a series of annual publications produced jointly by the National Center for Education Statistics (NCES), Institute of Education Sciences (IES), in the U.S. Department of Education, and the Bureau of Justice Statistics (BJS) in the U.S. Department of Justice. This report presents the most recent data available on school crime and student safety. According to the Indicators of School Crime and Safety: 2010 (Robers, et al., 2010), during the school year 2007–08, there were 1,701 homicides among school-age youth ages 5–18. In 2009, 10 percent of male students in grades 9–12 reported being threatened or injured with a weapon on school property in the previous year and 31 percent of students in grades 9–12 reported that they had been in a physical fight at least one time during the previous 12 months anywhere, and 11 percent said they had been in a fight on school property during the previous 12 months. Physical fights on

school property are considered a high-risk behavior that may disrupt a focused learning environment at school, and students involved in physical fights on school property may face difficulties succeeding in their studies (Payne, Gottfredson, & Gottfredson 2003).

School administrators, psychologists, counselors, and social workers are faced with the task of identifying and responding to these aggressive behaviors. This makes the demand for evidence-based assessments and interventions of the utmost importance as school professionals attempt to handle the difficult problem of school violence and aggression. Anger has been identified as a precursor to aggression (Mammen, Pilkhonis. Kolko, & Groff, 2007) and is an area for targeted interventions. Cognitive behavioral therapy (CBT) has been reported as an empirically validated treatment for a variety of social, emotional, and behavioral problems (Freeman, Pretzer, Fleming, and Simon, 2004). Mindfulness and mindfulness-based cognitive behavioral therapy (MBCBT) approaches have been the subject of various research projects (e.g., Linehan, 1993; McCloy, 2004; Silva 2007). Research in the areas of cognitive behavioral therapy and mindfulness has yielded promising results, suggesting that these may be useful in working with adolescents experiencing anger problems in the school environment.

The use of a mindfulness-based approach to therapy has been documented as being successful in treating depression (e.g. Segal, Williams & Teasdale, 2002) and anxiety related disorders in adults (e.g. Kabit-Zinn, et al., 1992) and a recent study suggested promise in the treatment of anger (e.g. Diebold, 2003, Polizzi, 2008; Silva, 2007) . Recent research has supported the use and receptivity of mindfulness-based approaches in treating children with anxiety and attention problems. Cognitive-behavioral therapy has also been found to be successful in treating disorders related to

depression and anxiety, as well as other psychological, behavioral, and emotional disorders (see DeRubei & Crits-Cristoph, 1998). As suggested by previous studies (Kelly, 2006; Polizzi, 2008; Silva, 2007), a mindfulness-based cognitive behavior therapy approach for adolescents with anger related difficulties may be effective because it addresses thought processes, physiological reactions, and behavioral expressions of anger. However, the use of a mindfulness-based approach has not been well documented with youth experiencing difficulties controlling anger.

Purpose of the Study

This study seeks to further evaluate effectiveness of the mindfulness-based anger-management program for adolescents developed by Jeffrey Kelly (2006). This study will evaluate this mindfulness-based approach to anger-management, which incorporates both CBT and mindfulness-based techniques, and the effect that it has on high school students with anger-management difficulties. The *Mindfulness-Based and Cognitive-Behavior Therapy for Anger-Management Program* is a manualized treatment protocol that can be administered to students individually or in a small group setting (Kelly, 2006). This treatment intervention was developed and implemented with an adolescent female for anger management, but has not been utilized in a group counseling setting with adolescent males. It is a brief intervention that integrates both mindfulness-based and CBT techniques to treat school-aged individuals with anger-management difficulties (Kelly, 2006). The program relies heavily on the programs designed both by Kabat-Zinn (1990) and by Segal et al. (2002). It was hoped that this study would aid in the development of an effective, time-limited treatment intervention for adolescents with anger-management difficulties.

This study will attempt to answer the following research questions:

1) Is the Mindfulness-Based and Cognitive-Behavior Therapy for Anger-Management Program (Kelly, 2006) effective in treating high school males in a group counseling format? Specific sub-questions to be addressed include:

    1a. Do student self-reports indicate a reduction in anger management difficulties as reflected in lower scores on the State-Trait Anger Expression Inventory at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

    1b. Do Parent Survey responses indicate a reduction in anger management difficulties as reflected in lower scores on the Parent Survey at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

    1c. Do Teacher Survey responses indicate a reduction in anger management difficulties as reflected in lower scores on the Teacher Survey at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

    1d. Do disciplinary referrals reflect a reduction in anger-related disciplinary actions at the end of the intervention program and one month after the end of the intervention program, compared with disciplinary actions prior to the intervention program?

    1e. Do student self-reports indicate an increase in mindful perceptions, feelings, thoughts and actions as reflected in higher scores on the Freiburg Mindfulness Inventory at the end of the intervention program and one month after the end of

the intervention program, compared with scores prior to the intervention program?

1f. Do student self-reports indicate an increase in mindful perceptions, feelings, thoughts and actions as reflected in higher scores on the Mindful Attention and Awareness Scale at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

2) Based on responses to a post-program student evaluation form, what are the experiences and thoughts of the participants receiving the intervention, with regard to the effectiveness of the individual sessions and the intervention overall?

Chapter Two

Literature Review

Anger-related problems, such as oppositional behavior, hostility, and aggression, are some of the main reasons that children and adolescents are referred for counseling or psychotherapy (Abikoff & Klein, 1992; Armbruster, Sukhodolsky, & Michalsen, 2001). Although anger-related problems constitute the central feature of disruptive behavior disorders and are frequently associated features of attention-deficit hyperactivity disorder (American Psychiatric Association, 2000), they are often present in other childhood disorders. As Sukohodolsky, Kassinove, and Gorman (2004) explain, many DSM-IV disorders applicable to youth have several diagnostic criteria, associated features, and descriptors that are relevant to anger. Irritability is a prominent feature of all major mood disorders and persistent anger is often found in adjustment disorders involving disturbance of emotions or conduct. Intermittent explosive disorder is defined primarily by discrete episodes of loss of control and aggressive behavior. Before beginning to investigate anger related problems and identifying methods of treatment, it is necessary to understand the underpinnings of ‘anger” and its relationship to aggression.

Conceptualizing Anger and Aggression

Novaco (1975) proposed a model of anger which includes subjective emotional states, environmental circumstances, physiological arousal, cognitions of antagonism, and their corresponding behavioral reactions. The subjective affect is determined by cognitive labeling of physiological arousal as “being angry.” This cognitive labeling is a highly automatic process, which is associated with an inclination to act in a confrontational manner toward the source of provocation. This action impulse is regulated by internal and

external mechanisms of control, which may be overridden by the intensity of any one of the elements of anger.

Spielberger (1988) proposed a factor-analytical model of anger that distinguished between anger experience and anger expression. Within this model, anger experience is viewed as a subjective experience varying in duration and intensity. Anger expression is viewed as an individual's tendency to act on anger by showing it outwardly, suppressing it, or actively coping with it. Spielberger, Jacobs, Russel, and Crane (1983) also suggested that there are unclear boundaries among the related concepts of anger, hostility, and aggression and that the three can be integrated into a collective “AHA syndrome.” Within this syndrome, anger refers to emotional states; hostility refers to antagonistic beliefs, and aggression refers to overt harmful behavior.

Several social-cognitive models have detailed cognitive processes that may be related to anger and aggression. These models stem from the original social learning formulations by Bandura (1972). The social information processing model developed by Dodge (1980) postulated a five-step sequential model of cognitive processes: encoding of social cues, interpretation of cues, response search, response decision, and enactment of behavior. Disruption in any of these processes can lead to anger and aggressive behavior. Kendall (1991) made a distinction between cognitive deficiencies and cognitive distortions. Deficiencies refer to the absence of thinking, such as not thinking about the consequences of one's behavior; however, distortions, such as a hostile attribution bias, refer to the faulty processing of social information. Cognitive deficiencies require interventions that enrich cognitive and behavioral skills, whereas cognitive distortions require modification of already existing cognitive and behavioral patterns.

Kassinove (1995) defined anger in terms of a negative, internal feeling state which is associated with specific cognitive and perceptual distortions and deficiencies, with subjective labeling, physiological changes, and action tendencies. These components result in the engagement of socially constructed and reinforced organized behavioral scripts. Anger is not uniformly experienced but varies in frequency, intensity, duration, and response from person to person. In this study, anger will be defined as an emotional state that is experienced on multiple levels (cognitive, affective, physiological, behavioral). This definition is a combination of Novaco's (1975) and Kassinove's (1995) definitions of anger and take into account the multiple levels on which anger impacts an individual and the behavioral reactions that accompany anger.

Hostile Versus Instrumental Aggression

According to Berkowitz (1993), aggression is a goal-directed, motor behavior with intent to harm, hurt or cause injury. These behaviors can be displayed verbally or physically. Intent is the essential characteristic that differentiates aggression from other forceful acts that may be harmful (e.g., pushing a child out of the way of a vehicle to save his/her life) (Kassinove & Sukhodolsky, 1995). It is important to note that anger and aggression are often related and occur together; however, that is not always the case. Anger can occur without aggressive actions (e.g., hitting someone) and aggression can occur without underlying anger (e.g., mugging someone). Hostile aggression occurs when aggression is motivated by anger and instrumental aggression occurs when aggression is a means to obtaining a desired end without the experience of anger (Spielberger, Reheiser, & Sydeman, 1995). Although anger and aggression are not

synonymous and may not have a causal relationship, they are often overlapping constructs (Kassinove & Sukhodolsky, 1995).

Multicultural Aspects of Anger

Although anger is a universal emotion that is present across cultures around the world, the way in which anger is expressed and experienced varies. Kemper (1991) suggests that emotions need to be understood in context of the social structure in which they exist. DiGuissepe, Eckhardt, Frate, and Robin (1994) propose the script theory of emotions as being helpful in understanding anger. DiGuissepe and colleagues (1994) accept the idea that all emotional experience results from socially derived scripts or from perceptions regarding a group of sub events. Emotional scripts evolve in a culture over time and each culture may have one or several scripts for each prototype emotion (DiGiusseppe et. al., 1994). Understanding these cultural scripts is important in understanding the manifestation of anger.

Kovecses (2000) investigated the characteristics of the concept of anger across several cultures (Chinese, English, Hungarian, and Japanese). He offered a conceptual view called the "body-based social constructionism" view that contends anger is both universal and culture specific. Kovecses found that each culture appeared to have a successive stage conceptualization of anger and that all four cultures shared the idea that anger invokes physiological changes. However, the way members of each culture interpret their emotional experiences and subsequently react to the experiences was unique to their respective cultures.

Adolescent Anger

Although much is known about the negative outcomes of anger and aggression, less is known about what leads to anger and aggression among adolescents (Five, Kong, Fuller, & DiGiussepe, 2011). There is a considerable research that supports the link between cognitions and aggression. Researchers have demonstrated the fact that hostile attribution biases, social problem solving deficits, and various social cognitive learning cognitions (e.g. self-efficacy, outcome expectations, outcome values) relate to reactive and proactive aggression in children and adolescents (Boldizar et al., 1989; Crick and Dodge, 1989; Dodge, 1980; Dodge et al., 1990; Joffe et al., 1990; Keltikangas-Jorvinen and Kangas, 1988; Lochman and Dodge, 1994; Matthys et al., 1999; Steinberg and Dodge, 1983; Webster-Stratton and Lindsay, 1999).

Five and colleagues (2011) examined the link between anger, aggression, and cognitions among 135 male and female high school students. Utilizing self-report questionnaires and a peer rating measure, the researchers found that anger and irrational beliefs significantly predicted physical and indirect aggression; however, anger alone was a predictor of verbal aggression. Results also indicated that an irrational belief of intolerance of rules frustration (e.g., people shouldn't always have to obey rules and behave well) predicted self-report anger, all forms of self-report aggression (physical, verbal, and indirect), and peer rated aggression. This suggests that adolescents with this irrational belief are more likely to experience anger and demonstrate aggressive behaviors. Gender differences revealed that males were more likely than females to report physical aggression and also that males were reported to be more aggressive by their peers. This supports previous research that adolescent males have higher levels of

aggression than adolescent females (Archer et al., 1988; Bongers et al., 2004; Hyde 2005; Martino et al., 2008).

Assessing Anger

The accurate assessment of anger is an essential component in developing appropriate treatments plans for those who have difficulties related to anger and aggression. According to Spielberger and colleagues (1995), early assessment of anger consisted of clinical interview, behavioral observations, and projective techniques such as the Rorschach and Thematic Apperception Test. These strategies are very useful; over the past fifty years, however, the use of standardized, norm referenced self-report measures have become essential tools in diagnosing and assessing anger problems. An accurate assessment of anger should include a variety of measures, qualitative and quantitative, including self-report and observation in order to get a comprehensive view of a person's anger experience and behavioral functioning (Spielberger et al., 1995).

One of the most widely researched assessments for anger is the State-Trait Anger Expression Inventory or STAXI. The STAXI, now in its second edition, is a self-report instrument, consisting of six scales and five subscales, designed for use with individuals ages sixteen years and over. The STAXI -2 provides a comprehensive anger profile, assessing experience, expression, and control of anger and accounting for both state and trait aspects of anger. Spielberger (1996) defines trait anger as a disposition to perceive events as annoying or frustrating with the tendency to respond to such events with more frequent elevations in state anger. State anger is defined as an emotional state marked by subjective feelings that vary in intensity. It is typically accompanied with physiological arousal.

The Trait Anger (T-Anger) scale from the STAXI measures individual differences in the disposition to experience anger. The Angry Temperament (T-Anger/T) subscale, a subscale of the Trait Anger scale, measures the propensity to experience and express anger without specific provocation. The Angry Reaction (T-Anger/R) subscale, a subscale of the Trait Anger scale, measures individual differences in the disposition to express anger when criticized or treated unfairly by other individuals.

The Anger-in (AX/In) scale from the STAXI measures the frequency with which angry feelings are held in or suppressed. The Anger-out (AX/Out) scale measures how often an individual expresses anger toward other people or toward objects in the environment. The Anger Control (AX/Con) scale measures the frequency with which an individual attempts to control the expression of anger. The Anger Expression (AX/EX) scale provides a general index of the frequency with which anger is expressed, regardless of the direction.

Analysis of scale and subscale scores of the STAXI provides valuable information into an individual's personality dynamics with respect to anger. This information can be used in conjunction with other assessment information in order to devise more effective treatment strategies. This instrument has been widely used in many treatment outcome studies (e.g., Herrman & McWhirter, 2003; Linkh & Sonnek, 2003; Robinson et al., 2002; Tang, 2001). The newest adaption is the STAXI-2 C/A designed for use with children and adolescents ages 9-18 years of age. It was developed in response to a need for a comprehensive anger assessment that is developmentally appropriate for children and adolescents (Brunner & Spielberger, 2009).

In the school environment a comprehensive assessment is the first step in beginning to understand a student's anger experience. The use of clinical interviews, observations, standardized objective measures, and teacher reports are essential components of a comprehensive anger assessment. The assessment should serve the purpose of informing the development of a treatment or behavior plan that addresses the student's needs. A variety of therapies have been utilized in treating anger problems with adolescents. Cognitive behavioral therapy has garnered a great deal of empirical support for a variety of problems across many different populations and age groups and will be examined as a viable intervention for adolescents experiencing difficulties related to anger.

Cognitive Behavioral Therapy for Anger Management

Extensive research has provided the support for the theoretical basis and efficacy of cognitive behavioral therapy as a psychotherapeutic intervention (Freeman, Pretzer, Fleming, and Simon, 2004). Upon convening a panel to review the empirical status of various psychotherapeutic approaches, the American Psychological Association concluded that there was strong empirical support for cognitive behavioral therapy and it was, therefore, selected as an "empirically supported treatment" approach for a number of disorders and conditions (DeRubei & Crits-Cristoph, 1998).

Albert Ellis' Rational Emotive Behavior Therapy (REBT) was one of the original cognitive behavioral psychotherapies. As DiGiuseppe (1993) summarizes, REBT operates under the assumption that cognitions or beliefs are the most proximate and identifiable cause of human disturbance. Irrational and illogical beliefs lead to emotional disturbance, but rational beliefs lead to healthy psychological functioning. Therefore, to

break out of emotional problems, people must change their thinking. Genetic and environmental factors interact, leading to the adoption of irrational beliefs, but people maintain their disturbance by self-indoctrination or rehearsal of their irrational beliefs. Although it is difficult, people can change only with repeated efforts to challenge their dysfunctional thoughts and adapt new, rational adaptive modes of thinking.

Cognitive Therapy (CT), developed by Aaron Beck, was another cognitive-behavioral approach that provided the framework for what we now call CBT. Cognitive Therapy emphasizes three aspects of cognition: automatic thoughts, schemas, and cognitive distortions (Freeman et al., 2004). According to Freeman and colleagues (2004), automatic thoughts are a person's immediate, unpremeditated interpretation of events that occur without volition. Automatic thoughts that are exaggerated, distorted, mistaken, or unrealistic play a major role in psychological problems. Schemas are underlying, unconditional beliefs that are often outside of an individual's awareness and serve to screen, interpret, and categorize experiences. They are a person's core beliefs and can form the basis for cognitive distortion. Cognitive distortions are errors in logic that can lead individuals to erroneous decisions. Cognitive therapy maintains that automatic thoughts, underlying assumptions, cognitive distortions, and the impact of mood on cognition create a self-perpetuating negative cycle, resulting in psychopathology. The goal of therapy is to modify the beliefs or assumptions that predispose a person to his or her problems.

As Freeman and colleagues (2004) explain, cognitive behavioral therapy is unique in its emphasis on using case conceptualization as the basis of treatment, the importance of the therapeutic partnership between client and therapist, the use of agenda setting, and

homework. In addition, interventions are time-limited, goal oriented, and specific in addressing target problems. CBT is a natural fit for school settings, where intervention is necessary to address the myriad of problems adolescents are experiencing. Because adolescents spend most of their waking hours in the school, it is the ideal place to deliver therapeutic interventions. As Christner, Menutti, and Stewart-Allen (2004) report, CBT parallels other school services, which makes it more easily accepted among educators. More importantly however, is the large research base for the effectiveness of using cognitive behavioral interventions with children and adolescents. Research indicates that within the school setting, CBT can be an effective intervention for students dealing with a variety of problems (Mennuti, Christener, & Freeman, 2006).

CBT and Anger Management with Adolescents

A review of the literature suggests that CBT has been found to be useful in the treatment of anger and aggression in school-aged children and adolescents. A meta-analysis of the treatment outcome studies of cognitive-behavioral therapy for anger-related problems in children and adolescents revealed that CBT was effective in reducing aggressive behaviors, reducing subjective anger experiences, and improving social skills (Sukhodolsky, Kassinove, and Gorman, 2004). The use of cognitive-behavioral therapy techniques and social skills training are two approaches that have effective results in the treatment of anger and aggression. The cognitive-behavioral approach emphasizes not only the cognitive and physiological processes involved during anger-provoking events, but also the behaviors resulting from those processes. Social skills training places a focus on the development of positive, cross-situational skills, and on interpersonal strategies for

minimizing interpersonal conflict and anger. In addition, parent training programs have proven to be effective interventions for angry and aggressive youth.

Numbers of interventions for anger management in the schools are available. They differ in format (curriculum, group, and individual) and level of intervention (primary, secondary, tertiary). Responding in Peaceful and Positive Ways or RIPP is a school-based violence prevention program that is used with middle school and junior high school students (Meyer, Farrell, Northup, Kung, & Plybon, 2000). The program combines classroom curriculum of social/cognitive problem solving with real life skill building opportunities. Research reveals that students who complete this program were significantly less likely to have disciple violations for carrying a weapon, were less likely to have in-school suspensions, had lower rates of fight-related injuries, and were more likely to participate in their school's peer mediation program (Amendola & Scozzie, 2004; Farrell, Meyer, Sullivan, & Kung, 2003). RIPP students also reported lower rates of peer pressure to use drugs and an increase in pro-social responses to problem situations.

Feindler and Ecton (1986) found that after participating in a cognitive-behavioral group intervention, adolescents with conduct problems displayed less aggressive and disruptive behavior, and made improvements on measures of their social-cognitive functioning. The Art of Self-Control program (Feindler & Ecton, 1994) is a cognitive-behavioral, group anger-management program based on Novaco's (1975) program. The program utilizes the Stress Inoculation Training model. The goal of the program places an emphasis upon prevention (reducing the frequency of angry, aggressive outbursts), regulation (understanding anger in order to regulate the intensity and duration), and

execution (teaching adolescents how to respond to anger provocation more constructively). The program aims at promoting the self-management of negative cognitive, physiological, and behavioral patterns of anger by providing positive alternatives to thinking, feeling, and acting.

Anger Coping, an eighteen-session cognitive-behavioral intervention targeting fourth through sixth grade students, has been shown to reduce the likelihood of substance abuse and conduct problems (Lochman, Dunn, & Wagner, 1997). More immediate effects include reduced disruptive behavior, increased on-task behavior, less aggression, and improvements in self-esteem (Lochman, Dunn, & Wagner, 1997). Anger Coping was revised and expanded and is now called the Coping Power Program (Lochman, Powell, Boxmeyer, Deming, & Young, 2007). Coping Power is a thirty-four session program with a parent training component. The focus is on goal setting, emotional awareness, relaxation training, social skills training, problem-solving and handling peer pressure. Lochman and Wells (2002a) found that students who participated in the Coping Power program displayed improvements in locus of control and social information processing. An effectiveness study revealed that Coping Power produced reduction in proactive aggression, as rated by teachers and parents (Lochman & Wells, 2002b). One-year post-intervention students displayed lower rates of covert delinquent behavior and substance abuse Lochman and Wells (2004).

Kellner & Tutin (1995) adapted traditional CBT techniques used in anger-management training to a population of high school students in a special day school with pervasive developmental disorders, attention deficit/hyperactivity disorder, mental retardation, and depressive disorder. These authors used a daily log, called the “Hassle

Log,” to record incidents that made the students angry. The program also utilized psychoeducational activities, teaching students the ability to recognize anger triggers and teaching students relaxation techniques that could be used in response to anger triggers. As determined by classroom reports and observational information from group sessions, it was concluded that anger-management counseling could be beneficial to this population when modified to students’ specific learning needs. Later validation studies (Kellner & Bry, 1999; Kellner, Bry, & Coletti., 2002) yielded positive empirical evidence for anger-management counseling with special populations in nontraditional school settings.

The use of relaxation techniques and social skills training to reduce anger has been supported by previous research (Deffenbacher, 1988). Deffenbacher, Thwaites, Wallace, and Oetting (1994) compared the use of social skill training and cognitive-relaxation coping skills training. The treatment groups showed significant anger reduction. Reductions were found for trait anger, general anger, and anger across situations. Anger expression also showed consistent improvement. The cognitive-relaxation group significantly lowered outward, negative expressions of anger. The social skills training group tended to show the greatest effect on lowering day-to-day anger and in reducing anger suppression. Deffenbacher, Oetting, Maureen E., and Thwaites (1995) showed that those groups who were counseled reported lower trait anger, lower general anger, less anger across situations, and reduced anger related physiological arousal. In addition, these researchers found less anger suppression and less outward negative expression, greater calm, and greater controlled expression than in

the control group. This study was able to show consistent, long-term maintenance of treatment effects.

As reported earlier, parent training programs are an effective way to treat angry and aggressive behavior in adolescents. Serketich and Dumas (1996) report that parent training programs are among the most widely used interventions for families and children. In parent training, the parents meet with a therapist to learn various cognitive and behavioral techniques to address their child's aggressive or dysfunctionally angry behaviors (Kazdin, 1994). Seretich and Dumas (1996) found that children whose parents participated in parent training were better adjusted after the session than 80% of children whose parents did not attend. Barkley, Edwards, and Robin's (1999) Defiant Teens program is an effective step-by-step approach to parenting training that focuses on improving management of adolescents' behaviors, as well as on positive communication and attention.

Recently, the psychological construct of mindfulness has received a great deal of attention with emerging research evaluating the efficacy of mindfulness-based interventions (Shapiro, Carlson, Astin, & Freedman, 2006). In the last part of this literature review, the research regarding mindfulness, as a construct, and the use of mindfulness-based cognitive behavioral therapy will be reviewed, specifically as it relates to anger management.

Mindfulness

Mindfulness is an English translation of a Pali word *sati*, which connotes awareness, attention, and remembering (Germer, 2005). Pali was the language of Buddhist psychology 2,500 years ago and mindfulness was the core teaching of this

tradition. The word mindfulness is described throughout the research as a theoretical construct, the practice of cultivating a certain state of being, and a theoretical process. Germer (2005) defines mindfulness as a "moment by moment awareness" (p.6). Jon Kabat-Zinn (1994) describes mindfulness as "paying attention in a particular way; on purpose, in the present moment, and nonjudgementally" (p.4). Mindfulness can be understood in secular terms as the mental ability to focus on the direct and immediate perception of the present moment with a state of nonjudgemental awareness, voluntarily suspending evaluative cognitive feedback (Hayes & Shenk, 2004).

Through the practice of mindfulness, people can develop an intentional awareness of the present experience on a moment-to-moment basis (Goleman & Schwartz, 1976; Marlatt & Kristeller, 1999). Jon Kabat-Zinn (1990) described moments of mindfulness as, "…moments of peace and stillness, even in the midst of activity" (p.60). Teasdale, Segal, and Williams (1995) described the essence of this state as "to be fully in the present moment, without judging or evaluating it, without reflecting backwards on past memories, without looking forward to anticipate the future, as in anxious worry, and without attempting to 'problem-solve' or otherwise avoid any unpleasant aspects of the immediate situation" (p. 33). Thoughts are events in awareness that must be examined without trying to change them and without trying to replace them, but rather as events that should be observed (Kabat-Zinn, 1990).

The relationship between mindfulness and well being has become a focus of interest in the health sciences. Mindfulness-based stress reduction programs have shown to be effective in improving various medical conditions and emotional symptoms (e.g., Baer, 2003; Grossman, Schmidt, Niemann, & Walach, 2004; Ott, Norris, & Bauer-Wu,

2006). Although strong conclusions cannot be made in many cases due to lack of control groups and lack of randomization sampling, there is a growing body of evidence that mindfulness is beneficial for coping with stress, anxiety, and depression. With increasing evidence of the benefits of mindfulness, accurately assessing mindfulness has become of great importance.

Assessing Mindfulness

Over the past ten years, different scales have been developed to measure mindfulness. Bishop and colleagues developed the Toronto Mindfulness Scale (Bishop et al., 2003), which measures mindfulness after meditation as a state-like construct. This one-dimensional scale consists of 10 items. It was validated with 270 meditators (reliability alpha .76) and is capable to discriminate between various levels of meditation experience and non-meditators. Baer, Smith, and Allen (2004) developed the Kentucky Inventory of Mindfulness Scale (KIMS). This scale is based largely on the conceptualization of mindfulness as applied in Dialectical Behavioral Therapy (DBT). The KIMS comprises thirty-nine items and consists of four scales, with each assessing one of four mindfulness skills. The internal consistency of these scales ranges from alpha .83 to .91. It was validated in two student samples and a small clinical sample. The scale does not cover all facets of the mindfulness construct.

Brown and Ryan (2003) developed the Mindfulness and Attention Awareness Scale (MAAS), a fifteen-item scale that measures one factor. The scale demonstrates good reliability (-.82- .87) and was validated with a series of studies that demonstrate validity and sensitivity to change (Wallach, Bucheld, Buttenmuller, Kleinknecht &

Schmidt, 2006). However, the MAAS places a focus on attention and awareness, leaving out other dimensions of mindfulness, such as non-judgmental accepting.

Bucheld and colleagues (2001) developed the Freiburg Mindfulness Inventory (FMI), a thirty-tem scale with four-factors. It was conceptualized on Buddhist psychology and requires such knowledge from the individuals being tested. The scale is psychometrically sound with an internal consistency of .93. Results of a validation study implied that a one-dimensional solution is an alternative to the original four factor model (Buchheld & Walach, 2002). Therefore, a one-dimensional fourteen- item short form (FMI-14) was developed, and proved to be semantically independent from a Buddhist or meditation context; this version also shows acceptable internal consistency ($\alpha = .86$) (Wallach et al., 2006). The short scale is sensitive to change and is versatile because it can be used with people who do not have previous meditation experience or have knowledge of Buddhism.

Mindfulness-Based Therapy

Mindfulness-based therapeutic interventions utilize meditative practices to increase present-moment awareness in an effort to manage negative experiences more effectively (Lee, Semple, Rosa, & Miller, 2008). According to Kabat-Zinn (1990), “Moment to moment awareness allows you to exert control and to influence the flow of events at those very moments when you are most likely to react automatically and plunge into hyperarousal and maladaptive attempts to cope” (p. 264).

Bishop et al. (2004) described mindfulness in contemporary psychology as an approach for increasing awareness and skillful responding to mental processes that contribute to emotional distress and maladaptive behavior. According to Bishop and

associates mindfulness is "a process of regulating attention in order to bring a quality of non elaborative awareness to current experience and a quality of relating to one's experience within an orientation of curiosity, experiential openness, and acceptance" (p. 234). Furthermore, Bishop et al. (2004) contend that mindfulness is a metacognitive skill because it requires both the control of cognitive processes through attention of self-regulation and the monitoring of the stream of consciousness.

The stress reduction and relaxation program developed at the University of Massachusetts Medical Center (Kabat-Zinn, 1990) is one of the most widely used mindfulness treatment approach across hospitals and community health settings (Mason & Hargreaves, 2001). There is encouraging evidence of the program's efficacy for the treatment of anxiety and panic disorders (Kabat-Zinn et al., 1992), chronic pain (Kabat-Zinn, Lipworth, Burney, & Sellers, 1987), and various physical conditions (e.g., Kabat-Zinn et al., 1988). Over the past ten years researchers have begun to look at the use of mindfulness in conjunction with cognitive behavioral therapy to treat a variety of problems including depression (e.g., Mason & Hargreaves, 2001).

Mindfulness-based cognitive therapy (MBCT) is a relatively recent movement in the field of CBT. It shares a similar philosophical basis with traditional CBT, although MBCT deviates from traditional CBT in its emphasis on the way thoughts are viewed. Teasdale, Segal, Williams, Ridgeway, Soulsby, and Lau (2000) stated, "Unlike CBT, there is little emphasis in MBCT on changing awareness of and relationship to thoughts. Aspects of CBT included in MBCT are primarily those designed to facilitate 'decentered' views, such as, 'Thoughts are not facts' and 'I am not my thoughts'" (p. 618). In the treatment of depression, "CT and MBCT may reduce relapse by changing relationships to

negative thoughts rather than by changing belief in thought content" (Teasdale, Moore, Hayhurst, Pope, Williams, and Segal, 2002).

Segal, Williams, and Teasdale (2002) discuss an eight-session program in preventing depression relapse that utilizes various aspects of meditation in a group setting and incorporates the technique of homework assignments for its participants. The program's designers contend, "… that mindfulness starts when we are able to recognize the tendency to be on 'automatic pilot' and become aware of each moment" (p. 100). Depressive thoughts begin when the wandering mind engages in automatic pilot thoughts when the mood is sinking. The authors contend, "…we can't stop what thoughts come to our minds, but we can control what we do with them" (p. 105). "The program is about being able to move to a place of awareness from which we can choose what the next step is, rather than run off old habits of the mind" (p. 109).

In treating depression relapse with MBCT, one research study found (Teasdale et al., 2002), "…that the ability to relate to depressive thoughts and feelings within a wider, decentered, perspective affects whether mild states of depression will escalate to more severe and persistent syndromal states characteristic of relapse" (p. 280). This same study also found that MBCT increased individual's awareness of negative thoughts and feelings, and that by changing the relationship that individuals had to negative thoughts and feelings, without attempting to change the content of the thoughts and feelings, reduced recurrence of depression. Teasdale, Segal, et al. (2000) evaluated the effectiveness of their MBCT program in another study and once again found that MBCT significantly reduced the risk of depression relapse.

Linehan's (1993) dialectical behavior therapy (DBT) focuses on reducing life-threatening behaviors, suicidal behaviors, and parasuicidal episodes among individuals with Borderline personality Disorder. DBT also focuses on behaviors that interfere with treatment, patterns that interfere with quality of life, and increasing general coping skills. In DBT, therapy blends validation and acceptance treatment strategies with comprehensive cognitive-behavior therapy both in the individual and group settings implemented simultaneously. In DBT, group therapy strategies teach self-regulation and change skills, along with self and acceptance skills. It is considered a therapy approach that integrates both change and acceptance skills. Linehan (1993) found that subjects receiving DBT had significantly better scores on measures of anger, interviewer-rated global social adjustment, and the Global Assessment Scale and tended to rate themselves better on overall social adjustment than individuals receiving other treatment approaches.

Unlike the approaches previously mentioned, which were designed for use with adult individuals, research efforts have explored the use of mindfulness-based therapy approaches for children to cope with bullying (McCloy, 2004), to enhance attention (Semple, 2005), to reduce anxiety (Semple, Reid, & Miller, 2005), and to reduce aggression (Singh, Lancioni, Joy, Winton, Sawaawi, Wahler, & Singh, 2008).

McCloy (2004) introduced a coping program for bullying victims that used mindfulness as a framework for the intervention program, utilizing constructs from Ellen Langer's theory of mindfulness in designing the intervention. The construct of "mindful thinking" was the basis for the intervention. The researcher described the process of mindfully thinking about bullying as enabling children to think mindfully about bullying in order to consider other perspectives, recognize situation novelty, avoid mindlessness,

and generate and consider appropriate reactions in physically or socially threatening situations. The researcher found that constructs within mindfulness were appropriate and relevant frameworks for investigating children's coping with peer aggression and victimization.

Singh and associates (2008) conducted a multiple baseline design to evaluate the effectiveness of a mindfulness training procedure in modulating aggressive behavior among three seventh grade adolescents who were in danger of being expelled for aggressive behavior. The participants were able to learn the procedure and use it effectively in situations that previously led to aggressive behavior. This led to large decreases in aggression for the participants. Follow-up data revealed that all three adolescents were able to keep their aggressive behavior at socially acceptable levels in school.

Semple, Reid, and Miller (2005) based a pilot initiative on a cognitively oriented model that utilized mindfulness practice and exercises to treat anxiety. The authors integrated mindfulness into short-duration, simple breathing, walking, and sensory exercises. Although the study had a small sample size, four of the five children responded enthusiastically to the program exercises. At the completion of the study, improvements were reported for all children in at least one area, among which were academic functioning, internalizing problems, or externalizing problems.

Semple (2005) adapted the group program of MBCT developed by Segal and his colleagues into a 12-session manualized group-therapy program named, Mindfulness-Based Cognitive Therapy for Children (MBCT-C). This study evaluated the feasibility and acceptability of the MBCT-C with middle-school aged children. Among the

findings, the researcher found that individuals exhibited fewer attention problems than had been previously reported prior to program participation. Semple concluded that the MBCT-C appeared to be both feasible and acceptable to children.

Mindfulness-Based Cognitive Behavior for Children (MBCT-C) was also evaluated in a study examining its feasibility, acceptability, and helpfulness for the treatment of internalizing and externalizing symptoms in children (Lee, Semple, Rosa, and Miller (2008). Twenty-five students, ages nine through twelve participated in the 12-week intervention. Results suggest that MBCT-C was helpful in reducing both internalizing and externalizing symptoms, based on parent report. In addition, MBCT-C was found to be rated high in terms of feasibility and acceptability, suggesting promise as an advantageous treatment with child populations.

Mindfulness-Based Therapy and Anger

It is believed that these two approaches to therapy can be integrated into a program that will effectively aid individuals in dealing with anger. Diebold (2003) adapted Kabat-Zinn's (1990) MBSR program and Segal and colleagues' (2002) MBCT program into a treatment protocol for college students in order to reduce driving anger. Although Diebold (2003) found reductions in general anger and anger expression tended to be small, participants showed decreases on the Trait Anger Scale and on the Anger Expression Inventory. Diebold concluded that mindfulness-based cognitive therapy was a promising intervention for driving anger and general anger.

A dissertation conducted by Polizzi (2008) examined the efficacy of Mindfulness Based Cognitive Therapy (MBCT) in reducing driver anger among a sample of young adults. Visual inspection and statistical analyses were used to analyze the data. Support

was found for the use of MBCT to reduce scores on the Driving Anger Scale, reduce the frequency of anger and aggressive behaviors reported on the driver logs, reduce scores on the State Anger Scale, and increase scores on Adaptive/Constructive Expression while driving.

In her dissertation, Silva (2007) evaluated the efficacy of mindfulness-based cognitive therapy (MBCT) as proposed by Segal, Williams, and Teasdale (2002) for the reduction of anger in married men. The participants were four married men who scored in the upper quartile range on the Anger Expression Out scale; they reported having anger problems in marital situations, and expressed a desire to learn and control their anger. Baseline data were collected and each participant received seven weekly sessions in which a modified version of Segal and colleagues (2002) MBCT was implemented. Three of the four participants demonstrated statistically significant decreases on the State anger Scale and all visual inspection of the data suggested that participants demonstrated changes in the predicted directions. All participants reported that the MBCT program had a positive effect on their lives and helped them deal with anger.

Jeffrey Kelly (2006) developed the Mindfulness-Based and Cognitive-Behavioral Program for Anger Management, a brief intervention that integrates both mindfulness-based and CBT techniques to treat school-aged individuals with anger-management difficulties. The program relies heavily on the programs designed by both Kabat-Zinn (1990) and Segal et al. (2002). The structure of the sessions, with the exclusion of the first session, follows a cognitive-behavioral treatment format (Beck, 1995) that begins with an agenda setting exercise that includes: (1) a brief mood check-in/update; (2) a bridge from the previous session; (3) a review of the homework; (4) a discussion of the

agenda items, (5) an open discussion; (6) an assigning of new homework, and (7) a summary and feedback discussion. When the ten-session intervention was utilized with a sixteen-year-old African-American female, results suggested that the anger-management program did provide the participant with coping strategies to deal effectively with anger. This anger-management program also contributed to improving the participant's anger-related characteristics, as suggested by self-report and observation measures.

Summary

Dealing with aggressive acts and violence in the schools has become an important issue in most school districts across the United States. In addition to the highly publicized occurrences of mass killings, smaller incidences of violence and aggression occur in many schools on a daily basis. The *Indicators of School Crime and Safety: 2010* (Robers, Zhang, & Truman, 2010) indicates that violence and aggressive acts perpetrated by our nation's youth is on the rise and becoming increasingly problematic. Although aggressive incidents are not always related to anger (instrumental vs. hostile aggression) anger is frequently a precursor to aggressive behavior (see Kassinove & Sukhodolsky, 1995; Mammen, Pilkhonis. Kolko, & Groff, 2007) and suggests an area for needed intervention.

Research into the use of CBT and mindfulness is promising as it relates to treating a variety of issues. Mindfulness-based cognitive behavior therapy shows promise in being useful for treating individuals, but too little evidence is available regarding its use with adolescents in the schools. More information is needed regarding the effectiveness of anger management interventions at the high school level, because most of the studies examine younger children and pre-teens. Mindfulness has been explored as a potentially

effective strategy in helping adolescents manage their anger in the schools (Kelly, 2006: Singh et al., 2008), but too little information is available regarding its efficacy.

Chapter Three

Methods

Data Source

Shelf data from an anger management group using The Mindfulness-Based and Cognitive-Behavioral Anger Management (2006) program facilitated by this investigator was utilized for this study. The anger management group was implemented at a public suburban high school in the Mid-Atlantic Region of the United States. The high school consisted of approximately 3,200 students in the suburbs of a major city. The treatment group consisted of four high school students referred by school guidance counselors for anger management (referred to here as “Nick,” “Kyle,” “James,” and “Craig”).

Nick was a Caucasian eighteen-year-old student in his senior year at the time of the group and data collection. Nick was classified eligible for special education services under the disability category Specific Learning Disability and received resource pull-out instruction for math. Nick was diagnosed with ADHD-combine type, but was not taking medication at the time of the treatment. He presented with a significant disciplinary history, having multiple policy infractions including fighting, insubordination, verbal abuse of a staff member, and disruptive behavior. On the pre-intervention questionnaire he reported difficulties controlling his anger since middle school when he “always got in trouble” for his attitude towards teachers and for “flipping-out.” He had never had anger management in the past. Nick reported that “being told what to do” made him most angry. When angry he reported going into a “rampage” during which others responded by being “frightened.” He feels anger-management counseling will “definitely” help him with his anger.

Kyle was a Caucasian eighteen-year-old senior at the time of the treatment group and data collection. Kyle was classified eligible for special education and related services due to a Specific Learning Disability and received instruction in a mainstream classroom setting with in-class resource support. He was never diagnosed with a behavioral or emotional difficulty. On the pre-intervention questionnaire, Kyle reported that he first noted difficulties controlling his anger last year "when he had problems with his girlfriend." He had never had anger management in the past. He reported that people "trying to offend him" made him most angry. When angry, he reported "punching and head butting walls and breathing heavy." He reported that others reacted to his anger by "ignoring him" or trying to calm him down. He feels anger-management counseling will "most likely" help him with his anger.

John was a sixteen-year old Hispanic sophomore classified eligible for special education under the disability category, Emotionally Disturbed. He was diagnosed with Anxiety Disorder NOS and received instruction in a resource pull-out classroom for all major academic subjects. On the pre-intervention questionnaire he reported difficulties controlling his anger since he was "around ten years old." He had individual anger management counseling when he was thirteen after an altercation with his mother that became physical. John reported that "thinking about the past, things from the past" made him most angry. When angry he reported "keeping to himself," but "blowing up when people try to talk to him." He reported that others respond to his anger by being "nervous, scared, and worried." He feels anger-management counseling will help "a little, but probably not a lot."

Craig was a seventeen-year old Caucasian 11th grader diagnosed with ADHD, but not taking medication. He received instruction in the general education for all classes and did not receive special education services. On the pre-intervention questionnaire he reported "always" having trouble controlling his anger. He never had anger management in the past and reported that being "disrespected" by others made him most angry. When angry he reported getting "so amped up" that he yells and will get aggressive, hitting and breaking things. He feels anger-management counseling will "probably" help him with his anger.

Design

The research design of this study employed a single case design with multiple participants (Kazdin, 2011). The data source was shelf data from a group intervention conducted at a public high school located in the Mid-Atlantic region of the United States. The design utilized pre-intervention and post-intervention data to determine the effectiveness of the treatment program. The ABAA (no reversal phase) design was used to examine data regarding the student's anger experience, expression, and behaviors before and after the intervention, including a one-month follow-up. Measures also were used to assess each student's mindfulness perceptions and behaviors. Parent and teacher surveys were administered pre and post treatment to assist in determining the effectiveness of treatment. These surveys consisted of open-ended and Likert-type questions.

In addition to pre and post measures, student discipline was reviewed throughout the duration of the treatment to help evaluate the effectiveness of the anger management treatment. Continuous data were also obtained from the participants through post-session

evaluation forms which were completed at the end of every session to gain insight into the students' perceived benefits of the anger management program. The data collected were obtained to help the facilitator determine the effectiveness, usefulness, and practicality of utilizing the program as a viable way to address anger management in the high school.

Materials Used to Generate the Shelf Data

The State Trait Anger Expression Inventory-2 Child and Adolescent. The State Trait Anger Expression Inventory-2 Child and Adolescent (STAXI-2 C/A), developed by Bruner and Spielberger (2009), was used to assess the participants' experiences, expressions, and control of anger. The STAXI-2 C/A is a standardized, norm-referenced, self-report measure with established validity and reliability. The assessment consists of five scales (State Anger, Trait Anger, Anger Expression-Out, Anger Expression-In, and Anger Control) and four subscales (State Anger-Feelings, State Anger-Expressions, Trait Anger-Temperament, Trait Anger- Reactions) in order to get a comprehensive profile of each participant's anger.

The STAXI-2 C/A (Brunner & Spielberger, 2009) is designed to measure various aspects of anger experience and expression for individuals ages nine to eighteen. This measure is generally completed in ten to??? and requires a fourth-grade reading level to complete. The STAXI-2 C/A is a self-report instrument, which consists of five scales and four subscales. State Anger (S-Ang), Trait Anger (T-Ang), Anger-In (Ax-I), Anger-Out (Ax-O), and Anger Control (AC) are the five scales contained within this instrument. The State Anger (S-Ang) scale consists of two subscales: State Anger/Feelings (S-Ang/F) and State Anger/Expression (S-Ang/VP). The Trait Anger scale contains two subscales:

Trait Anger-Temperament (T-Ang/T) and Trait Anger/Reaction (T-Ang/R). Brunner and Spielberger (2009) suggested that scale scores between the 25th and 75th percentile fall in the Average range. Scores between the 76th and 90th percentile fall in the Elevated range. Scores above the 90th percentile fall in the Very High range.

The State Anger scale (S-Ang) measures the intensity of angry feelings at the time of assessment. The Feelings (S-Ang/F) subscale measures the intensity of a variety of angry feelings at that moment, and the Expression (S-Ang/VP) subscale measures the desire of the student to express their feelings verbally or physically. The Trait Anger (T-Ang) scale measures how often a person becomes angry across a variety of situations; it is a person's predisposition to experience anger. The Temperament (T-Ang/T) subscale measures the propensity to experience and express anger with little or no provocation. The Reaction (T-Ang/R) subscale measures the disposition to become angry when a person is criticized, receives negative feedback, or feels he or she is being treated unfairly by others.

The Anger-out (AX-O) scale from the STAXI-2 C/A measures how often children or adolescents express their anger in an outwardly negative and poorly controlled manner. The Anger-in (AX-I) scale measures the frequency with which angry feelings are held in or suppressed when upset. The Anger Control (AC) scale measures the frequency with which an individual attempts to control the expression of anger.

Discipline review. The participant's discipline record was reviewed throughout the duration of the treatment to one month after treatment completion. The number of discipline referrals that were categorized either as "Verbal Abuse of a Staff Member," "Fighting," or "Threats to Staff or Peers" were considered to be explicit examples of

aggressive and anger-related behavioral demonstrations. The discipline referrals were used to provide a functional measure of the social impact of this anger-management program in the school setting.

Student interview forms. The post-intervention interview was a structured interview with open-ended questions and Likert-type ratings conducted with the participant after all sessions had been implemented (Appendix E). This tool was used for evaluating the student's perceived benefit of the treatment and the overall usefulness of the intervention. The questions in the evaluation forms were worded in a positive fashion, so that the higher the rating on a scale from one (1) to ten (10), the more positively the procedure, activity, or exercise was perceived.

Parent survey forms. The pre-intervention Parent Survey form and the post-intervention Parent Survey form consisted of a combination of open-ended format questions and Likert-type rating scale items that provided information about the student and assessments of his anger as observed by the parent (Appendixes A & B). The rating scale items were worded in a positive fashion and the item ratings were completed using a scale that ranged from one (1) to ten (10). The Parent Survey forms are provided in Appendix A.

Teacher survey forms. The pre-intervention Teacher Survey form and the post-intervention Teacher Survey form consisted of a combination of open-ended format questions and Likert-type rating scale items that provided information about the participant and assessments of the student's anger as observed by teachers that were familiar with the student (Appendixes C & D). The rating scale items were worded in a

positive fashion and the item ratings were completed using a scale that ranged from one (1) to ten (10). The Teacher Survey forms are provided in Appendix A.

Mindfulness scales. The Freiburg Mindfulness Inventory –short form (Bucheld et al., 2006) and the Mindful Attention and Awareness Scale (MAAS) (Brown & Ryan, 2003) were used to assess the student's level of mindfulness before and after participation in the intervention program. The Freiburg Mindfulness Inventory was developed by Bucheld, Buttenmuller, Kleinknecht, and Schmidt (2006) to obtain self-ratings of mindfulness for individuals where knowledge of the Buddhist background of mindfulness cannot be expected. The fourteen-item measure has established validity and reliability and measures various aspects of mindfulness: mindful attention, awareness, nonjudgmental accepting, and insightful understanding. Reponses are added together to provide an overall score which is used to represent the respondent's self-perceived level of mindfulness, with higher scores indicating a higher level of mindfulness than lower scores. The Mindful Attention and Awareness Scale (MAAS) created by Brown and Ryan (2003) is a fifteen-item self-report scale which measures a person's perceptions about his or her attention and awareness. Item scores are totaled and divided by fifteen to obtain an average item score. Higher scores represent higher levels of mindfulness.

Data Analyses

Student self-report and parent and teacher survey results were tabled and examined and quantitative changes in scores were described. Changes in each student's disciplinary records also were described. Formal statistical analyses were not conducted due to the small sample size.

Chapter Four

Results

This chapter presents the data intended to answer the research questions regarding the effectiveness of the intervention program.

Research Question One: Is the Mindfulness-Based and Cognitive-Behavior Therapy for Anger-Management Program (Kelly, 2006) effective in treating high school males in a group counseling format?

Research Question 1a: Do student self-reports indicate a reduction in anger management difficulties as reflected in lower scores on the State-Trait Anger Expression Inventory at the end of the intervention program and one month after the end of the intervention program, compared with *scores prior to the intervention program?*

Students' scores on the State-Trait Anger Expression Inventory, Second edition Child/Adolescent (STAXI-2 C/A) before program implementation and after program completion are reported for each of the four students in Tables 1 through 4. These scores were based on the students' self-report responses and represent their own perceptions about behaviors and mental states associated with anger. Raw scores were transformed into percentiles and *T*-scores, using Table B.3, *Raw Scores to Percentile and T-Score Conversion for the STAXI-2 C/A Normative Sample: Males Ages 15-18 Years*, from Brunner and Spielberger (2009).

Nick's STAXI-2 C/A Results

Table 4.1 shows the STAXI-2 C/A self-report scores provided by Nick immediately before the start of the intervention program, one week after completion of the program, and one month after the program.

Table 4.1

Nick's Pre- and Post- Intervention Scores on the State-Trait Anger Expression Inventory, Second edition Child/Adolescent (STAXI-2 C/A)

	Pre-Program		Post-One Week		Post-One Month	
Scale	%ile	T-score	%ile	T-score	%ile	T-Score
S-Ang	86	59	60	48	76	53
S-Ang/F	81	57	66	49	71	53
S-Ang/VP	86	60	68	48	77	52
T-Ang	92	62	71	54	77	56
T-Ang/T	99	77	84	58	87	62
T-Ang/R	34	44	23	40	48	48
AX-O	>99	75	74	53	81	58
AX-I	30	42	14	35	30	42
AC	20	40	65	52	45	48

Note. S-Ang = State Anger; S-Ang/F = Anger Feelings; S-Ang/VP = Anger Expression; T-Ang = Trait Anger; T-Ang/T = Anger Temperament; T-Ang/R = Anger Reaction; AX-O = Anger Expression-Out; AX-I = Anger Expression-In; AC = Anger Control

Based on the self-report responses on the STAXI-2 C/A, Nick's State Anger score was within the Elevated range prior to program implementation. His responses one week after program completion produced a score in the Average range. Nick's responses one month after program completion reflected a score increase into the lower-bound of the Elevated range. Nick's responses produced a State Anger/Feelings score in the Elevated range before program implementation. Nick's responses one week after program completion and also one month after program completion produced scores in the Average range. Nick's responses produced a State Anger/Expression score in the Elevated range before program implementation. Nick's responses one week after program completion produced a score in the Average range. One month after program completion, Nick's responses produced a score in the lower-bound of the Elevated range.

Nick's responses produced a Trait Anger score in the Very High range prior to program implementation. One week after program completion, Nick's responses produced a score in the Average range. At the one month follow-up assessment, Nick's responses produced a score in the Elevated range. Nick's responses produced a Trait Anger/Temperament score in the Very High range prior to program implementation. Responses both one week and one month after program completion produced scores in the Elevated range. Nick's responses produced a Trait Anger/Reaction score in the Average range prior to program implementation. One week after completion of the program, Nick's responses produced a score in the Low range. One month after program completion, Nick's responses produced a score in the Average range.

Nick's responses produced an Anger Expression-Out score in the Very High range prior to program implementation. One week after program completion, Nick's responses produced a score the Average range. One-month following the program's conclusion, Nick's responses produced a score in the Elevated range. Nick's responses produced an Anger Expression-In score in the Average range prior to program implementation. One week after program completion, Nick's responses produce a score in the Low range. One month after program completion, Nick's responses produced a score in the Average range. Nick's responses produced an Anger Control score in the Low range prior to program implementation. Following program completion and one-month later Nick's responses produced scores in the Average range.

Kyle's STAXI-2 C/A Results

Table 4.2 shows the STAXI-2 C/A self-report scores provided by Kyle immediately before the start of the intervention program, one week after completion of the program, and one month after the program.

Based on the self-report responses on the STAXI-2 C/A, Kyle's State Anger, State Anger/Feelings, and State Anger/Expression were within the Average range prior to program implementation, one week following program completion, and one month following program completion. Trait Anger was in the Very High range prior to program implementation, and following program completion, it was found to be within the Average range. At the one month follow-up assessment his score was in the Average range. Trait Anger-Temperament was within the Very High range prior to program implementation, and following program completion and at the follow-up, was found to be within the Average range. Trait Anger-Reaction score was within the Average range prior to program implementation, in the Low range following program completion, and was found to be within the Average range one month after program completion.

Anger Expression-Out was within the Very High range prior to program implementation. His scores fell in the Average range at the one week post-post program assessment and the one month post-program assessment. Kyle's Anger Expression-In was within the Low range prior to program implementation, in the Average range following program completion, and went back to the Low range at the one month follow-up assessment. Anger Control was within the Elevated range prior to program implementation. Following program completion and one-month later his score was in the Average range.

Table 4.2

Kyle's Pre- and Post- Intervention Scores on the State-Trait Anger Expression Inventory, Second edition Child/Adolescent (STAXI-2 C/A)

	Pre-Program		Post-One Week		Post-One Month	
Scale	%ile	T-score	%ile	T-score	%ile	T-Score
S-Ang	53	46	41	44	53	46
S-Ang/F	66	49	49	45	49	45
S-Ang/VP	92	62	43	46	46	49
T-Ang	92	62	71	54	77	56
T-Ang/T	93	66	73	54	73	54
T-Ang/R	61	52	23	40	34	44
AX-O	90	62	61	49	74	53
AX-I	23	38	30	42	23	38
AC	82	60	74	56	65	52

Note. S-Ang = State Anger; S-Ang/F = Anger Feelings; S-Ang/VP = Anger Expression; T-Ang = Trait Anger; T-Ang/T = Anger Temperament; T-Ang/R = Anger Reaction; AX-O = Anger Expression-Out; AX-I = Anger Expression-In; AC = Anger Control

John's STAXI-2 C/A Results

Table 4.3 shows the STAXI-2 C/A self-report scores provided by John immediately before the start of the intervention program, one week after completion of the program, and one month after the program.

Based on the self-report responses on the STAXI-2 C/A, John's State Anger score was within the Average range prior to program implementation, one week following program completion, and one month following program completion. John's State Anger-Feelings score was in the Elevated prior to the treatment program. One week and one month after program completion his score fell in the Average range. There was no change on the State Anger- Expression scale, with his score in the Average range before and after the treatment program.

Trait Anger was in the Very High range prior to program implementation and in the Average range one week following program completion. At the one month follow-up assessment, his score was in the Elevated range. Trait Anger/Temperament was within the Very High range prior to program implementation and in the Elevated range following program completion (both one week and one month). John's Trait Anger/ Reaction score was within the Elevated range prior to program implementation and in the Average range on both assessments following program completion.

Anger Expression-Out was within the Elevated range prior to program implementation. His scores fell in the Average range at the one week post-post program assessment and the one month post-program assessment. John's Anger Expression-In was within the Average range prior to program implementation and on both assessments after program completion. Anger Control was within the Average range prior to program implementation. Following program completion and one-month later, his scores were also in the Average range.

Craig's STAXI-2 C/A Results

Table 4.4 shows the STAXI-2 C/A self-report scores provided by Craig immediately before the start of the intervention program, one week after completion of the program, and one month after the program.

He scored in the Very High range prior to program implementation, in the Elevated range one week after program completion, and in the Average range at the one-month follow-up assessment. State Anger/Feelings was in the Very High range before the program implementation and the Average range after program completion, during the

one-week and one-month assessments. State Anger/Expression was within the Elevated range prior to program implementation and one week following program completion.

Table 4.3

John's Pre- and Post- Intervention Scores on the State-Trait Anger Expression Inventory, Second edition Child/Adolescent (STAXI-2 C/A)

	Pre-Program		Post-One Week		Post-One Month	
Scale	%ile	T-score	%ile	T-score	%ile	T-Score
S-Ang	67	51	53	46	41	44
S-Ang/F	81	57	66	49	49	45
S-Ang/VP	61	44	61	44	61	44
T-Ang	99	72	54	51	77	56
T-Ang/T	>99	77	84	58	87	62
T-Ang/R	87	60	34	44	48	48
AX-O	90	62	61	49	74	53
AX-I	75	54	38	46	38	46
AC	38	44	65	52	45	48

Note. S-Ang = State Anger; S-Ang/F = Anger Feelings; S-Ang/VP = Anger Expression; T-Ang = Trait Anger; T-Ang/T = Anger Temperament; T-Ang/R = Anger Reaction; AX-O = Anger Expression-Out; AX-I = Anger Expression-In; AC = Anger Control

Craig's score was in the Average range one month following program completion.

Based on the self-report responses on the STAXI-2 C/A, Craig's State Anger was in the Trait Anger was in the Very High range prior to program implementation. One week following program completion his score was in the Average range. One month after program completion his scores were in the Average range. Trait Anger-Temperament was within the Very High range prior to program implementation, and following program completion and at the follow-up, was found to be within the Elevated range. Trait Anger-Reaction score was within the Elevated range prior to program implementation, in the Average range following program completion, and was found to be within the Average range one month after program completion.

Table 4.4

Craig's Pre- and Post- Intervention Scores on the State-Trait Anger Expression Inventory, Second edition Child/Adolescent (STAXI-2 C/A)

	Pre-Program		Post-One Week		Post-One Month	
Scale	%ile	T-score	%ile	T-score	%ile	T-Score
S-Ang	91	64	76	53	60	48
S-Ang/F	99	81	71	53	66	49
S-Ang/VP	88	64	77	52	68	48
T-Ang	>99	74	71	54	83	59
T-Ang/T	99	73	87	62	87	62
T-Ang/R	87	60	34	44	61	52
AX-O	>99	75	45	45	61	49
AX-I	83	58	30	42	38	46
AC	38	44	45	48	45	48

Note. S-Ang = State Anger; S-Ang/F = Anger Feelings; S-Ang/VP = Anger Expression; T-Ang = Trait Anger; T-Ang/T = Anger Temperament; T-Ang/R = Anger Reaction; AX-O = Anger Expression-Out; AX-I = Anger Expression-In; AC = Anger Control

Craig's Anger Expression-Out was within the Very High range prior to program implementation. His scores fell in the Average range at the one week post-post program assessment and the one month post-program assessment. Anger Expression-In was within the Elevated range prior to program implementation and in the Average range one week and one month after program completion. Anger Control was within the Average range before the program implemented and after the program was completed at all three assessment points.

Research Question 1b: Do Parent Survey responses indicate a reduction in anger management difficulties as reflected in lower scores on the Parent Survey at the end of the intervention program, compared with *scores prior to the intervention program?*

Parents of the students participating in the intervention program completed surveys prior to the start of the program and one-week after completion of the program.

The first part of the pre-intervention survey asked open-ended questions about each student's anger management difficulties. The second part of the pre-intervention survey and the post-intervention survey involved questions that were rated on a scale of one to ten. A low response from one to three corresponded with a general level of reflection of *Not at all;* a rating from four to six corresponded with a general level of reflection of *Somewhat*, and a responses from seven to ten reflected a general level reflection of *Definitely*. Results of the parent pre- and post-intervention surveys are reported in this section.

Nick's Parent Survey Results

Nick's mother completed the *Pre-Intervention Survey and Questionnaire and the Post-Intervention Survey*. The first open-ended question of the Pre-Intervention Survey asked, "When did you first notice that your child had difficulties controlling his/her anger?" Her response was, "5th grade." The next question asked, "What attempts were made to correct the problem at that time?" Her response was, Nick "was disciplined at home and school." The third question asked, "What appears to make your child angry now?" The response was, "Whenever something happens that he does not like." The next question asked, "How does your child react now when he/she is feeling angry?" She responded, "Yelling, cursing, hits, things, breaks things, fights with brothers." The fifth question asked, "What do you do when your child is feeling angry?" She responded, "Ignore him until he calms down." The last open-ended question asked, "Do you feel that anger-management counseling will help your child with his/her anger?" She responded, "Yes, he needs to talk about his feelings." Results of the items rated on a scale form one to ten are provided in Table 4.5.

Table 4.5

Nick's Parent Pre- and Post- Intervention Surveys

Survey Item	Pre Program Rating	Post Program Rating
My child appears to have difficulty (pre) /continues to have difficulty (post) controlling his anger.	10	5
My child gets angry (pre) /continues to get angry (post) over things that he/she should not get angry over?	8	4
My child reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	9	4
My child's anger has gotten worse over time (pre) /since attending counseling sessions?	9	1
I feel my child will be able to control (pre) /has been able to control (post) / his/her anger with help from counseling?	6	8

Based on the parent survey results, Nick's mother reported that he definitely had problems controlling his anger before the intervention, but only some difficulty after completing the intervention. She reported that he definitely got angry over things he should not have before the intervention, but after the intervention he was only somewhat likely to get angry over things he should not get angry over. She reported that he definitely reacted inappropriately when angry before the intervention, but he reacted only somewhat inappropriately when she was asked his reaction after the intervention. She reported that his anger had definitely become worse over time, but it had not gotten worse at all since attending counseling sessions. Finally, she felt that he would be somewhat able to control his anger with help from counseling before the intervention. After the intervention, she believed he was definitely able to control his anger with help from counseling.

Kyle's Parent Survey Results

Kyle's mother completed the *Pre-Intervention Survey and Questionnaire and the Post-Intervention Survey*. The first open-ended question of the Pre-Intervention Survey asked, "When did you first notice that your child had difficulties controlling his/her anger?" Her response was "9th/10th grade." The next question asked, "What attempts were made to correct the problem at that time?" Her response was "Talking with guidance counselor in school." The third question asked, "What appears to make your child angry now?" The response was, "Mostly school, teacher, and friends." The next question asked, "How does your child react now when he/she is feeling angry?" She responded, "He is very quiet and refuses to talk, but then explodes. He will punch things." The fifth question asked, "What do you do when your child is feeling angry?" She responded, "Talk to him." The last open-ended question asked, "Do you feel that anger-management counseling will help your child with his/her anger?" She responded, "Yes." Results of the items rated on a scale form one to ten are provided in Table 4.6.

Based on the parent survey results, Kyle's mother reported that he definitely had problems controlling his anger before the intervention, but only some difficulty after completing the intervention. She reported that he definitely got angry over things he should not have before the intervention, but after the intervention she responded that he did not get angry over things he should not get angry over. She reported that he definitely reacted inappropriately when angry before the intervention, but responded that he reacts somewhat inappropriately when asked about his reactions after the intervention. She reported that his anger had definitely become worse over time, but responded that it

had not gotten worse at all since attending counseling sessions. Finally, she felt that he would definitely be able to control his anger with help from counseling before the

Table 4.6

Kyle's Parent's Pre- and Post- Intervention Surveys

Survey Item	Pre Program Rating	Post Program Rating
My child appears to have difficulty (pre) /continues to have difficulty (post) controlling his anger.	9	4
My child gets angry (pre) /continues to get angry (post) over things that he/she should not get angry over?	9	3
My child reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	9	4
My child's anger has gotten worse over time (pre) /since attending counseling sessions?	8	1
I feel my child will be able to control (pre) /has been able to control (post) / his/her anger with help from counseling?	7	9

intervention. After the intervention, she believed Kyle was definitely able to control his anger with help from counseling.

John's Parent Survey Results

John's mother completed the *Pre-Intervention Survey and Questionnaire and the Post-Intervention Survey*. The first open-ended question of the Pre-Intervention Survey asked, "When did you first notice that your child had difficulties controlling his/her anger?" Her response was "Since he was little." The next question asked, "What attempts were made to correct the problem at that time?" Her response was "counseling." The third question asked, "What appears to make your child angry now?" The response was, "A lot of things." The next question asked, "How does your child react now when he is feeling angry?" She responded, "He gets very quiet and will not

talk to anyone." The fifth question asked, "What do you do when your child is feeling angry?" She responded, "Tell him not to be so angry." The last open-ended

Table 4.7

John's Parent's Pre- and Post- Intervention

Survey Item	Pre Program Rating	Post Program Rating
My child appears to have difficulty (pre) /continues to have difficulty (post) controlling his anger.	7	3
My child gets angry (pre) /continues to get angry (post) over things that he/she should not get angry over?	6	2
My child reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	7	3
My child's anger has gotten worse over time (pre) /since attending counseling sessions?	5	2
I feel my child will be able to control (pre) /has been able to control (post) / his/her anger with help from counseling?	7	8

question asked, "Do you feel that anger-management counseling will help your child with his/her anger?" She responded, "I know he had anger counseling in the past, it might help." Results of the items rated on a scale form one to ten are provided in Table 4.7.

Based on the parent survey results, John's mother reported that he definitely had problems controlling his anger before the intervention, but no difficulty after completing the intervention. She reported that he was somewhat likely to get angry over things he should not have before the intervention, but after the intervention he was not likely at all to get angry over things he should not get angry over. She reported that he definitely reacted inappropriately when angry before the intervention, but he does not react inappropriately at all when she was asked after the intervention. She reported that his anger had become somewhat worse over time, but it had not gotten worse at all since

attending counseling sessions. Finally, before the intervention, she felt that he would definitely be able to control his anger with help from counseling. After the intervention, she believed he was definitely able to control his anger with help from counseling.

Craig's Parent Survey Results

Craig's mother completed the *Pre-Intervention Survey and Questionnaire and the Post-Intervention Survey*. The first open-ended question of the Pre-Intervention Survey asked, "When did you first notice that your child had difficulties controlling his/her anger?" Her response was "7th grade." The next question asked, "What attempts were made to correct the problem at that time?" Her response was, "Nothing really." The third question asked, "What appears to make your child angry now?" The response was, "Teachers treating him unfairly." The next question asked, "How does your child react now when he/she is feeling angry?" She responded, "He talks back and gets very worked-up." The fifth question asked, "What do you do when your child is feeling angry?" She responded, "Keep out of his way." The last open-ended question asked, "Do you feel that anger-management counseling will help your child with his/her anger?" She responded, "Yes." Results of the items rated on a scale from one to ten are provided in Table 4.8.

Based on the parent survey results, Craig's mother reported that he definitely had problems controlling his anger before the intervention, but only some difficulty after completing the intervention. She reported that he definitely got angry over things he should not have before the intervention and he continued to be angry over things he should not get angry over after the intervention. She reported that he definitely reacted inappropriately when angry before the intervention, but he reacts only somewhat

inappropriately after the intervention when she was asked after the intervention. She reported that his anger had definitely become worse over time, but it had not gotten worse

Table 4.8

Craig's Parent's Pre- and Post- Intervention Surveys

Survey Item	Pre Program Rating	Post Program Rating
My child appears to have difficulty (pre) /continues to have difficulty (post) controlling his anger.	8	6
My child gets angry (pre) /continues to get angry (post) over things that he/she should not get angry over?	8	7
My child reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	7	5
My child's anger has gotten worse over time (pre) /since attending counseling sessions?	9	2
I feel my child will be able to control (pre) /has been able to control (post) / his/her anger with help from counseling?	7	5

at all since attending counseling sessions. Finally, she felt that he would definitely be able to control his anger with help from counseling before the intervention. After the intervention, she believed he was somewhat able to control his anger with help from counseling.

Research Question 1c: Do Teacher Survey responses indicate a reduction in anger management difficulties as reflected in lower scores on the Teacher Survey at the end of the intervention program, compared with *scores prior to the intervention program?*

For each student, two teachers knowledgeable about the student completed a *Pre-Intervention and a Post-Intervention Teacher Survey* form to assess his/her perceptions about that student's anger. Similar to the Parent Survey, the questions were responded to using a continuum from one to ten. A low response of one to three corresponded with the

reflection of *Not at all;* a reflection of *somewhat* corresponded with a rating from four to six, and a reflection of *definitely* corresponded with a rating from seven to ten.

Nick's Teacher Survey Results

Two teachers familiar with Nick completed the *Pre- and Post-Intervention Survey*. Results of the items rated on a scale form one to ten are provided in Table 4.9. Based on the survey results, Nick's English teacher reported that he had some problems controlling his anger before the intervention, but had no difficulty controlling his anger at all after completing the intervention. She reported that he definitely got angry over things he should not have before the intervention, but after the intervention he was only somewhat likely to get angry over things he should not get angry over. She reported that he definitely reacted inappropriately when angry before the intervention, but, when asked after the intervention, she replied that he did not react inappropriately at all. She reported that his anger had become somewhat worse over time, but it had not gotten worse at all since attending counseling sessions. Finally, she felt that he would definitely be able to control his anger with help from counseling before the intervention. After the intervention, she believed he was definitely able to control his anger with help from counseling.

Nick's math teacher reported that he definitely had problems controlling his anger before the intervention, but only some difficulty after completing the intervention. She reported that he was somewhat likely to get angry over things he should not have before the intervention and after completing the intervention. She reported that he reacted inappropriately when angry before the intervention, but he did not continue to react inappropriately at all after the intervention. She reported that his anger had not become

worse over time, but it had not gotten worse at all since attending counseling sessions. Finally, she felt that he would be somewhat able to control his anger with help from

Table 4.9

Nick's Teachers' Pre/Post-Intervention Surveys

	Survey Item	Pre Program Rating	Post Program Rating
English Teacher	The student appears to have difficulty (pre) /continues to have difficulty (post) controlling his/her anger in the school setting?	9	5
	The student gets angry (pre) continues to get angry (post) over things he/she should not get angry over?	8	6
	The student reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	8	3
	The student's anger has gotten worse over time?	6	1
	I fell the student will be able to control (pre)/has been able to control his/her anger with help from counseling?	8	8
Math Teacher	The student appears to have difficulty (pre) /continues to have difficulty (post) controlling his/her anger in the school setting?	6	3
	The student gets angry (pre) continues to get angry (post) over things he/she should not get angry over?	6	4
	The student reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	4	2
	The student's anger has gotten worse over time?	3	1
	I fell the student will be able to control (pre)/has been able to control his/her anger with help from counseling?	7	9

counseling before the intervention. After the intervention, she believed he was definitely able to control his anger with help from counseling.

Kyle's Teacher Survey Results

Two teachers familiar with Kyle completed the *Pre- and Post-Intervention Survey*. Results of the items rated on a scale form one to ten are provided in Table 4.10. Based on the survey results, Kyle's English teacher reported that he definitely had problems controlling his anger before the intervention, but did not have difficulty controlling his anger at all after completing the intervention. She reported that he definitely got angry over things he should not have before the intervention, but after the intervention he was only somewhat likely to get angry over things he should not get angry over. She reported that he definitely reacted inappropriately when angry before the intervention, but he did not continue to react inappropriately at all when she was asked after the intervention. She reported that his anger had definitely become worse over time, but it had not gotten worse at all since attending counseling sessions. Finally, she felt that he would definitely be able to control his anger with help from counseling before the intervention. After the intervention, she believed he was definitely able to control his anger with help from counseling.

Kyle's math teacher reported that he definitely had problems controlling his anger before the intervention, but did not continue to have difficulty at all controlling his anger after completing the intervention. He reported that Kyle definitely got angry over things he should not have before the intervention, but after the intervention he was only somewhat likely to continue to get angry over things he should not get angry over. The teacher reported that he definitely reacted inappropriately when angry before the intervention, but

Table 4.10

Kyle's Pre/Post-Intervention Teacher Surveys

	Survey Item	Pre Program Rating	Post Program Rating
English Teacher	The student appears to have difficulty (pre) /continues to have difficulty (post) controlling his/her anger in the school setting?	8	2
	The student gets angry (pre) continues to get angry (post) over things he/she should not get angry over?	8	2
	The student reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	7	2
	The student's anger has gotten worse over time?	5	1
	I fell the student will be able to control (pre)/has been able to control his/her anger with help from counseling?	7	9
Math Teacher	The student appears to have difficulty (pre) /continues to have difficulty (post) controlling his/her anger in the school setting?	9	3
	The student gets angry (pre) continues to get angry (post) over things he/she should not get angry over?	10	4
	The student reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	9	3
	The student's anger has gotten worse over time?	7	1
	I fell the student will be able to control (pre)/has been able to control his/her anger with help from counseling?	7	7

he did not continue to react inappropriately at all when he was asked after the intervention. The teacher reported that his anger had definitely become worse over time, but it had not gotten worse at all since attending counseling sessions. Finally, he felt that Kyle would definitely be able to control his anger with help from counseling before the intervention. After the intervention, he believed he was definitely able to control his anger with help from counseling.

John's Teacher Survey Results

Two teachers familiar with John completed the *Pre- and Post-Intervention Survey*. Results of the items, rated on a scale form one to ten, are provided in Table 4.11. Based on the survey results, John's English teacher reported that he definitely had problems controlling his anger before the intervention and continued to have some difficulty after completing the intervention. She reported that he definitely got angry over things he should not have before the intervention, but after the intervention he was only somewhat likely to get angry over things he should not get angry over. She reported that he definitely reacted inappropriately when angry before the intervention, but he was only somewhat likely to continue to react inappropriately when she was asked after the intervention. She reported that his anger had definitely become worse over time, but it had not gotten worse at all since attending counseling sessions. Finally, she felt that he would definitely be able to control his anger with help from counseling before the intervention. After the intervention, she believed he was definitely able to control his anger with help from counseling.

John's math teacher reported that he had some problems controlling his anger before the intervention, but did not continue to have difficulty at all controlling his anger

Table 4.11

John's Teachers' Pre/Post-Intervention Surveys

	Survey Item	Pre Program Rating	Post Program Rating
English Teacher	The student appears to have difficulty (pre) /continues to have difficulty (post) controlling his/her anger in the school setting?	9	5
	The student gets angry (pre) continues to get angry (post) over things he/she should not get angry over?	10	4
	The student reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	9	5
	The student's anger has gotten worse over time?	9	2
	I fell the student will be able to control (pre)/has been able to control his/her anger with help from counseling?	8	8
Math Teacher	The student appears to have difficulty (pre) /continues to have difficulty (post) controlling his/her anger in the school setting?	6	3
	The student gets angry (pre) continues to get angry (post) over things he/she should not get angry over?	6	3
	The student reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	5	3
	The student's anger has gotten worse over time?	5	1
	I felt the student will be able to control (pre)/has been able to control his/her anger with help from counseling?	6	6

after completing the intervention. He reported that Kyle was somewhat likely to get angry over things he should not have before the intervention, but after the intervention he was not at all likely to continue to get angry over things he should not get angry over. The teacher reported that he reacted somewhat inappropriately when angry before the intervention, but he did not continue to react inappropriately at all when he was asked after the intervention. The teacher reported that his anger had become somewhat worse over time, but it had not gotten worse at all since attending counseling sessions. Finally, he felt that Kyle would be somewhat able to control his anger with help from counseling before the intervention. After the intervention, he believed he was somewhat able to control his anger with help from counseling.

Craig's Teacher Survey Results

Two teachers familiar with Craig completed the *Pre- and Post-Intervention Survey*. Results of the items, rated on a scale form one to ten, are provided in Table 4.12. Based on the survey results, Craig's English teacher reported that he definitely had problems controlling his anger before the intervention and continued to have some difficulty controlling his anger after completing the intervention. She reported that he definitely got angry over things he should not have before the intervention, but after the intervention he was only somewhat likely to get angry over things he should not get angry over. She reported that he definitely reacted inappropriately when angry before the intervention, but he was only somewhat likely to continue to react inappropriately when she was asked after the intervention. She reported that his anger had become somewhat worse over time before and after the intervention. Finally, she felt that he would

definitely be able to control his anger with help from counseling before the intervention.

After the

Table 4.12

Craig's Teachers' Pre/Post-Intervention Surveys

	Survey Item	Pre Program Rating	Post Program Rating
English Teacher	The student appears to have difficulty (pre) /continues to have difficulty (post) controlling his/her anger in the school setting?	7	5
	The student gets angry (pre) continues to get angry (post) over things he/she should not get angry over?	8	4
	The student reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	6	4
	The student's anger has gotten worse over time?	4	3
	I fell the student will be able to control (pre)/has been able to control his/her anger with help from counseling?	6	6
Math Teacher	The student appears to have difficulty (pre) /continues to have difficulty (post) controlling his/her anger in the school setting?	9	3
	The student gets angry (pre) continues to get angry (post) over things he/she should not get angry over?	7	3
	The student reacts inappropriately (pre) /continues to react inappropriately when he/she is angry?	9	4
	The student's anger has gotten worse over time?	6	2
	I fell the student will be able to control (pre)/has been able to control his/her anger with help from counseling?	7	8

intervention, she believed he was definitely able to control his anger with help from counseling.

Craig's math teacher reported that he definitely had problems controlling his anger before the intervention, but did not continue to have difficulty after completing the intervention. She reported that he definitely got angry over things he should not have before the intervention, but after the intervention he did not continue to get angry at all over things he should not get angry over after the intervention. She reported that he definitely reacted inappropriately when angry before the intervention, but he continued to react only somewhat inappropriately after the intervention. Before the intervention, she reported that his anger had become somewhat worse over time, but it had not gotten worse at all after the intervention. Finally, she felt that he would definitely be able to control his anger with help from counseling before the intervention. After the intervention, she believed he was definitely able to control his anger with help from counseling.

Research Question 1d: Do disciplinary referrals reflect a reduction in anger-related disciplinary actions at the end of the intervention program and one month after the end of the intervention program, compared with disciplinary actions prior to the intervention program?

A review of discipline records beginning one month prior to program implementation through one month after program completion was completed for all group participants.

Nick's Discipline Record

In the month before program implementation, Nick had three discipline referrals. Although two were for being *late to school*, one was for verbal *abuse of a staff member*. In this situation, Nick used profanity towards a teacher during a disagreement about his grade on a major project. This behavior resulted in a one-day out-of-school suspension. During the two-month period in which the anger program was being implemented, Nick was written-up two times for violating school policy. Both discipline referrals were for being late to school. During the one-month following program completion, Nick was written-up for *being late to school* and the other for *insubordination.* He was suspended for two days for *insubordination* when he refused to hand a staff member his cell phone.

Kyle's Discipline Record

In the month preceding implementation of the anger management program, *Kyle* had no discipline referrals. In the two-months of program implementation, he was written-up one time for a *cutting class* to go out to lunch with friends. He received an in-school suspension for this infraction, because it was his second time he cut a class in the school year. During the month following program completion, Kyle had no discipline referrals for violating school policy.

John's Disciplinary Record

A review of John's discipline referrals revealed that he was written-up one time beginning one month prior to program implementation through one month after program completion. He was written-up for being *late to school* in the month following program completion and given an office detention.

Craig's Disciplinary Record

In the month before program implementation, Craig had two discipline referrals. One referral was for *smoking*, and the other was for *fighting in school or on school property.* Craig received an out-of-school suspension for five days and in-school suspension for one day as a consequence for fighting. During the two-month period in which the anger program was being implemented, Craig was written-up one time for *cutting class*. He was suspended from school for one day, because it was his third *class cutting* offense of the year. During the month following program completion, he was written-up for *horseplay* when he and a friend were throwing food at each other in the cafeteria. He was given a one day of in-school suspension for his infraction.

Research Question 1e: Do student self-reports indicate an increase in mindful perceptions, feelings, thoughts and actions as reflected in higher scores on the Freiburg Mindfulness Inventory at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

The Freiburg Mindfulness Inventory

The Freiburg Mindfulness Inventory –short form (Bucheld et al., 2006) was completed by each student before program implementation, one week after program completion, and once again one month after program completion. Reponses on the fourteen-item instrument are added together to reveal an overall score, which represents the respondent's level of mindfulness, with higher scores indicating a higher level of mindfulness than lower scores.

Table 4.13 shows the pre/post-program scores for all participants on the FMI. On the first administration of the FMI, Nick received a score of thirty-three. One week after

the treatment program concluded, he received a score of forty-five. At one month after program completion he received a score of forty-one. When Kyle completed the FMI, his responses resulted in the following scores. He received a score of twenty-nine pre-program, forty-eight one week after program completion, and thirty-nine one month after

Table 4.13

Pre/Post-Program Scores on Freiburg Mindfulness Inventory-short form

Student	Pre-Program	Post-One Week	Post-One Month
Nick	33	45	41
Kyle	29	48	39
John	32	53	46
Craig	26	49	43

Note. Higher scores represent greater levels of mindfulness.

completion. John’s responses resulted in a thirty-two pre-program, a fifty-three one week post-program, and a forty-six one month post program. Craig received a twenty-six, forty-nine, and forty-three on the FMI before the program, one week after program completion, and one month after program completion respectively.

Research Question 1f: Do student self-reports indicate an increase in mindful perceptions, feelings, thoughts and actions as reflected in higher scores on the Mindful Attention and Awareness Scale at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

Mindful Attention and Awareness Scale

Table 4.14 shows student scores on the Mindful Attention and Awareness Scale (Brown & Ryan, 2003) before program implementation, one week after program

completion, and one month after program completion. On this fifteen-item scale, the scores represent an average of the student's total raw score. Higher scores represent higher levels of mindfulness than lower scores. Nick received a score of 3.9 before

Table 4.14

Pre/Post-Program Scores on Mindful Attention and Awareness Scale

Student	Pre-Program	Post-One Week	Post-One Month
Nick	3.9	4.8	4.6
Kyle	2.5	4.9	4.1
John	4.5	5.2	5.0
Craig	2.5	5.1	4.5

Note. Higher scores represent greater levels of mindfulness.

program implementation, 4.8 after program completion, and 4.6 one month after completion. When Kyle completed the MAAS, he earned a score of 2.5, 4.9, and 4.1, prior to implementation, one week after completion, and one month after completion, respectively. John received a score of 4.5 before the program, 5.2 one week following program completion, and 5.0 one month following completion. Craig received a score of 2.5 before program implementation, 5.1 after program completion, and 4.5 one month after completion.

Research Question Two: Based on responses to a post-program student evaluation form, what are the experiences and thoughts of the participants receiving the intervention, with regard to the effectiveness of the individual sessions and the intervention overall?

Post-Program Student Evaluation Forms

All four students completed the Post-Program Evaluation Form following program completion. Questions that were responded to with a rating from seven to ten

were considered concepts that were perceived positively and were considered to be useful components of the anger management program. Questions that were responded to with a rating from four to six were considered concepts that were not perceived to be as useful or beneficial. Questions that were responded to with a rating from one to three would be considered concepts that may not be a useful or beneficial component of the anger program. The open-ended questions that were in all evaluation forms would be reported and examined qualitatively in order to assess the perceived usefulness of the program to the students.

Nick's post-program evaluation. The Post-Program Evaluation Form completed by Nick indicated that the topics covered in this program were understandable. The topics covered were considered useful. Nick reported having a better understanding of how anger affects his life. He reported feeling more control over the way in which he responded to anger-provoking events. He felt that this program taught at least one specific strategy to use in order to improve the way in which he would respond to anger. He believed he would continue to use the meditation exercises on his own and considered the sessions to be interesting. The homework assignments were considered useful in supporting what was discussed in the program. Nick felt the facilitator understood the material in the program and he felt the material was explained in a way that was understandable. Nick felt he was treated with respect. He felt comfortable asking questions and giving his opinion during the program. He would recommend this program to a friend who had difficulties with anger and he was glad to have attended this program. He did not suggest any changes to the program. Nick's ratings on the Post-Program Evaluation form are reported in Table 4.15.

Kyle's post-program evaluation. The Post-Program Evaluation Form completed by Kyle indicated that the topics covered in this program were understandable. The topics covered were considered useful. Kyle reported having a better understanding of how anger affects his life and reported feeling more control over the way in which he responded to anger-provoking events. He felt that this program taught at least one

Table 4.15

Nick's Post-Program Evaluation Form

Item	Rating
The topics covered in this anger-management program were understandable	9
The topics covered in this anger-management program will be useful	8
I feel I have a better understanding of how "anger" affects my life	9
I feel I have more control over how I respond to anger-provoking events	9
I feel this program taught me at least one specific strategy I can, and will, use to improve how I respond to my anger	10
I feel I will continue to use the meditation exercises on my own	7
The sessions were interesting	9
The homework assignments were useful in supporting what was discussed in the program	7
The counselor seemed to understand the material in the program	10
The counselor explained the material in way I could understand	9
The counselor treated me with respect	10
I felt comfortable asking questions and giving my opinion during the program	10
I would recommend this program to a friend that had difficulties with "anger"	8
I am glad I attended this program	8

specific strategy to use in order to improve the way in which he would respond to anger. He indicated that he might continue to use the meditation exercises on his own and considered the sessions to be interesting. He believed the homework assignments were considered useful in supporting what was discussed in the program. Kyle felt the facilitator understood the material in the program and he felt the material was explained in a way that was understandable. He reported that he was treated with respect. He felt

comfortable asking questions and giving his opinion during the program. He would recommend this program to a friend who had difficulties with anger and he was glad to have attended this program. He suggested changing the program to include more discussion. Kyle's ratings on the Post-Program Evaluation form are reported in Table 4.16.

Table 4.16

Kyle's Post-Program Evaluation Form

Item	Rating
The topics covered in this anger-management program were understandable	7
The topics covered in this anger-management program will be useful	8
I feel I have a better understanding of how "anger" affects my life	10
I feel I have more control over how I respond to anger-provoking events	8
I feel this program taught me at least one specific strategy I can, and will, use to improve how I respond to my anger	9
I feel I will continue to use the meditation exercises on my own	6
The sessions were interesting	9
The homework assignments were useful in supporting what was discussed in the program	8
The counselor seemed to understand the material in the program	10
The counselor explained the material in way I could understand	9
The counselor treated me with respect	10
I felt comfortable asking questions and giving my opinion during the program	9
I would recommend this program to a friend that had difficulties with "anger"	9
I am glad I attended this program	10

John's post-program evaluation. The Post-Program Evaluation Form completed by John indicated that the topics covered in this program were understandable and will be useful. He reported having a better understanding of how anger affects his life and feeling more control over the way in which he responded to anger-provoking events. John felt this program taught at least one specific strategy to improve the way in which he would respond to anger and indicated he would continue to use the meditation

exercises on his own. He believed the sessions to be interesting and considered homework assignments useful in supporting what was discussed in the program. John felt the facilitator understood the material in the program and he felt the material was explained in a way that was understandable. John felt he was treated with respect. He felt comfortable asking questions and giving his opinion during the program. He would

Table 4.17

John's Post-Program Evaluation Form

Item	Rating
The topics covered in this anger-management program were understandable	7
The topics covered in this anger-management program will be useful	8
I feel I have a better understanding of how "anger" affects my life	8
I feel I have more control over how I respond to anger-provoking events	8
I feel this program taught me at least one specific strategy I can, and will, use to improve how I respond to my anger	9
I feel I will continue to use the meditation exercises on my own	7
The sessions were interesting	8
The homework assignments were useful in supporting what was discussed in the program	7
The counselor seemed to understand the material in the program	9
The counselor explained the material in way I could understand	9
The counselor treated me with respect	10
I felt comfortable asking questions and giving my opinion during the program	7
I would recommend this program to a friend that had difficulties with "anger"	8
I am glad I attended this program	8

recommend this program to a friend who had difficulties with anger and he was glad to have attended this program. He did not suggest any changes to the program. John's ratings on the Post-Program Evaluation form are reported in Table 4.17.

Craig's post-program evaluation. The Post-Program Evaluation Form completed by Craig indicated that the topics covered in this program were understandable and useful. He felt he had a better understanding of how anger affects his life. He

reported feeling more control over the way in which he responded to anger-provoking events and felt that this program taught at least one specific strategy to use to improve the way in which he would respond to anger. Craig believed he would continue to use the meditation exercises on his own and considered the sessions to be interesting. He thought the homework assignments were considered useful in supporting what was

Table 4.18

Craig's Post-Program Evaluation Form

Item	Rating
The topics covered in this anger-management program were understandable	9
The topics covered in this anger-management program will be useful	9
I feel I have a better understanding of how "anger" affects my life	10
I feel I have more control over how I respond to anger-provoking events	10
I feel this program taught me at least one specific strategy I can, and will, use to improve how I respond to my anger	9
I feel I will continue to use the meditation exercises on my own	8
The sessions were interesting	9
The homework assignments were useful in supporting what was discussed in the program	8
The counselor seemed to understand the material in the program	9
The counselor explained the material in way I could understand	9
The counselor treated me with respect	9
I felt comfortable asking questions and giving my opinion during the program	10
I would recommend this program to a friend that had difficulties with "anger"	9
I am glad I attended this program	9

discussed in the program. Craig felt the facilitator understood the material in the program and he felt the material was explained in a way that was understandable. Craig felt he was treated with respect. He felt comfortable asking questions and giving his opinion during the program. He would recommend this program to a friend who had difficulties with anger and he was glad to have attended this program. He did not suggest any

changes to the program. Craig's ratings on the Post-Program Evaluation form are reported in Table 4.18.

Chapter Five

Discussion

Introduction

This chapter will discuss the results of the data analyses reported in Chapter 4 and will discuss limitations of the current study, and the implications of this study's results for future research.

Discussion of Results

Research Question 1: Is the Mindfulness-Based and Cognitive-Behavior Therapy for Anger-Management Program (Kelly, 2006) effective in treating high school males in a group counseling format?

The first research question for this study was addressed with the analyses of pre and post assessment results. Student self-report and parent and teacher ratings indicated that the anger-management program reduced the occurrence of students' anger-related behaviors by the end of program implementation and continued to do so up to four weeks after the training. The results of this study also indicated that personal and social functioning improvements were reported by the students and their parents and teachers.

Research Question 1a: Do student self-reports indicate a reduction in anger management difficulties as reflected in lower scores on the State-Trait Anger Expression Inventory at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

Results on the STAXI-2 C/A revealed lower levels of self-reported anger for all four students following program completion. Prior to program participation, Nick's STAXI-2 C/A profile suggested significant difficulties in the domain areas of State

Anger- Feelings and Expression, as well as Trait Anger- Temperament, Anger Expression-Out, and Anger Control. Following program completion, Nick's self-reports indicated self-perceived improvements in all of these domains. For the domains of Anger Control and Anger Expression-Out his scores were in the Average range one week after program completion. One month after program completion his score on the Anger Expression-Out fell in the Elevated range (81st%ile, but still reflected an improvement from his score before program participation which was in the Very High range (>99th %ile). After program completion his Trait Anger-Temperament score was in the Elevated range at the 84th percentile. Although his score was in the elevated range, this score represented modest improvement because his score prior to program participation was in the Very High range at the 99th percentile. On the State Anger dimensions, Nick's scores were in the Average range one-week after program completion; however, when re-assessed one month after program completion his responses indicated that he was experiencing anger related to a desire to act out towards others. This elevated score appeared to reflect Nick's angry reaction to a single event that occurred on the day when the one month follow-up assessment was being conducted. The specific situation involved a teacher's attempt to confiscate Nick's cell phone.

Kyle's STAXI-2 C/A profile one week after program completion reflected scores in the Average range across all dimensions assessed and indicated improvements in self-reported levels of Trait Anger-Temperament and Anger Expression-Out. These gains also were evident one-month following program completion. After completing the program, Kyle's self-reports indicated that he believed he was less likely to experience

anger without provocation and less likely to express angry feelings toward others in a verbally aggressive or physical manner.

John's STAXI-2 C/A profile reveals that with the exception of his Trait Anger-Temperament score, his scores after program completion were in the Average range. Although his Temperament score was in the Elevated range at the 84th percentile, it was an improvement from his pre-program score which was in the Very High range at the 99th percentile. Although John's self-reported score suggests that he is more likely to be angry more frequently than his peers, they also suggest that after program completion he is less likely to get angry than he would have before participating in the program.

Craig's STAXI-2C/A scores also fell into the Average range after program completion with the exception of Trait Anger-Temperament score. The Temperament score, however, did drop from the Very High range to the Elevated range, thereby representing a self-reported improvement. Craig's scores also indicate reduced levels of perceived difficulties for State Anger-Feelings, Anger Expression-In, and Anger Expression-Out, indicating a self-perceived reduction in anger related feelings and experiences after attending the program.

Research Question 1b: Do Parent Survey responses indicate a reduction in anger management difficulties, as reflected in lower scores on the Parent Survey at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

Parent surveys following program completion suggested a parent-perceived reduction in anger management difficulties for all four students. Prior to program participation, parents indicated difficulties in anger-related behaviors for all four students.

These difficulties were perceived in the form of controlling anger, reacting to anger-provoking situations, and getting angry over things that one should not get angry over. Parent information that was provided following program completion suggested improvement in all areas mentioned previously, as reflected in ratings from the post-intervention survey. Three of the four parents attributed the improvement to the group intervention.

Research Question 1c: Do Teacher Survey responses indicate a reduction in anger management difficulties, as reflected in lower scores on the Teacher Survey at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

Teacher survey responses following program completion indicated teacher-perceived reductions in anger management difficulties for all four students. Teacher information provided prior to program participation suggested that all four students were experiencing anger-related difficulties. Responses to survey questions suggested difficulties controlling anger, reacting inappropriately to anger-provoking situations, and getting angry over things that the students should not get angry over. Teacher information that was provided following program participation suggested that the students continued to have anger-related difficulties; however, there was a reduction in ratings of frequency of occurrence of these difficulties across all behaviors observed. For all students, the teachers also indicated that counseling appeared to help the students improve their ability to control their anger.

Research Question 1d: Do disciplinary referrals reflect a reduction in anger-related disciplinary actions at the end of the intervention program and one month after the

end of the intervention program, compared with disciplinary actions prior to the intervention program?

The use of discipline referrals as a continuous, functional measure of the social impact of anger difficulties did not yield the anticipated results. There was no evident reduction in anger related discipline for the students. There were only a few discipline referrals in general and only three anger-related referrals for all four students during the span in which the data were reviewed. Based on the small sampling of infractions, a comparative analysis could not be made regarding any change in the social impact of anger for each student. Direct observation of each student in class by a teacher may be a better measure of student anger and social impact. Although it may be useful in detecting significant behaviors related to anger control, the number of policy infractions may not reflect the more subtle ways that anger impacts an individual's social functioning.

Research Question1e: Do student self-reports indicate an increase in mindful perceptions, feelings, thoughts and actions, as reflected in higher scores on the Friedburg Mindfulness Inventory at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

On self-report measures of mindfulness, all four students demonstrated increased levels of mindful attention, acceptance, and insight. Students continued to demonstrate improved levels of mindfulness up to one-month after program completion, On the Freiburg Mindfulness Inventory (Wallach et al., 2006) all four students had higher scores after participating in the program, suggesting increased levels of mindful attention, awareness, nonjudgmental accepting, and insightful understanding. The increased levels

of mindfulness were evident at the one-week post program assessment and remained evident one month after program completion.

Research Question 1f: Do student self-reports indicate an increase in mindful perceptions, feelings, thoughts and actions, as reflected in higher scores on the Mindful Attention and Awareness Scale at the end of the intervention program and one month after the end of the intervention program, compared with scores prior to the intervention program?

On the Mindful Attention and Awareness Scale (Brown & Ryan, 2003) all four students' scores reflected an increase in dispositional mindfulness after completing the program. These scores suggest that all four students perceived an increase in their sustained and receptive attention for current events and situations (Brown & Ryan, 2003). The self-reported increased levels of mindfulness after program completion, along with improved anger related functioning provide support for the link between mindfulness and perceptions related to anger experience, expression, and control.

Research Question 2: Based on responses to a post-program student evaluation form, what are the experiences and thoughts of the participants receiving the intervention, with regard to the effectiveness of the individual sessions and the intervention overall?

All four students indicated that at least one strategy to deal with anger was learned as a result of participation in the program. Three of the four students reported that they were likely to continue to utilize the meditation exercises on their own in the future. All four students indicated that the use of mindfulness-based and cognitive-behavioral exercises would continue to be utilized; this would likely promote continued improvement with respect to anger-related difficulties. Questions that assessed the

students' perceptions of their ability to the control their anger and to understand how anger affects their lives were rated in a highly positive manner. In addition all of the students indicated that they would recommend this program to friends that had difficulties with anger, suggesting the program was positively perceived.

Limitations

There are several limitations to this study that are likely to affect the validity of the obtained results.

Sample Size and Study Design

This research study utilized a single-case design with multiple participants to evaluate the effectiveness of a group program conducted with four students. The single-case design was limited in age-range and diversity and does not allow for the generalization of results to a larger population. Although the goal was to determine the program's effectives with the four students, the sample size did not provide the amount of information needed in order to utilize statistical tests of significant differences between pre and post program measures. This limits the usefulness of quantitative pre/post results. Although statistical validation was not possible, the quantitative data and survey information collected in this study did suggest positive outcomes were achieved for the students.

Selection Bias

The data source for this study consisted of parent, teacher, and self-report measures collected on four high school students having problems in managing their anger. There was selection bias in choosing the students that participated in the anger management group, because these students were chosen, based only on their anger

problems and their desire to get help. This type of subject selection diminishes the internal validity of the study, because each student demonstrated specific characteristics that made it more likely that he would benefit from the program. The results indicate that each student did show improvement with his anger related behaviors and was receptive to the program. This suggests only that other high school students with similar characteristics and problems may benefit from the program.

Testing and Statistical Regression

The single-case design utilized a pre/post-test design to assist in determining changes in students', parents' and teachers' perceptions of the frequency of aggressive behaviors and attitudes before and after the intervention. Completing the same rating measure more than one time can influence decisions on the subsequent administrations (Kazdin, 2011). This suggests that the changes in performance may not be due to the anger management program, but may be an effect of taking the assessments multiple times. In addition, statistical regression refers to the tendency for extreme scores to revert toward the mean on a subsequent administration. The use of multiple raters (students, parents, and teachers) and a repeated measures design, however, likely helped to control for these threats.

History and Maturation

The lack of a no-treatment control group also allows for history and maturation to present potential threats to internal validity. The use of multiple participants, repeated measures, and the identified marked improvements after treatment diminish the impact of these threats (Kazdin, 2011). It is less plausible that the improvements in parent and teacher perceptions and student self-perceptions about anger and mindfulness would have

occurred without this intervention for the students. The stability of the concepts of anger and mindfulness suggest that without a major event in a person's life there would be little change in perceptions about these behavioral dimensions. The questionnaire responses, mindfulness scores, and STAXI-2 C/A scores suggest that the anger-management program had a more significant role in improvements than did history and/or maturation effects.

Instrumentation and Construct Validity of Measures

The parent and teacher questionnaires used for this study were observation-based and involved ratings of parent and teacher perceptions of the students' behaviors. Although the questions were focused on observable behaviors related to anger, the initial and subsequent ratings were subjective in nature. The questionnaires are not statistically validated measures of anger constructs, but rather rely heavily on face validity. It is possible that the item responses are not valid measures of the constructs being assessed, because ratings may have been impacted by knowledge that the student was involved in anger-management intervention program.

Bias and Artifact

Kazdin (2003) explains that data collection of the type used in this study is influenced by factor specific setting variables (e.g., observer reactivity), artifact (socially desirable responding), and contextual conditions (order of presentation, and how questions were worded). Interview and questionnaire information suggested a positive, therapeutic relationship was established between the facilitator and the students. This might have influenced ratings on post-session and post-program evaluation forms; however, the pattern of responses suggested that the students were honest. This was

evident in the variation of ratings in STAXI-2 C/A, FMI, and MAAS responses prior to program implementation. Additionally, the responses to STAXI-2 C/A items and subsequent percentiles and *T*-scores did not suggest socially desirable responses. Researcher bias is also a major limitation to the current study, because the researcher evaluating the program's effectiveness was also the anger-management intervention program facilitator.

Future Research

This study attempted to further evaluate the Mindfulness-Based and Cognitive-Behavior Therapy for Anger-Management program developed by Kelly (2006). This study provides support for the use of this anger-management program in a group counseling format with a small group of male participants in a high school setting. Although the research design does not allow for generalization, it does support the clinical usefulness of the program. This program is now closer to being implemented and studied, utilizing various research designs, where empirical evidence can be obtained to support the program's effectiveness with diverse populations. Future research must utilize more controlled research designs to better understand the effect of the treatment on improving anger-related functioning and mindfulness. Longitudinal research is also needed to better understand the long-term effect of the anger management program. This will better inform the need for maintenance procedures to ensure that the impact of the intervention is not short-lived.

Baer (2003) expressed the need for methodologically sound investigations to clarify the utility of interventions based on training in mindfulness skills. Although this study does not provide strong empirical evidence, it does contribute to the growing body

of research in the field. Future efforts should be made to design and study mindfulness interventions and treatments for children and adolescents with various emotional, behavioral, and psychological difficulties. Empirical validation is difficult to obtain when evaluating clinical programs; however, attempts should be made to better understand the relationship between anger and mindfulness. Although the conceptual, theoretical link between emotional functioning and mindfulness appears to be strong, empirical validation should be obtained. Further investigations identifying the dimensions of mindfulness that most greatly impact well-being will better help practitioners implement effective mindfulness-based treatments.

The study of mindfulness-based approaches to treating various disorders with varying populations is in the early stage. There are numerous aspects of intervention that need to be explored further. These aspects include, but are not limited to: the effect on diverse student populations in various settings; the effect that the facilitator and facilitator training dynamics have on participant outcomes, and the usefulness of using metacognitive concepts with individuals with not yet fully developed cognitive skills.

Conclusion

The four students who participated in the Mindfulness-Based and Cognitive-Behavior therapy for Anger Management Program (Kelly, 2006) demonstrated a reduction in anger management difficulties and increased mindfulness. Given the success of past and present studies utilizing the mindfulness approach with adults and the promise of more recent studies with children and adolescents, mindfulness-based approaches to therapy are emerging as an area of research that is worthwhile. The current study suggests that the integration of mindfulness-based and cognitive-behavioral approaches

to treat adolescents with anger-related difficulties is a promising intervention approach that warrants further research. The results also suggest that the intervention could be delivered successfully in a high school setting.

The school is the ideal institution for delivery of needed interventions and programs, because all children attend school for a large portion of the day. Rotating the times of each session resulted in minimal disruption for each student. Utilizing a group format enabled the facilitator to provide the intervention to four students at one time. Meeting with each student individually would have taken four times the amount of time. In many schools where counselors are overloaded with high case loads, the group format is an efficient and effective way to deliver the anger-management program to students.

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Appendix A

Pre-Intervention Survey and Questionnaire
Parent

Directions: Please ask the following questions and record the response.

Age:_____ Gender:_____ Grade:_____

When did you first notice that your child had difficulties controlling his/her anger?

____

____

What attempts were made to correct the problem at that time?

____

____

What appears to make your child angry now?

____

____

How does your child react now when he/she is feeling angry?

____

____

What do you do when your child is feeling angry?

____

____

Do you feel that anger-management counseling will help your child with his/her anger?

____

Pre-Intervention Survey and Questionnaire
Parent

Directions: Please read the following questions and circle the number that most closely reflects your opinion.

My child appears to have difficulty controlling his/her anger

1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

My child gets angry over things that he/she should not get angry over

1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

My child reacts inappropriately when he/she is angry

1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

My child's anger has gotten worse over time

1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

I feel my child will be able to control his/her anger with help from counseling

1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

Appendix B

Post-Intervention Survey and Questionnaire

Parent

Directions: Please read the following questions and circle the number that most closely reflects your opinion.

My child continues to have difficulty controlling his/her anger

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

My child continues to get angry over things that he/she should not get angry over

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

My child continues to react inappropriately when he/she is angry

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

My child's anger has gotten worse since attending counseling sessions

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

I feel my child has been able to control his/her anger with help from counseling

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

Appendix C

Pre-Intervention Survey

Teacher

Directions: Please read the following questions and circle the number that most closely reflects your opinion.

The student appears to have difficulty controlling his/her anger in the school setting

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

The student gets angry over things that he/she should not get angry over

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

The student reacts inappropriately when he/she is angry

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

The student's anger has gotten worse over time

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

I feel the student will be able to control his/her anger with help from counseling

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

Appendix D

Post-Intervention Survey

Teacher

Directions: Please read the following questions and circle the number that most closely reflects your opinion.

The student continues to have difficulty controlling his/her anger in the school setting

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

The student continues to get angry over things that he/she should not get angry over

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

The student continues to react inappropriately when he/she is angry

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

The student's anger has gotten worse over time

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

I feel the student has been able to control his/her anger with help from counseling

1 2 3 4 5 6 7 8 9 10

Not at all *somewhat* *definitely*

Appendix E

Post-Program Evaluation Form
Participant

Directions: Please read the following questions and circle the number that most closely reflects your opinion

The topics covered in this anger-management program were understandable
1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

The topics covered in this anger-management program will be useful
1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

I feel I have a better understanding of how "anger" affects my life
1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

I feel I have more control over how I respond to anger-provoking events
1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

I feel this program taught me at least one specific strategy I can, and will, use to improve how I respond to my anger
1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

I feel I will continue to use the meditation exercises on my own
1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

The sessions were interesting
1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

The homework assignments were useful in supporting what was discussed in the program
1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

The counselor seemed to understand the material in the program
1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

The counselor explained the material in way I could understand

1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

The counselor treated me with respect

1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

I felt comfortable asking questions and giving my opinion during the program

1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

I would recommend this program to a friend that had difficulties with "anger"

1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

I am glad I attended this program

1 2 3 4 5 6 7 8 9 10
Not at all *somewhat* *definitely*

Would you make any changes to the program? If so, what would they be?