

AN ADAPTATION OF THE *MINDFUL SCHOOLS* CURRICULUM FOR
ADOLESCENTS: FEASIBILITY AND PRELIMINARY
EFFECTIVENESS ON STRESS, DEPRESSION,
AND MINDFULNESS OF ADOLESCENTS
IN AN AFTER-SCHOOL SETTING

by

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ABSTRACT

The current study evaluated the feasibility and effectiveness of an adaptation of the *Mindful Schools* Curriculum for Adolescents in an after school setting. This study is the first to evaluate feasibility and effectiveness of the *Mindful Schools* curriculum for a nonclinical, community-referred adolescent population. Recruitment was done in a local school district and surrounding community between December 2015 and March 2016.

The current adaptation, *Just Breathe: Teens Learning to Live Mindfully with Stress and Drama* (R.O. Levitt, personal communication, November 10, 2015) was delivered in a group format for two groups over a six-week period where 3 of the 18 *Mindful Schools* lessons were combined each week.

Feasibility data were collected to examine demand, acceptability, and treatment adherence. Overall there was a 64% treatment completion rate. Treatment adherence (i.e., the components actually completed each week by the group leaders) was 100% for both groups. Following completion of all lessons and study components, treatment acceptability was evaluated. Sixty-four percent of participants reported that they would recommend the adaptation to other teens dealing with stress.

Pre- and posttest measures of stress and depression were administered. Data demonstrated a significant decrease in participants' stress from the time preintervention measures were given and postintervention measures completed [$t(20) = 2.79, p < .05$]. No significant treatment effects were found for depression [$t(20) = 1.71, p > .05$]. Weekly

measures were analyzed for pre- to posttreatment effects as well as with repeated measures. Results indicated a significant increase in participants' well-being from pre- to posttreatment [$t(19) = -2.82, p < .05$] and significant changes over the course of the intervention on weekly well-being scores [$F(5,40) = 3.83, p < .05$]. Weekly ratings of participants' mindfulness also showed significant change from pre- to posttreatment [$t(19) = -3.68, p < .05$] and significant changes over the course of the intervention [$F(5,40) = 4.428, p < .05$]. There was no significant change in practice quality. Potential reasons for this finding are discussed.

Further research is needed in order to draw firmer conclusions, including research that includes more participants and takes into account group factors, specifically intragroup correlation (IGC).

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CHAPTER I

INTRODUCTION

Adolescence and Stress

Adolescence is a time of change in an individual's life: This includes developmental changes such as puberty, school transitions, increasing demands for independence, and changes in social support networks (e.g., Rudolph, 2008). Adolescence is often marked by rapid cognitive and physical growth, all of which denote change which is not always positive. It is also a time when physical, behavioral, and mental health problems often develop, which if left untreated can persist into adulthood (Broderick & Jennings, 2012). Data from the National Institute of Mental Health (NIMH) have shown, for example, that approximately 11% of adolescents suffer from a depressive disorder, which increases as they age (National Institute of Mental Health [NIMH], 2015). Researchers have consistently shown that the period of adolescence results in increased stress in individuals' lives (Ge, Lorenz, Conger, Elder, & Simons, 1994; Mezulis, Funasaki, Charbonneau, & Hyde, 2010; Persike & Seiffge-Krenje, 2012; Rudolph & Hammen, 1999). Results of the most recent Stress in America SurveyTM conducted by the American Psychological Association (APA) showed that today's adolescents experience stress levels that meet or exceed that of adults (American Psychological Association [APA], 2014). According to the APA's report,

Teens report experiencing stress in ways that are similar to adults. They say their stress levels are higher than they believe is healthy, do not appear to understand the impact of stress on their physical or mental health, and report that stress affects their personal relationships. (APA, 2014, p. 34)

Results from this survey further revealed that younger Americans reported higher average levels of stress in the month prior to completing the survey and reported more challenges dealing with stress than did older Americans who were surveyed. Researchers have also found that adolescents report having more stressful life events than younger individuals and are at risk for greater stressful events (or perceptions of stress) throughout their adolescent years if interventions are not provided (Shapero, Hankin, & Barrocas, 2013).

Increased stress, for example, has been shown to lead to more serious problems such as anger, anxiety, and depression (e.g., Grant & McMahon, 2005). Chronic stress is well-established as a risk factor for both externalizing problems and internalizing problems (Grant & McMahon, 2005). Further, chronic stress has been correlated with an increase in subjective health complaints (SHC) (Torsheim & Wold, 2001), increased alcohol use (Cooper, Russell, Skinner, Frone, & Mudar, 1992), and overall adverse health impacts (McEwen, 2004; Torsheim & Wold, 2001). Research with adolescent populations has also shown that stress is a reliable predictor of increased depressive symptoms (Ge et al., 1994; Mezulis et al., 2010; Shapero et al., 2013). Auerbach, Abela, Zhu, and Yao (2010) found that poor coping skills are another major factor in the development of psychiatric problems during adolescence.

Managing Stress in Adolescence

The ability to cope with stressors has been found to be an important safeguard against the development of associated side effects related to stress including anger, anxiety, and depression. Positive coping with stress has also been found to be associated with overall improved adjustment during adolescence (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). While there are a number of evidence-based interventions (EBIs) aimed at teaching social-emotional and coping skills to younger children, relatively few EBIs can be found that are aimed at adolescents (Broderick & Jennings, 2012). Given the many problems that adolescents are faced with today, it is clear that adolescents need to have accessible coping strategies to help them better manage stress.

Over the past 10 years, mindfulness-based interventions (MBIs) have grown in popularity and research has shown that these interventions have been effective in reducing stress in adults, children, and adolescents (Baer, 2003; Burke, 2010; Chiesa & Serretti, 2009; Chiesa & Serretti, 2011; Grossman, Niemann, Schmidt, & Walach, 2004; Klingbeil et al., 2015). Given the fact that studies have shown a rise in the rate of the number and type of stressors adolescents face, and studies that have reported promising results for MBIs, particularly in adults, additional research on mindfulness interventions with an adolescent population is warranted.

Research over the past two decades has shown that a regular mindfulness practice, which is an integral part of MBIs, can reduce symptoms of stress (Brown, Ryan, & Creswell, 2007). Among adults, researchers have shown that the amount of time spent engaged in mindfulness practice is correlated with greater reductions in stress (Specia,

Carlson, Goodey, & Angen, 2000). Researchers have attempted to determine whether certain individuals have higher dispositional or “trait” mindfulness, and if so whether it serves as a protective factor to combat the effects of stress. Ciesla, Reilly, Dickson, Emanuel, and Updegraff (2012), for example, found that less mindful adolescents (i.e., those with lower trait mindfulness) were more vulnerable to the effects of stress. Further, higher trait mindfulness scores were correlated with “less state rumination and dysphoric mood following the occurrence of stressful events” (p. 767). This research suggests that although “mindful” teens appear to experience life stressors to the same degree as “less mindful” teens, mindful teens differ in terms of their response to life stressors.

Brown and Ryan (2003) hypothesized that the link between mindfulness and productive coping or well-being can be explained by two phenomena: (1) mindfulness disengages people from automatic thoughts, habits, and behavior patterns, which in turn can foster informed and self-directed behavioral regulation; and (2) mindfulness adds clarity and vividness to one’s experience, thus contributing to well-being and happiness. Further, mindfulness is not considered a static trait that one either possesses or does not possess; rather, it is a skill that can be developed. According to Bishop et al. (2004), a growing body of research supports the notion of mindfulness as a skill that can be developed and increased through purposeful practice. Consistent with this are findings from current research on MBIs with children and adolescents indicating that participation in this method can lead to increased mindfulness as well as an increased ability to cope with stress (e.g., Zoogman, Goldberg, Hoyt, & Miller, 2015). To this end, the current study was developed to determine how feasible it is to deliver a mindfulness curriculum in an educational setting – that is, a parent education resource center in an urban school

district in the southwest. The curriculum used for this study was an adaptation of the *Mindful Schools* Curriculum for Adolescents titled “Just Breathe” (Levitt, 2015). In addition to studying the feasibility of implementing a mindfulness intervention in a school format, the study examined the effectiveness of the MBI on measures of psychological functioning.

Defining Mindfulness

Mindfulness-based interventions (MBIs) have gained increased attention in the research literature (Singh, 2010), including studies that have integrated mindfulness methods into other techniques. As described in the previous section, mindfulness as a “trait” seems to increase as a result of MBIs, and this, in turn, has been shown to correlate with increased well-being and decreased stress. As to what mindfulness is, simply put, mindfulness is a particular way of paying attention. Jon Kabat-Zinn (2003) provides the following operational definition of mindfulness: “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (p. 145). Baer (2003) describes mindfulness as the “nonjudgmental observation of the ongoing stream of internal and external stimuli as they arise” (p. 125). Mindfulness has been operationalized as consisting of two components: (1) self-regulating attention and (2) adopting an open and accepting orientation towards one’s experiences, often referred to as awareness (Bishop et al., 2004). For the purposes of the current study, *awareness* refers to a subjective experience of internal and external sensory phenomena, whereas *attention* is an active focusing of attention, which allows one to highlight certain phenomena within the experience of awareness (Brown & Ryan, 2004). An important distinction is drawn

between mindfulness as a trait or an outcome (“mindfulness”) and mindfulness as a process, which can be referred to as mindfulness practice. Bluth and Blanton (2014) explain the distinction as follows:

Mindfulness is described as a state or trait in which an individual becomes increasingly aware and attentive in the moment. It may include specific qualities such as acceptance or the ability to describe an inner experience in the moment that it is taking place. Mindfulness practice, on the other hand, refers to a daily time dedicated to practicing techniques which encourage mindfulness. (p. 1299)

Mindfulness practice is a reflective mind-body discipline, comprised of a variety of techniques including breath awareness, mindful movement (e.g., gentle yoga), body awareness, and development of compassion through a technique called heartfulness. Each of these techniques is aimed at increasing mindfulness. The term mindfulness-based intervention (MBI) refers to a program or class designed to teach mindfulness practice techniques, often referred to as “core mindfulness practices” (Burke, 2010). In Table 1 is a description of the components of the core mindfulness practices. It is important to note that although relaxation is often experienced during practice of these techniques, relaxation is not the goal of a mindfulness practice. Kabat-Zinn (2003) explains,

From the outset of practice we are reminded that mindfulness is not about getting anywhere else or fixing anything. Rather, it is an invitation to allow oneself to be where one already is and to know the inner and outer landscape of the direct experience in each moment. (p. 148)

Therefore, if relaxation is present during a mindfulness practice, this is an experience to be felt and accepted. Equally, if anxiety is present during a mindfulness practice, this too is an experience to be felt and accepted. In mindfulness, one experience does not rate as superior or inferior to other experiences simply because it is pleasant or unpleasant. Instead, acceptance is cultivated through a nonjudgmental and nonreactive attitude towards one’s own present-moment experience. Mindfulness practice encourages

an approach of curiosity, openness, and acceptance. This practice can make it less likely that a person will avoid certain emotions, because even the most difficult emotions are no longer perceived as threatening (Bluth & Blanton, 2014).

Shapiro, Carlson, Astin, and Freedman (2006) explain the change process through which mindfulness works. They explain that mindfulness is comprised of intention, attention, and attitude, and affirm that these qualities lead an individual to a gradual shift from a subjective to an objective perspective regarding one's experiences. This occurrence has been called "decentering" (Lau et al. 2006) and "reperceiving" (Shapiro et al., 2006). It is hypothesized that this particular shift in perspective brings about other changes that in turn lead to the positive effects of mindfulness. Bishop et al. (2004) describe those other changes as self-regulation of attention and improvements in cognitive inhibition, and further suggest that mindfulness is a metacognitive process in which one improves one's ability to control cognitive processes and monitor stream of consciousness. Other authors (e.g., Shapiro et al., 2006) observe that this experience of reperceiving leads to self-regulation, values clarification, cognitive, emotional and behavioral flexibility, and exposure. As described by Felver, Doerner, Jones, Kaye, and Merrell (2013), "mindfulness-based practices are postulated to create a fundamental shift in awareness from the content of experience to the objective observation of experience, which in turn affects other related psychological processes" (p. 533).

Mindfulness and Feasibility Studies

Given the fact mindfulness interventions are often delivered in a group format, there are concerns about group design and analysis when conducting effectiveness studies as well as research on acceptability and feasibility. Research on group design over the

past decade has found that group participants tend to interact in ways that lead to violations of the assumption of independence of observations (Baldwin, Murray, & Shadish, 2005). This research has shown that group membership can create dependencies between group members due to a variety of factors including behavioral influence, group attendance rates, and group cohesion or discord. Due to these potential influences, it is difficult to determine the true effectiveness of a group-delivered intervention without sufficient numbers. These researchers asserted that, “any study of a group-administered treatment must deal with the potential inflation of Type I error and possibly low power” (p. 930). One way to address these potential errors is to conduct appropriate feasibility studies to ensure the readiness of the intervention for more formal testing. After taking such measures, researchers are then expected to follow up by conducting RCTs on a larger scale.

The stage model (Onken, Blaine, & Battjes, 1997) asserts the importance of Stage I research and clarifies the scientific nature of this work. At Stage I, a study focuses on “pilot/feasibility testing, manual writing, training program development, and adherence/competence measure development for new and untested treatments” (Rounsaville, Carroll, & Onken, 2001, p. 133). Stage I activities include development of manuals, training of therapists, assessment of therapist adherence, and competence and feasibility testing. A Stage I study is conducted with the aim of developing and implementing an intervention, testing its feasibility, and preparing the intervention for future pilot testing (Stage II) and eventually efficacy testing (Stage III). As proposed by Bowen et al. (2009), initial feasibility studies tend to address eight general areas of focus, which are summarized in Table 2. The current study addresses three of these areas,

which are described in depth later in this chapter. Following is an overview of mindfulness-based interventions (MBIs) in the current literature.

Mindfulness-Based Interventions With Adults

In recent decades, there have been a number of studies examining the effectiveness of mindfulness-based interventions (MBIs) with adults. Research, however, has primarily been focused on clinical populations, including adults with anxiety and depressive disorders. Research on MBIs has gained considerable popularity and researchers are providing increasing support for their efficacy with adults who have a variety of psychological problems. Initial studies, however, were conducted by medical researchers and focused on chronic pain and other health-related outcomes. Existing mindfulness interventions include: mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1990), mindfulness-based cognitive therapy for depression (MBCT; Segal, Teasdale, & Williams, 2002a), acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999) and dialectical behavior therapy (DBT; Linehan, 1993). Currently, MBIs are offered in a variety of settings, including hospitals and clinics, schools, and prisons (Kabat-Zinn, 2003). There is evidence that healthy adults as well as those with significant psychological problems can benefit from MBIs. In adults, for example, benefits have included decreased stress, reduced anxiety and depression, enhanced immune system function, decreased need for certain medications, improved quality of sleep, and increased motivation to make lifestyle changes (Ludwig & Kabat-Zinn, 2008; Ruff & Mackenzie, 2009). Some meta-analyses have shown medium effect sizes (Cohen's $d = .50$ - $.59$) on measures of psychological and physical health (e.g., Baer, 2003; Grossman et al., 2004; and Khoury et al., 2013). According to the results of a meta-

analysis conducted by Khoury et al. (2013), MBIs produced moderate effect sizes across 209 studies; however, the researchers noted significant variability in treatment effect sizes across studies. The researchers asserted that the variability in effect sizes could be explained by differences in specific intervention components used in the interventions, variability in the different research designs, and diversity of the participant populations. It is important to note that Khoury and colleagues addressed these concerns in their meta-analysis by examining the pooled treatment effect size, heterogeneity across studies, and clinical implications across studies. In comparison to other treatments such as supportive therapy, relaxation, psychoeducation, imagery, and art-therapy, MBIs showed small to moderate effect sizes. Only cognitive behavior therapy (CBT) was found to produce superior effects to the MBIs included in the studies (Khoury et al., 2013).

Mindfulness-based stress reduction (MBSR) has been studied more than any other MBI and has been used with a broad range of populations in varied settings over the past 30 years. A clinically-based, manualized method, MBSR incorporates core mindfulness techniques. A description of MBSR techniques is useful here due to the widespread nature of the intervention, as well as its similarity to other mindfulness interventions. The three basic techniques taught in an MBSR intervention are: body scan (the participant gradually scans the body from feet to head and focuses, without judgment, on feelings and sensations that arise); sitting meditation (the participant focuses mindful attention on the breath and maintains nonjudgmental awareness of thoughts and sensations as they arise); and Hatha yoga practice (movement practice which includes breathing exercises, simple stretching exercises and postures designed to strengthen and relax the body; Kabat-Zinn, 1990). In its standard form, MBSR is conducted in a group that meets once a

week for eight weeks (often with an all-day session during week six). At-home practice, or homework, is also expected and encouraged in order for participants to strengthen their personal practice and the effects of the group. Home practice typically includes a sitting meditation practice for at least 10 minutes daily. In addition, home practice can include an effort to respond mindfully to daily events and tasks as they occur. In most studies, the group runs for eight weeks. However, shorter adaptations have been found to be equally as effective as the standard eight-week version (Carmody & Baer, 2009). The finding that shorter groups may be equally effective is promising in terms of cost-effectiveness, time considerations, and scheduling for participants as well as for group leaders and service providers.

The effectiveness of the MBSR group intervention to reduce stress and increase well-being was initially demonstrated in patients with chronic pain (Kabat-Zinn, 1982). In the medical setting, decreased distress or increased well-being has also been shown in patients with cancer (Carlson, Speca, Patel, & Goodey, 2003), heart disease (Tacon, McComb, Caldera, & Randolph, 2003), and fibromyalgia (Weissbecker et al., 2002), as well as in mixed medical populations (Reibel, Greeson, Brainard, & Rosenzweig, 2001). Most existing research has focused on clinical populations; however, a number of studies have shown similar benefits for nonclinical or healthy populations (see Davidson et al., 2003; Williams, 2006). This includes a meta-analytic study by Chiesa and Serretti (2009) showing a significant reduction of stress in healthy populations (analyses that examined nine MBSR studies with waitlist controls and one study with an active treatment control).

Jain et al. (2007) also compared MBSR results to relaxation treatment and showed similar results in terms of stress reduction alone. The same study also examined changes

in ruminative thinking and found that participants receiving MBSR had a more significant reduction in ruminative thinking than those who participated in the relaxation training comparison group. Shapiro, Brown, and Biegel (2007) also found decreased levels of rumination for MBSR participants in their study of the effects of MBSR on therapists in training. According to these researchers, their finding showed evidence for the benefit of MBSR over relaxation training alone.

Following popularization of the MBSR format, subsequent interventions have been developed that utilize a similar format and practices. Mindfulness-based cognitive therapy (MBCT), for example, utilizes the same core practices (see Table 1), and integrates the principles of cognitive behavior therapy (CBT; Chiesa & Serretti, 2011). Not surprisingly, Chiesa and Serretti (2011) found that when MBCT was added to treatment as usual (TAU) there was a significantly lower relapse rate for patients suffering from a major depressive disorder (MDD). This finding is unsurprising given evidence of CBT's efficacy in reducing depressive symptoms alongside evidence that MBSR is effective in reducing stress.

Mindfulness-Based Interventions With Children and Adolescents

In recent years, more researchers have been interested in studying the effectiveness of MBIs with children and adolescents. Results from a recent meta-analysis of 20 studies examining “mindfulness meditation” with children 18 years and younger by Zoogman et al. (2015) showed a primary omnibus effect size in the small to moderate range ($d = 0.227$). These findings showed evidence for mindfulness interventions as superior to an active control condition. It is important to note that this meta-analysis was the first to examine the overall effect of published mindfulness studies with young

people. As described earlier, meta-analytic comparison has been difficult in the area of mindfulness interventions with youth due in part to the wide variability of methods and outcome measures across studies (Burke, 2010; Zoogman et al., 2015). For the purposes of the current study, intervention studies that utilize core mindfulness practices and contain outcome measures of stress, mindfulness, and/or both are described below.

Biegel, Brown, Shapiro, and Schubert (2009) conducted a randomized clinical trial (RCT) to examine potential effects of a mindfulness-based stress reduction (MBSR) adaptation for teens. The group met for a total of eight weekly classes for two hours each time. Results indicated that MBSR was superior to treatment as usual, and group participants showed a significant, large reduction of symptoms in areas of anxiety ($d = .70-.79$), stress ($d = .89$) depression ($d = .95$), and somatic distress ($d = .80$), as well as a significant, moderate increase in self-esteem ($d = .59$).

Tan and Martin (2013) conducted a pilot study of a different adaptation of MBSR for teens. This group met once a week for five weeks for an hour each time. Results indicated that adolescent participants showed a small, significant decrease in psychological distress from preintervention to postintervention ($d = .28$; Tan & Martin, 2013).

Bootzin and Stevens (2005) utilized MBSR in a group format with 55 adolescents presenting with substance abuse disorders and sleep problems, and reported significant reductions in self-reported worry, mental health distress and sleepiness as well as significant improvements in sleep quality. Substance use actually increased during the intervention, but decreased at follow-up for study completers and continued to increase for study noncompleters, but the reason for this finding was not examined. Study

limitations included small sample size, absence of randomization and control group, and reliance on self-report data.

While the aforementioned studies with children and adolescents appear to be adaptations of MBSR, other interventions have emerged and have demonstrated efficacy as well. For example, Zylowska et al. (2007) conducted a “feasibility” study of an 8-week mindfulness awareness practices (MAPs) intervention with participants with ADHD, and noted significant improvements in self-reported ADHD symptoms of adolescent participants.

Fewer studies have focused directly on nonclinical populations of children and adolescents (Black, Milam, & Sussman, 2009; Burke, 2010); however, the research base continues to grow in this area. Broderick and Metz (2009) and Ciarrochi, Kashdan, Leeson, Heaven, and Jordan (2011), for example, found an increase in positive affect and a decrease in negative affect for high school students using MAPs. Huppert and Johnson (2010) found an increase in self-reported well-being for adolescent boys at a British high school following a group-administered MBI.

Implementing Mindfulness in the Schools

Currently, schools face pressure to not only increase academic achievement, but also to focus on social emotional learning (SEL; Jones & Bouffard, 2012). Researchers (e.g., Napoli, Krech, & Holley, 2005; Schonert-Reichl et al., 2015; Semple, Lee, Rosa, & Miller, 2010) have used a variety of MBIs in the schools in order to meet this need. Recent research has focused on integrating mindfulness into K-12 education. Though still emerging, this research has shown promising results in a range of areas, including improvements in working memory, attention, academic skills, social skills, emotional

regulation, self-esteem, self-reported mood, and decreases in anxiety, stress, and fatigue (Meiklejohn et al., 2010). The following is a description of some of the studies that have been conducted in grades K-12.

Flook et al. (2010) conducted a randomized controlled trial (RCT) using the InnerKids curriculum, an 8-week mindfulness-based intervention for children in the second and third grades. The InnerKids curriculum is intended for schools and focuses on breath awareness as well as movement-based practices. The researchers found that the second and third grade participants with lower executive functioning (EF) skills at baseline showed a significant increase in metacognition, behavioral regulation, and overall global executive control after the 8-week intervention. Study limitations included a reliance on parent and teacher report of EF outcome measures rather than objective measures of EF. In addition, parent and teachers were aware that participants were engaging in an intervention.

Schonert-Reichl and Lawlor (2010) utilized a nonrandomized wait-list control trial of a classroom-based mindfulness intervention with students in the fourth through the seventh grade. The intervention included 10 lessons and focused on mindful awareness of senses, positive emotions, goal setting, and self-regulation. In addition, students were taught attention training and mindful breathing. Participants showed evidence of an increase in self-reported optimism, positive affect, and a decrease in externalizing behaviors. Intervention effects on self-concept were demonstrated for preadolescents but not for the older students. The researchers hypothesized that the older adolescent participants would have an increase in self-consciousness and were of the opinion that the introspective practices may have led to a more critical self-evaluation as

compared with the younger participants. The researchers suggest that future studies take into consideration developmental periods when planning interventions and conducting data analysis.

Given the amount of stress that school children experience, there has been considerable interest in the ways that mindfulness might be used to reduce stress. Correlational studies have shown that higher levels of trait mindfulness, which has been shown to increase through the use of MBIs, can result in better coping and less stress. In a study of adolescents attending eight Midwestern schools, researchers used the Mindfulness Attention Awareness Scale for Adolescents (MAAS-A) to determine if this relationship holds (i.e., mindfulness increases coping ability [Brown, West, Loverich, & Biegel, 2011]). Brown and colleagues found that higher scores on a measure of mindfulness were associated with greater happiness, life satisfaction, positive affect, wellness, and self-regulation and negatively correlated with negative affect and substance abuse.

Greco, Baer, and Smith (2011) also found a positive correlation between mindfulness and overall quality of life, and a negative correlation between mindfulness and both externalizing and internalizing problem behaviors in 5th through 10th grade students. In a study with young adult male participants (ages 18-35), Singh (2012) found short-term effects of meditation on baseline stress and reactivity to an imposed stressor (i.e., meditating for 15 minutes following an imposed stressor reduced stress and reactivity). In the long term (for those that practiced daily meditation for one month), there was evidence for improved cognitive functioning in addition to a decrease in stress. Findings from this research suggest that the practice of meditation may actually help

reverse the effects of stress in this population and is likely to benefit individuals in both the short- and long-term.

A study by Barnes, Bauza, and Treiber (2003) examined the effect of a 4-month long transcendental meditation program on the school behavior of 45 African American adolescents with high normal blood pressure. Participants in the meditation program showed a significant decrease in rule infractions, absenteeism, and suspension as compared with a control group. These findings provide strong support for the effect of MBIs on school behaviors in addition to support for decreasing stress (findings that have implications for educators and policy makers.)

Napoli et al. (2005) utilized an intervention called the Attention Academy Program, which integrated mindfulness exercises and activities designed to increase sensorimotor awareness. A total of 194 participants were included in the study analyses, 97 in the intervention group and 97 in the comparison group. The program met bi-monthly during a physical education period for first, second, and third grade students. After a period of 24 weeks, students who participated in the intervention showed a greater increase on measures of attention and social skills, and a greater decrease in test anxiety as compared with children who did not participate. The authors asserted that “even with the increase in stress and overload of incoming information, students can still benefit from mindfulness training by dealing with stress more effectively and increasing their ability to focus” (Napoli et al., 2005, p. 100). In addition, the authors made a strong argument for teachers, assistants, psychologists, and other school personnel to be trained in mindfulness interventions, citing the ease of accessing information regarding mindfulness in order to develop one’s own practice as well as the ease of training in

certain programs, including theirs.

The current dissertation study utilizes the *Mindful Schools* curriculum. There have been three published studies to date that used the *Mindful Schools* curriculum as the mindfulness intervention. In the first, Liehr and Diaz (2010) conducted a pilot study examining the effect of the intervention on ethnic minority children attending a summer camp ($n = 18$). The comparison group was comprised of children receiving health education. Results indicated a more significant decrease in depressive symptoms for children receiving the *Mindful Schools* intervention as compared with those receiving health education.

Black and Fernando (2014) conducted a study of 409 elementary school children across 17 classrooms at one elementary school in Richmond, CA. The school was comprised mainly of ethnic minority children from low-income households. Teachers were asked to complete ratings of student behaviors over the 5-week *Mindful Schools* intervention period, and again at seven weeks postintervention. Results indicated significant improvements in all four behavioral domains including attention, respect, self-control, and participation. Further, these results were maintained at the 7-week postintervention follow-up assessment. Black and Fernando (2014) posited that the maintenance of scores at follow-up may have been affected by teachers' continued implementation of the learned mindfulness skills after the 5-week intervention period.

Hesse, Holmes, Kennedy-Overfelt, Kerr, and Giles (2015) utilized an adaptation of the *Mindful Schools* Curriculum for Adolescents similar to the current adaptation. The population was adolescent females with chronic headaches and the intervention was not conducted in the schools. The group met at a children's hospital for two hours a week

over eight weeks. Each week's lesson combined three of the *Mindful Schools* lessons, plus expanded time for practice and discussion. As an addition to this group, participants were encouraged to discuss how the practices might be beneficial in ways directly related to headaches, as well as other potential benefits. Participants also engaged in home practice, which was monitored through the use of a practice journal. Results indicated support for the feasibility of this study. Additionally, participants reported an increased ability to accept their pain from headaches, and parents reported improved quality of life and physical functioning for their adolescents.

Need for Further Study With Adolescents

Despite a growing number of studies on mindfulness, research with children and adolescents has been minimal (Bluth & Blanton, 2014). The majority of these studies have focused on clinical populations and many have methodological problems that make comparisons among studies difficult. Although Burke (2010) conducted a review of mindfulness-based interventions with children and adolescents, the researcher was unable to calculate an overall effect size or conduct a meta-analysis due to significant variability in methodologies and data reporting across studies. Despite this, Burke concluded that available research provides a “reasonable base of support for the feasibility and acceptability of mindfulness-based approaches that include core mindfulness meditation practices with children and adolescents” (p. 142). Further studies pertaining to the acceptability and feasibility of mindfulness interventions are necessary in order to advance research in this area. For interventions with established acceptability and feasibility, Burke recommends large-scale RCTs be conducted across different age groups and populations (Burke, 2010). In line with these recommendations, the proposed

study has been conducted primarily as a feasibility study.

The *Mindful Schools* Curriculum for Adolescents used in the current dissertation study is distinct and separate from the K-5 Curriculum which was used in other studies (e.g. Black & Fernando, 2014; Liehr & Diaz, 2010), although it teaches the same core mindfulness components. The current adaptation is similar to the adaptation in the Hesse et al. (2015) study and the current adaptations were made in collaboration with one of the study authors, V.K. Overfelt (V.K. Overfelt, personal communication, August 2015). Unlike previous studies, the current study was conducted with a community-referred group of adolescents in a nonclinical setting, that is, a parent education resource center operated through an urban school district. Other adaptations included multiple (3) lessons from the curriculum taught at each weekly session, the addition of increased time for extended practice and discussion, the practice of mindful movement during each weekly session, and the addition of a new technique (“The ABC Technique”) created by the group leader. Specific adaptations are detailed later in Chapter II. These adaptations were made primarily to address the issue of the lack of group after-school interventions for this age group. In addition, adaptations were made specifically to the setting in order to accommodate the scheduling of concurrent groups and the school district schedule.

Purpose of the Study

The current study was designed to determine the feasibility of a group-administered mindfulness-based intervention (MBI) in a self-referred adolescent population. Additionally, it examined whether the intervention had any effect on self-reported stress, depression, well-being, mindfulness, and whether quality of practice was related to any possible effects.

While research in the area of mindfulness interventions is growing, more research is needed on the adaptations of mindfulness interventions for children and adolescents (Bluth & Blanton, 2014). Further, most studies that include children and adolescents to date have focused on clinical or specialized populations, rather than nonclinical or community populations. Given that the teenage years are a time of increased stress, the current study aimed to provide teens in the local community with new coping skills in the area of mindfulness with the intent of helping them learn better ways to cope with stress. While there are a number of available programs designed to teach mindfulness skills, to our knowledge there are none currently adapted for an afterschool, group setting. In addition, many available programs require extensive training and are not accessible to school personnel without that extensive training (i.e., MBSR).

The current study is an adaptation of the *Mindful Schools* Middle and High School curriculum (www.mindfulschools.org). This curriculum was chosen for adaptation to the current form due to its specific focus on adolescents. The curriculum is typically intended for use in a classroom setting. *Mindful Schools* is a widely used curriculum; according to their website, the *Mindful Schools* curriculum has reached “more than 300,000 pupils” as well as educators in 43 countries and 48 states, and was recently featured in a TIME magazine cover story (Fernando, 2014). The current literature search found three studies that used the *Mindful Schools* intervention (Black & Fernando, 2014; Hesse et al., 2015, Liehr & Diaz, 2010). One of the studies (Hesse et al., 2015) utilized an adapted version of the *Mindful Schools* curriculum for adolescents, however the study focused on a clinical population of adolescent girls with chronic headaches. There have not been feasibility studies using the adolescent curriculum in an

afterschool setting, nor have studies examined the preliminary effectiveness of the curriculum with a self-selected community population.

Mindful Schools requires that instructors are trained in the *Mindful Schools* curriculum, and also that instructors have an established mindfulness meditation practice of their own. Training can be done completely online, and is accessible to professionals at all levels. As with many such interventions, the importance is placed on the “spirit of mindfulness” rather than on the operationalization of any particular technique. Although the intervention used in this study followed the outlined curriculum, it was equally important to recognize the need for flexibility when using these interventions in order to allow for participants to be engaged and provide feedback. In the words of John Kabat-Zinn (2003), the techniques themselves,

however important and essential, which they are, are also merely launching platforms or particular kinds of scaffolding to invite cultivation and sustaining of attention in particular ways. They are the menu, so to speak, not the meal; the map, rather than the territory... (p. 147)

In other words, the mindfulness practices aim to allow participants to have an experience of mindfulness. The way in which each individual reaches that experience may differ from person to person, with some participants responding more favorably to different practices throughout the intervention.

The current study is intended to advance the literature on mindfulness in several ways. The first is by examining the ease of implementation of the adapted curriculum in a public school district. Current critiques of mindfulness-based interventions for children and adolescents have focused on the need for more accessible interventions that can be accessed in public education and related settings (Meiklejohn et al., 2010). The current research, therefore, aims to further this goal. Given that public schools are easily accessed

and likely a consistent setting in the lives of many adolescents, the school system may be an ideal environment in which to provide services, including mindfulness-based interventions. Specifically, afterschool programs may be a suitable fit for these interventions in that it does not detract from class time and may allow participants a greater sense of anonymity outside of their typical social environment.

In order to address aforementioned concerns regarding group research (Baldwin et al., 2005; Bowen et al., 2009) this study will examine the feasibility of group delivery. Pre- and postintervention data analyses, however, were also conducted to explore the effectiveness of the intervention on adolescents' stress, depression, distress/well-being, mindfulness, and practice quality of adolescent participants. The current study is categorized as a Stage I (feasibility) research study based upon the proposed stage model of behavioral therapies (Onken et al., 1997) and is intended to address the following areas: acceptability, demand, and implementation. The rationale for each proposed area of study is outlined below:

- **Acceptability:** The current curriculum is adapted from the *Mindful Schools* curriculum and it is unknown whether participants will respond favorably to the intervention in its current form. Acceptability was assessed through participant satisfaction questionnaires.
- **Demand:** It is unknown whether there is a demand for this type of intervention in the present setting. Demand was assessed with number of potential participants and retention rate.
- **Implementation:** It is unknown whether the current adaptation of the curriculum can be delivered as designed and proposed within the current setting.

Implementation was assessed using a treatment integrity checklist.

Given that findings from this feasibility study found evidence that this adaptation of the *Mindful Schools* curriculum can be implemented with fidelity, can retain group members, and is considered beneficial to group participants, future studies should aim to examine its efficacy on a larger scale.

Research Questions

1. Will the majority of the participants rate this adaptation of the *Mindful Schools* curriculum as acceptable?
 - This question was examined using the Participant Satisfaction Survey (see Appendix A) and the percentage of participants who rated the group as acceptable. Acceptable is defined as the majority of participants rating the group as at least satisfactory (3/5 or 60% overall). In addition, participants' answers to the open-ended questions were reported qualitatively.
2. Will the majority of participants enrolled in the Just Breathe group complete the intervention?
 - This question was examined using the percentage of initial enrollees who complete the group. Group completion is defined as completing at least four out of six classes, including the last class.
3. What was the percentage of adherence to the treatment protocol by the group leaders?
 - This question was examined using the Treatment Integrity Checklist (see Appendix B).

Supplemental Research Questions

The following research questions were intended to examine potential changes from pre- to posttreatment and over the course of the intervention.

1. Do participants show evidence of decreased stress from pre- to posttreatment?
 - This question was examined using the *Perceived Stress Scale* (PSS-10; Cohen, Kamarck, & Mermelstein, 1983). A paired samples *t* test was used to determine whether there was a significant decrease in PSS-10 scores at the .05 level of significance.
2. Do participants show evidence of decreased depression from pre- to posttreatment?
 - This question was examined using the *Patient Health Questionnaire* (PHQ-9; Kroenke, Spitzer, & Williams, 2001). A paired samples *t* test was used to determine whether there was a significant decrease in PHQ-9 scores at the .05 level of significance.
3. Do participants show evidence of an increase in well-being over the course of the intervention?
 - This question was examined using the *Outcome Rating Scale* (ORS; Miller, Duncan, Brown, Sparks, & Claud, 2003). A paired samples *t* test was used to determine whether there was a significant increase in ORS scores at the .05 level of significance. In addition, a one-way repeated measures ANOVA was conducted to compare the differences in mean reported well-being scores across the six different sessions.
4. Do participants show evidence of an increase in self-reported mindfulness over

the course of the intervention?

- This question was examined using the *Child and Adolescent Mindfulness Measure* (CAMM; Greco, Baer & Smith, 2011). A paired samples *t* test was used to determine whether there was a significant change in CAMM scores at the .05 level of significance. In addition, a one-way repeated measures ANOVA was conducted to compare the differences in mean reported mindfulness scores across the six different sessions.

5. Do participants show evidence of an increased in practice quality over the course of the intervention?

- This question was examined using the *Practice Quality- Mindfulness* (PQ-M; Del Re, Fluckiger, Goldberg, & Hoyt, 2013). A paired samples *t* test was used to determine whether there was a significant change in PQ-M scores at the .05 level of significance. In addition, a one-way repeated measures ANOVA was conducted to compare the differences in mean reported practice quality scores across the six different sessions.

6. Are potential changes in measures of stress and depression related to changes in practice quality over the course of the intervention?

- Findings indicated that there were no significant changes in practice quality over the course of the intervention. Therefore this question was not examined.

Table 1 Core Mindfulness Practices

Practice	Description
Body Scan Meditation	A supine meditation in which the participant is guided to bring nonjudgmental awareness to each part of the body in succession. Considered a “formal” mindfulness meditation method.
Sitting Meditation	A seated meditation in which the participant is guided to bring nonjudgmental awareness to one or more of the following: breath, body, feelings, thoughts, and emotions. Considered a “formal” mindfulness meditation method.
Hatha Yoga	Gentle body movements derived from the Hatha yoga tradition, practiced with mindful awareness of the body. Considered a “formal” mindfulness meditation method.
Walking Meditation	A standing/moving meditation in which the participant is guided to bring awareness to the sensations the body experiences while walking. Considered a “formal” mindfulness meditation method.
Informal Mindfulness Practices	An everyday practice in which the participant is encouraged to bring mindful awareness to his or her routine activities and events, such as observing weather, eating, driving, walking, and communicating.

Note: Adapted from Kabat-Zinn (1996)

Table 2 Focus Areas of Feasibility Studies

Area of Focus	Description
Acceptability	This relatively common focus looks at how the intended individual recipients react to the intervention.
Demand	Demand for the intervention can be assessed by gathering data on estimated use or by actually documenting the use of selected intervention activities in a defined intervention population or setting.
Implementation	This research focus concerns the extent, likelihood, and manner in which an intervention can be fully implemented as planned and proposed, often in an uncontrolled design.
Practicality	This focus explores the extent to which an intervention can be delivered when resources, time, commitment, or some combination thereof are constrained in some way.
Adaptation	Adaptation focuses on changing program contents or procedures to be appropriate in a new situation. It is important to describe the actual modifications that are made to accommodate the context and requirements of a different format, media, or population.
Integration	This focus assesses the level of system change needed to integrate a new program or process into an existing infrastructure or program. The documentation of change that occurs within the organizational setting or the social/physical environment as a direct result of integrating the new program can help to determine if the new venture is truly feasible.
Expansion	This focus examines the potential success of an already-successful intervention with a different population or in a different setting.
Limited-efficacy testing	Many feasibility studies are designed to test an intervention in a limited way. Such tests may be conducted in a convenience sample, with intermediate rather than final outcomes, with shorter follow-up periods, or with limited statistical power.

(Bowen et al., 2009, p. 453)

CHAPTER II

METHODS

Recruitment and Selection

The current dissertation study was approved by the Institutional Review Board (IRB) at the University of Utah on 11/10/2015 (IRB #00087262). In addition, review board approval was sought and obtained from the school district in which the study took place. Participants were recruited from December 2015 – April 2016, with the first intervention group beginning in January 2016 and the second group beginning in March 2016.

As principal investigator (PI) of this study, I recruited participants from a public school district in the Salt Lake City area. Flyers with information about the group (see Appendix H) were distributed electronically via email and via US postal service mail to school psychologists, who were asked to distribute the flyers to interested students for whom they were aware stress may have been an issue. In addition, flyers were distributed to local psychologists and yoga and mindfulness instructors, and were posted at the University of Utah. Information listed on the flyer encouraged parents of interested participants to contact the Principal Investigator (PI) of the study via the email address and phone number listed on the flyer. Interested families who responded to the inquiry were contacted via telephone by the Principal Investigator (PI) of the current study and

asked several brief screening questions in order to determine if they met initial inclusion criteria for participation (see Appendix I). Participants who met initial inclusion criteria and who agreed to participate in the study prior to the start of the first intervention group were admitted into the first group. Those who met criteria and agreed to participate in the study after the start of the first group were admitted into the second group. A total of 58 families contacted the PI and were interested in participating in the study. Of those 58, 2 were not yet in middle school and were referred to their school counselor for other treatment options. Two noted distance as a factor and were not able to provide transportation to and from the group. Six families who expressed initial interest did not respond to follow-up phone calls or emails. Figure 1 outlines the recruitment and selection of participants in the current study.

Participants

In order to be included in the study, participants must have been currently attending middle or high school. They were excluded from the study if they had previously participated in a group mindfulness intervention. Twenty-two participants signed up for the first group, 16 of whom attended the first meeting and 15 of whom consented and participated in the first week. A total of 10 participants completed group one. Twenty-six participants signed up for the second group, 18 of whom consented and attended the first week. One participant consented and joined for the second week and was included in the data. A total of 11 participants completed Group 2. Of those that did not complete the intervention, 1 participant declined to sign assent, 5 participants dropped out after week 1, 5 participants completed at least 4 sessions but did not attend the final session, and 3 participants attended 3 or fewer sessions.

There were a total of 30 initial participants in the Just Breathe group, and a total of 21 treatment completers included in the data analysis. Ten participants completed Intervention Group 1, and 11 participants completed Intervention Group 2. The two groups utilized identical procedures and the same curriculum. Participant characteristics are summarized here by combining demographic information from both groups. The mean age of participants was 14.09 years old, with a standard deviation of 1.34 years. Fifteen of the participants identified their race as Caucasian, three as African American, two as multiracial (Caucasian and Hispanic/Latino), and one as Hispanic/Latino. There were more female (71%) participants than male (29%) participants in the groups. Participants endorsed the following mental health diagnoses: Anxiety (6), Depression (7), Attention Deficit Hyperactivity Disorder (ADHD; 5), Obsessive Compulsive Disorder (OCD; 1), Mood Disorder (1), and Tourette Syndrome (1). Participant characteristics are summarized in Table 3 for combined groups and Table 4 for Group 1 and Group 2 separately. Please note that one participant declined to answer information regarding mental health diagnoses, medication status, and counseling. That participant's information is not included in those data, which are included in the second section of Table 3 and Table 4.

Setting and Procedures

Study procedures for Intervention Group 1 and Intervention Group 2 were identical with the exception of the time period during which the groups took place. Group 1 met between January and March 2016, and Group 2 met between March and May 2016. Consent, assent, and study procedures took place at a counseling center within a public school building in the Salt Lake City area. Parent(s) and adolescents met with the PI prior

to the start of the group and were provided with a description of the study, and had time to ask questions and decide whether to participate in the study. At least one parent or guardian provided permission for each adolescent to participate in the study, and adolescents provided informed assent. After permission and informed assent were obtained, parents completed a Demographic and Background Questionnaire (see Appendix J). While parent(s) completed the questionnaire, adolescent participants were asked to complete the Perceived Stress Scale (PSS-10; Cohen et al., 1983) and the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001) as measures of preintervention stress and depression. These measures were administered to participants following the treatment phase of the intervention in order to obtain post-treatment measures of stress and depression. At the beginning of each of the 6 group sessions, adolescent participants completed the Child and Adolescent Mindfulness Measure (CAMM; Greco et al., 2011) and the Outcome Rating Scale (ORS; Miller et al., 2003) in order to obtain weekly ratings of mindfulness and distress/well-being. At the end of each of the six group sessions, participants completed the Practice Quality-Mindfulness (PQ-M; Del Re et al., 2013) in order to monitor practice quality over the course of the intervention. Figure 2 diagrams the study procedures for all participants in each of the two groups. All participants completed pre- and posttreatment measures of stress and depression. Due to sporadic attendance for some participants, not all participants completed the weekly measures each week. However, in order to be counted as a treatment completer, participants must have attended four out of six group sessions. Therefore each participant completed at least four sets of the weekly measures. The PI who served as group co-leader completed a measure of treatment integrity directly after each weekly session.

Participants were not offered any compensation or incentive for completing the study, and the study and all of its components were completely voluntary. Participants were assigned an alphanumeric study identification number and all study data were linked to this number. All personal identifiers were removed from the data in the analyses. The questionnaires were securely stored in a locked file cabinet, and the deidentified data were securely stored on a password-protected laptop computer.

Six-Week Adapted *Mindful Schools* Intervention

The present intervention program was derived from the *Mindful Schools* Middle and High School curriculum. It was adapted for implementation over a 6-week period, with permission from the *Mindful Schools* program. The original *Mindful Schools* intervention is designed for implementation in a classroom setting and has 18 15-minute lessons for weekly or biweekly use. The present adaptation combined multiple (3) lessons from the program for each week's 2-hour lesson in an effort to create more comprehensive lesson plans for use in a small, after-school group rather than a classroom setting. The *Mindful Schools* curriculum includes (a) didactic material related to the mindfulness practice; (b) experiential practice of formal mindfulness practices including the body scan, sitting, movement, and walking meditations (core mindfulness practices), and informal mindfulness practices that intentionally bring mindful awareness to everyday activities; and (c) group discussion/journaling about the practice, and problem-solving related to integration of the practice into daily life. The specific intervention components are described in Table 5, and the mindfulness practices are described in Table 6.

The introduction of the *Mindful Schools* Curriculum for Adolescents provides a

rationale for a mindfulness practice, gives a working definition of mindfulness, and discusses the relevance of a mindfulness practice to a teen's life. In addition, aspects of the sitting posture are discussed in the introduction.

Lesson 1 involves a short visualization exercise during which participants imagine a variety of emotions they may have had over the past day, and involves the opportunity to reflect on their reactions to these emotions. Then, participants engage in a short meditation in which their attention is directed to different sounds in the room. This meditation is designed to teach participants how to start to direct their attention to one thing at a time.

Lesson 2 is a guided discussion regarding the concept of a "response" in comparison to a "reaction." Following the discussion, participants are introduced to an awareness of breath meditation, during which their focus is directed again and again back to the breath.

Lesson 3 is an introduction to the "heartfulness" practice during which participants are asked to send kind wishes to a person in their life while they sit silently through the guided sequence.

Lesson 4 draws attention to and asks participants to be mindful of their thoughts.

Lesson 5 introduces a discussion about noticing and observing emotions, and revisits the practice of guided breathing, this time guiding participants to count their breaths as they breathe in and breathe out.

Lesson 6 could be best described as a lesson in "decentering," during which participants are guided to "step back" from over-identifying with thoughts and feelings and instead labeling those thoughts and experiences. A discussion follows.

Lesson 7 introduces the mindful eating practice, which is common to many MBIs, including MBSR. During mindful eating, participants are handed a raisin and are guided through the process of truly experiencing the raisin with all of their senses rather than eating it on “autopilot.”

Lesson 8 explores our connection to others through a metaphor and discussion, followed by a heartfulness practice (described previously), this time for a “difficult person” in their lives. Reflection/discussion follow.

Lesson 9 draws attention to a tendency to worry about the future or ruminate on the past. Through a guided meditation, participants are asked to become “present” again and again, and to notice whether their tendency guides them towards the past, future, or present when practicing mindfulness.

Lesson 10 provides an opportunity to deepen the practice of mindful breathing, with the additional component of body awareness.

Lesson 11 revisits a discussion of emotions in the body as demonstrated by the poem “The Guest House” by Rumi. After a discussion, participants are asked to lie on the floor and are guided through the body scan practice. In the body scan practice, attention is moved from one part of the body to another in succession. This practice can seem similar to a progressive relaxation practice.

Lesson 12 provides an opportunity for participants to practice heartfulness and potentially to generalize the heartfulness practice to home and school. Participants are asked to visualize themselves going through an entire day with heartfulness in mind. This is followed by a discussion about the difference between the visualized day and their actual day.

Lesson 13 begins with a discussion about judgment, supported by a Chinese proverb about luck. After the discussion, participants are led through a body scan meditation and are encouraged to notice rather than judge sensations in the body as they come and go.

Lesson 14 teaches an activity called mindful walking. During this activity, participants slowly move about the room while walking slowly and noticing body sensations as they come and go. The emphasis is on noticing and allowing rather than “getting somewhere.”

Lesson 15 revisits heartfulness, this time for oneself. Discussion follows regarding the importance of self-care in order to be able to help others.

Lesson 16 revisits mindfulness of emotions and adds awareness of breath as a coping skill. That is, participants are asked to recall a variety of emotions. When the emotions become overwhelming or take over the focus, participants are guided back to the breath.

Lesson 17 allows for engagement between group members as they explore mindfulness in conversation. Participants practice engaged, reflective listening skills and notice the feelings that arise while in communication with another group member. The group is given the opportunity to reflect on how this method of communication may differ from what they are used to.

Lesson 18 provides an opportunity to reflect on things participants are grateful for in their lives. Discussion follows regarding the positive effect of choosing to focus on that for which we are grateful.

Current adaptations to the existing *Mindful Schools* curriculum (described in

Table 7) included the following: In order to clarify group goals and expectations, two documents were created by the primary investigator and were distributed to group members (“Participant Expectations;” See Appendix K) and parents (“Parent Information Sheet;” See Appendix L). Participants were encouraged to commit to 10 minutes of daily practice at home as homework. The longer 2-hour format allowed for the 18 *Mindful Schools* lessons to be taught over the course of the 6-week group, and allowed time for more in-depth practice and discussion. For example, the original *Mindful Schools* intervention allows for sitting practices that range between one and three minutes in length, and the adapted intervention allowed for expanded practice times ranging from three to five minutes or longer. In addition to the above adaptations, the current adaptation included a weekly mindful movement practice, which alternated weekly between gentle yoga and Qi Gong. A mindful movement practice (often “hatha yoga) is considered a core component of MBIs. It was added to the current intervention in order to better align the current adaptation with other group-administered MBIs, as well as to allow for a break between sitting practices.

One final adaptation was the addition of the “ABC Technique” (Levitt, 2015) which was developed by the group leader and combines aspects of mindful breathing, mindful movement, and a cognitive approach (see Appendix M). The ABC Technique was integrated into the curriculum and built on a discussion exploring response versus reaction, and ways mindfulness can help build space to respond rather than react. The ABC Technique is designed for times when one may be stressed or worried, and consists of the following steps: “A” stands for “A mindful breath,” during which participants are encouraged to direct their attention to one full breath in the present moment. “B” stands

for “Both words and tapping,” and describes a grounding or centering technique during which participants ground their thumbs on their legs while the other four fingers are free. As participants speak a positive, 4-syllable phrase, they gently place one finger after another onto the legs, until the entire hand is flush with the leg. Some example of positive 4-syllable phrases are “I am okay,” “I can do this,” and “I am here now.” Lastly, “C” stands for “Choose wisely.” During this step, participants are encouraged to make a wise choice or a “choice that benefits oneself and others” (Levitt, 2015, p.2). During the Just Breathe class, participants practiced this step by imagining a difficult situation, and describing a “wise choice” they would make in response to the situation. This practice was taught during the Week 3 lesson for both groups, and was reviewed during the final three group sessions. The ABC Technique was added to the current intervention in part to allow for consistency at the current location, where the technique had already been integrated into the curriculum. The technique also provided an additional “focus of attention” for the practice in addition to the breath, movement, conversation, eating, etc.

Group Leader Training

The principal investigator (PI) of this study served as co-leader for the Just Breathe group. As suggested by Kabat-Zinn (2003), those who lead mindfulness interventions should have a strong background in mindfulness as well as a daily personal mindfulness practice. Both the group leader and co-leader (and PI) for this study met these suggested requirements. The PI is a doctoral school psychology graduate student with three years of experience working in the public schools. The PI is also a registered yoga teacher (RYT) and completed the *Mindful Schools* curriculum training (and received permission to conduct the current research using the *Mindful Schools*

curriculum). In addition, the group leader is a doctoral level licensed psychologist and registered yoga teacher (RYT) who completed the *Mindful Schools* curriculum training. Both the group leader and the PI had run the exact adaptation of this group at least 5 times prior to the start of the current study. A graduate student assistant was present during group sessions to assist with documentation and group management, but did not run the groups.

Instruments

Participant satisfaction was assessed postintervention, while integrity of implementation was assessed during program implementation. In addition, the proposed study provided exploratory data analysis to assess whether participants showed evidence of changes in the areas of perceived stress and depression (pre- and postintervention), distress/well-being, mindfulness, and practice quality (weekly, over the course of the intervention). See Table 8 for an overview of study measures used for data analysis.

Primary Dependent Variables

Treatment Integrity

A checklist was developed by the principal investigator and was used in order to determine that group leaders implemented the intervention as intended (see Appendix B). The checklist includes the individual components of each *Mindful Schools* lesson as well as three additional questions that ask if group leaders encouraged group discussion, related group activities to the didactic lessons, and encouraged participation from all group members.

Participant Satisfaction

A study-derived survey was used for the purposes of assessing adolescent satisfaction with the Just Breathe intervention (see Appendix A). Participants completed the survey upon completion of the intervention. The survey addressed both satisfaction with and feasibility of the group intervention, and asked participants to rate their experience on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). Furthermore, the survey addressed participants' impressions of the Just Breathe program's impact on perceived stress and mindfulness, and whether they would recommend the group to other teens. In addition, there was an open-ended question that asked participants to describe the best and worst things about the group. This survey took about 5 minutes to administer.

Participant Retention

Prior to the intervention, participant recruitment was tracked on a list kept by the PI. The list documented the number of inquiries (via phone or email) about the group as well as number of participants enrolled. Throughout the intervention, participant attendance was tracked on an attendance form. Group completion was defined as participants attending at least four out of six group meetings, including the final group meeting.

Supplemental Dependent Variables

Demographic and Background Information

Parents of participants completed a questionnaire (see Appendix J) designed to gain relevant background information. Requested information included participant's

gender, age, and ethnicity. Psychological treatment history was also requested, including whether the participant had ever been diagnosed with a psychiatric disorder and/or history of substance use. Prescribed psychiatric medications and participation in counseling or psychological treatment of any kind were recorded (e.g., if ever had cognitive behavior therapy, mindfulness interventions, and/or substance treatment). In addition, parents were asked about their own familiarity with mindfulness interventions and any practice of mindfulness by themselves or anyone else in the family, including the participant. This questionnaire was completed by parents and took about 10-15 minutes to complete. One parent declined to answer questions about the adolescent participant, per adolescent participant request. Therefore this participant's demographic data is not included in the study.

Perceived Stress

Stress was measured using the 10-item version of the Perceived Stress Scale (PSS-10). The PSS-10 is a self-report measure designed to assess the extent to which one finds events in his or her life to be stressful (Cohen et al., 1983). The PSS-10 was designed for use by individuals with at least a middle school education, and is “especially appropriate in studies investigating factors influencing or influenced by stress appraisal” (Cohen & Williamson, 1988, p. 37). It is a widely used instrument for measuring the perception of stress. The PSS-10 asks about thoughts and feelings during the last month, and participants rate their responses on a 5-point scale from *Never* (0) to *Very Often* (4). The PSS was found to have adequate internal reliability, with an alpha coefficient of .78. In addition, Cohen and Williamson (1988) showed correlations between scores on the PSS-10 and measures of stress, health behaviors, smoking status, and help-seeking

behaviors. Mean score on the PSS-10 for the normative sample of young adults (ages 18-29) was 14.2 with a standard deviation of 6.2. For students, the mean score was 15.3 with a standard deviation of 6.6. The PSS-10 has been used in recent mindfulness studies examining the effects of MBIs on adolescent participant stress (e.g., Biegel et al., 2009). In the current study, the PSS-10 was administered to participants prior to the start of the intervention and again after completion of the intervention.

Depression

Depression was measured using the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001), a self-report depression severity measure often used as a screener in healthcare settings. The PHQ-9 aids in criteria-based diagnosis of depressive disorders. Scores of 5, 10, 15, and 20 are correlated with diagnoses of mild, moderate, moderately severe, and severe depression, respectively. The PHQ-9 demonstrated excellent criterion validity with a Cronbach's alpha of .89 in the initial study with primary care patients. Test-retest reliability was found to be .84 between clinic ratings and over-the-phone ratings conducted 48 hours later. The PHQ-9 has been validated for use with adolescents (Allgaier, Pietsch, Fruhe, Sigl-Glockner, & Schulte-Korne, 2012). In their study examining the criterion validity of the PHQ-9 as a depression-screening instrument for adolescents, Allgaier, Pietsch, Fruhe, Sigl-Glockner, and Schulte-Korne (2012) found that the PHQ-9 demonstrated high criterion validity. Dimensional scoring (used in the present study) yielded excellent diagnostic accuracy, with sensitivity of 90.0% and specificity of 86.5%. In the current study, the PHQ-9 was administered to participants prior to the start of the intervention and again after completion of the intervention.

Distress/Well-Being

Distress or well-being was measured using the Outcome Rating Scale (ORS; Miller et al., 2003). The ORS is a brief visual analog measure. The ORS assesses three areas of client functioning: individual, relational, and social. Miller et al. (2003) asserted that these three areas are “widely considered to be valid indicators of successful treatment outcome” (as cited in Kazdin, 1994; Lambert, Burlingame, et al., 1996; Lambert & Hill, 1994). In addition, there is a fourth area which rates “overall” functioning. The initial study of the reliability, validity, and feasibility of the ORS found evidence of high internal consistency (coefficient alpha for all administrations was .93), moderate concurrent validity between the ORS and the OQ-45.2, and sensitivity to change in clients receiving intervention. In addition, the brief measure was considered feasible to administer, given a compliance rate of 86% after one year of use in a clinical setting. Test-retest reliability was .66 at the second administration, .58 at the third administration, and .49 at the fourth administration. These numbers were lower but the authors posited that this may be due to the fact that the scale is meant to be sensitive to change, therefore the lower ratings may reflect sensitivity of the measure. Normative data for nonclinical populations showed a mean overall score of 28 with a standard deviation of 6.8. For clinical population, the mean score was 19.6 with a standard deviation of 8.7. In the current study, the ORS was administered weekly to participants prior to the start of the group session.

Mindfulness

Mindfulness of participants was measured using the Child and Adolescent Mindfulness Measure (CAMM; Greco et al., 2011). The CAMM was developed in

response to the lack of mindfulness measures for children and adolescents. It includes 10 items which are reverse-scored and assess lack of awareness of ongoing activity and judgmental or avoidant responses to thoughts and feelings. It has a single factor structure. The scale has internal consistency (coefficient alpha) of .80, with factor loadings of the individual questions ranging from .24 (“It’s hard for me to pay attention to only one thing at a time”) to .66 (“I think that some of my feelings are bad and that I shouldn’t have them”). The CAMM has been shown by recent independent research to be a developmentally appropriate measure and to have acceptable internal validity (de Bruin, Zijlstra, & Bogels, 2014). In validity studies, scores on the CAMM were found to correlate significantly and positively with favorable outcomes (e.g. quality of life and academic competence) and negatively with adverse outcomes (e.g. internalizing symptoms and externalizing behavior problems). The normative sample of students in grades 5-10 demonstrated a mean score of 22.73 and a standard deviation of 7.33. The CAMM has been used in a number of recent mindfulness studies with children and adolescents (e.g., Tan & Martin, 2013). In the current study, the CAMM was administered weekly to participants prior to the start of the group session.

Practice Quality

Practice quality was assessed with adolescent self-report on the Practice Quality-Mindfulness (PQ-M; Del Re et al., 2013) measure. An exploratory study of the PQ-M demonstrated that participants in MBSR significantly improved in practice quality over the course of the intervention, and additionally that the PQ-M was predictive of outcomes including life satisfaction and psychological symptoms reduction (Del Re et al., 2013). Results of exploratory factor analysis demonstrated strong internal consistency,

suggesting that use of the PQ-M as a measure of overall practice quality may be appropriate. Additionally, findings suggested moderate convergent validity of the PQ-M with the Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003), suggesting that the PQ-M was related to the measure of mindfulness but that the two were also measuring unique constructs. The PQ-M was originally used with adults over the age of 18 who are fluent in English. For the current study, the PQ-M was used to obtain an overall measure of mindfulness practice quality for each participant at the end of each weekly meeting, and was administered to participants directly after each group session.

Design and Data Analyses

Feasibility Data Analysis

For treatment integrity, a percentage of adherence was computed, derived from the treatment integrity checklist. Descriptive statistics were computed from participant satisfaction surveys and were reported in order to answer questions regarding consumer satisfaction, and a percentage of participants rating the group as 80% acceptable or higher was reported. Retention of group participants was measured by computing the percentage of initial group participants who completed the Just Breathe group by attending at least four out of six group meetings (including the last group meeting). These statistics were reported qualitatively, with the aim of determining whether this intervention was feasible in the current setting.

Supplemental Design and Data Analysis

Prior to recruitment and data collection, a power analysis was conducted in order to use expected effect sizes to determine the minimum number of participants needed to draw valid conclusions. It was found that the power to detect a moderate effect size of .5 would be 90% with a group size of 36 participants; thus, each group aimed to retain at least 18 participants each in order to meet the criteria. There was, nonetheless, attrition during the study, with nine initial participants failing to complete all 18 lessons (6 weeks).

For statistical analysis, data for participants were combined into one group rather than separating by group status (Intervention Group 1 and Intervention Group 2). Both groups underwent identical procedures. A data analysis was completed using the SPSS computer program, and the primary statistical analyses included correlated samples *t* tests and ANOVA. The mixed-methods study examined pre- and posttreatment scores in areas of perceived stress and depression using a correlated samples *t* test. In addition, the study examined change in measures of distress/well-being, mindfulness, and practice quality over time using a repeated measures ANOVA to compare the differences in mean reported scores over the six group sessions. Effect sizes were computed using Cohen's *d*. Interpretation of effect sizes followed the guidelines of Cohen's (1988) standards for interpretation: A small effect size is found at 0.2, a medium effect at 0.5, and a large at 0.8.

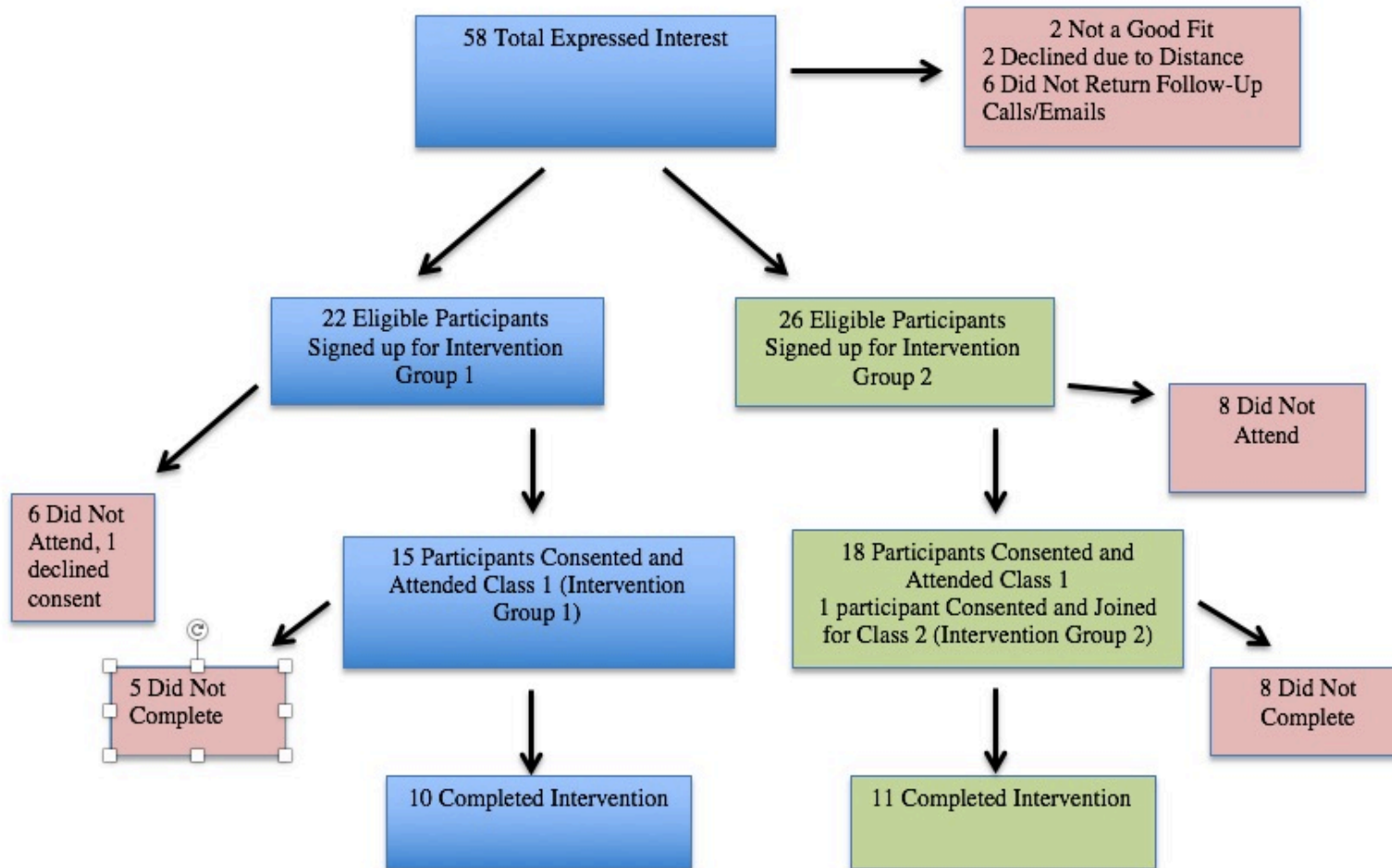


Figure 1 Recruitment and selection of participants.

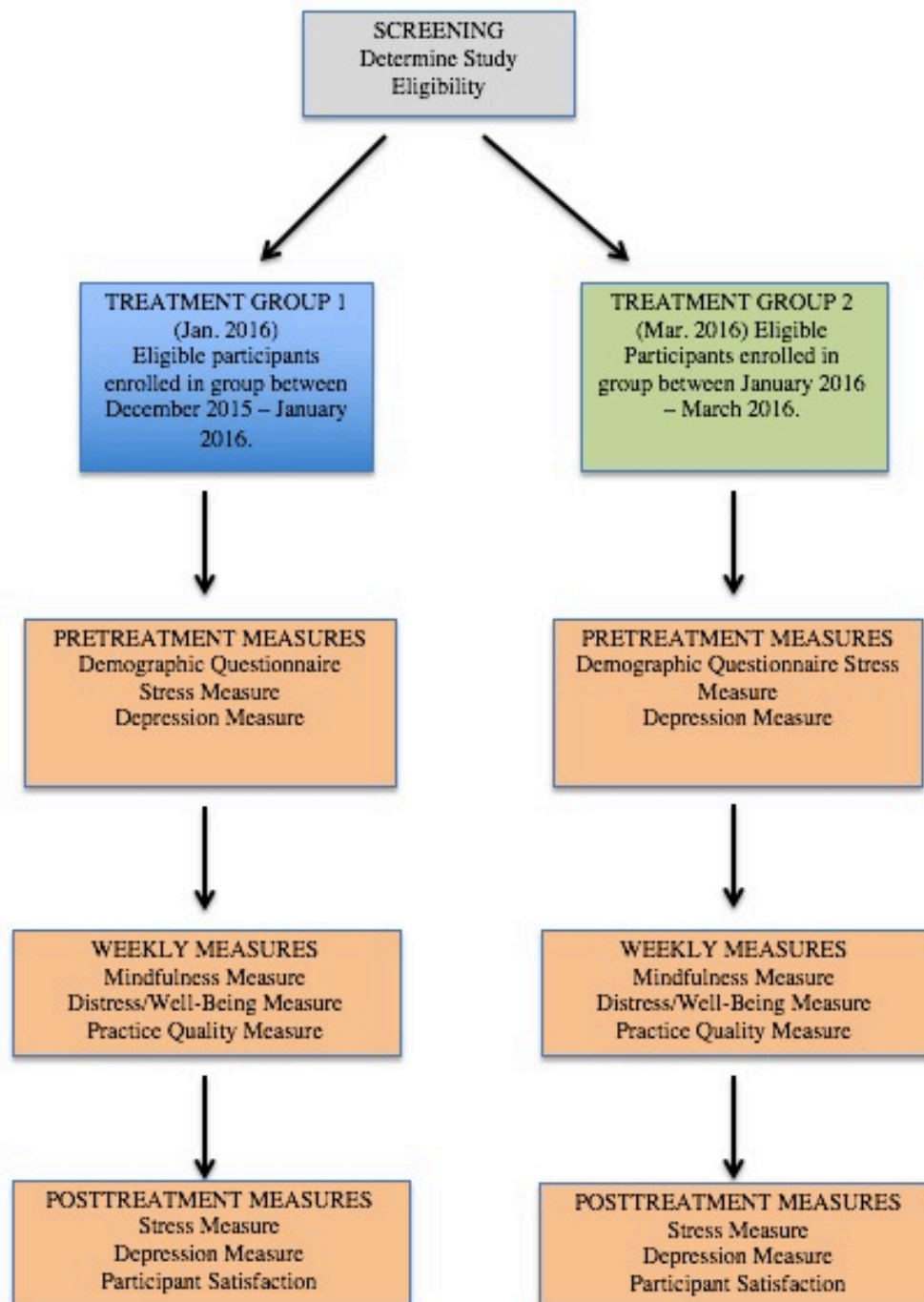


Figure 2 Study procedures for all participants.

Table 3 Participant Characteristics for Two Groups (Combined)

Characteristics ($N = 21$)	
Mean Age (SD)	14.00 (1.26)
Number of Females (% of sample)	15 (71%)
Number of Males (% of sample)	6 (29%)
Caucasian (% of sample)	15 (71%)
African American (% of sample)	3 (14%)
Hispanic/Latino	1 (5%)
Mixed Race (Caucasian and Hispanic/Latino)	2 (10%)
Characteristics ($N = 20$)	
Psychotropic Meds (% of sample)	10 (50%)
No Medication (% of sample)	10 (50%)
Currently Attend Counseling (% of sample)	9 (45%)
Previously Attended Counseling (% of sample)	14 (70%)
Previous Mindfulness Experience (% of sample)	4 (20%)
No Previous Mindfulness Experience (% of sample)	16 (80%)
Anxiety Disorder (% of sample)	6 (30%)
Depressive Disorder (% of sample)	7 (35%)
ADHD (% of sample)	5 (25%)
OCD (% of sample)	1 (5%)
Mood Disorder (% of sample)	1 (5%)
Tourette Syndrome (% of sample)	1 (5%)

Table 4 Participant Characteristics Separated by Group

Characteristics	Group 1 (n = 10)	Group 2 (n = 11)
Mean Age (<i>SD</i>)	13.70 (1.16)	14.27(1.35)
Number of Females (% of sample)	6(60%)	9(82%)
Number of Males (% of sample)	4(40%)	2(18%)
Caucasian (% of sample)	8(80%)	7(64%)
African American (% of sample)	0(0%)	3(27%)
Hispanic/Latino	1(10%)	0(0%)
Mixed Race (Caucasian and Hispanic/Latino)	1(10%)	1(9%)
Characteristics	Group 1(n = 10)	Group 2(n = 10)
Psychotropic Meds (% of sample)	5(50%)	5(50%)
No Medication (% of sample)	5(50%)	5(50%)
Currently Attend Counseling (% of sample)	5(50%)	4(40%)
Previously Attended Counseling (% of sample)	6(60%)	8(80%)
Previous Mindfulness Experience (% of sample)	2(20%)	2(20%)
No Previous Mindfulness Experience (% of sample)	8(80%)	8(80%)
Anxiety Disorder (% of sample)	3(30%)	3(30%)
Depressive Disorder (% of sample)	3(30%)	4(40%)
ADHD (% of sample)	3(30%)	2(20%)
OCD (% of sample)	1(10%)	0(0%)
Mood Disorder (% of sample)	0(0%)	1(10%)
Tourette Syndrome (% of sample)	0(0%)	1(1%)

Table 5 Overview of the “Just Breathe” Class and Corresponding *Mindful Schools* Lessons

Session	Key Topics	Corresponding <i>Mindful Schools</i> Lesson
Week 1	<ul style="list-style-type: none"> • Introduction to sitting practice: posture, technique, Mindfulness practice: mindfulness of sound as introduction to focused awareness • Identification of emotions in the moment – Reacting (“autopilot”) vs. responding (“mindfulness”) • Awareness of Breath practice • Develop rationale for mindfulness practice • Heartfulness practice 	<ul style="list-style-type: none"> • Introduction/ Lesson 1 • Lesson 2 • Lesson 3
Week 2	<ul style="list-style-type: none"> • Labeling practice • Mindful movement/yoga practice • Awareness of breath practice • More labeling practice 	<ul style="list-style-type: none"> • Lesson 4 • Lesson 5 • Lesson 6
Week 3	<ul style="list-style-type: none"> • Mindful movement/yoga practice • Mindful eating practice • Heartfulness practice • Labeling thoughts practice: “Past/Present/Future” • “ABC” practice (Levitt, 2015) 	<ul style="list-style-type: none"> • Lesson 7 • Lesson 8 • Lesson 9
Week 4	<ul style="list-style-type: none"> • Mindful movement/yoga practice • Awareness of breath practice • Body scan practice • Heartfulness practice: Integrating heartfulness into everyday life 	<ul style="list-style-type: none"> • Lesson 10 • Lesson 11 • Lesson 12
Week 5	<ul style="list-style-type: none"> • Discussion about judgment • Body awareness practice • Mindful walking • Heartfulness for oneself 	<ul style="list-style-type: none"> • Lesson 13 • Lesson 14 • Lesson 15
Week 6	<ul style="list-style-type: none"> • Mindfulness of emotions/discussion • Yoga/mindful movement • Mindfulness in conversation • Gratitude and appreciation • Suggestions on maintaining a mindfulness practice 	<ul style="list-style-type: none"> • Lesson 16 • Lesson 17 • Lesson 18

Table 6 Description of Mindfulness Practices

Practice	Description	Purpose
Sitting practice	Attention is focused on the breath, body sensations, thoughts and/or emotions.	Learning to practice mindfulness; ongoing practice.
Awareness of breath practice	Sitting practice: the breath is the “anchor,” or the focus of attention.	Learning to guide one’s attention to the breath; ongoing practice.
Labeling	As thoughts and sensations arise, participants are asked to silently label their experience and guide their own awareness back to the breath.	Decentering from thoughts and sensations as they arise. Possibility of discovering “I am not my thoughts/emotions/body sensations.”
Mindful movement/yoga practice	Participants engage in gentle movements derived from Hatha yoga practice. Attention is focused on present-moment experience of body and breath.	Learning to guide one’s attention to body sensations as the body is moving; ongoing practice.
Heartfulness practice	Participants purposefully direct their kind thoughts towards a person in their lives or themselves.	A practice in choosing one’s thoughts; an exercise in positive thinking; development of compassion.
Mindful eating practice	Participants eat a raisin slowly and focus awareness on present-moment sensations.	First-hand experience of mindfulness; practice of mindfulness in daily life.
Body scan practice	Participants focus attention and awareness on a specific region of the body and shift attention to another location; this practice is similar to progressive relaxation techniques.	Learning a mindfulness practice; ongoing practice.
Mindful walking	Participants are led through a guided meditation while walking; participants focus attention and awareness on the shift of the weight of the body and the sensations of the feet on the floor.	Ongoing practice opportunity.
Mindfulness in conversation	Participants bring the mindfulness practices to their conversation with a co-participant; focus attention and awareness on the present-moment interaction.	Ongoing practice opportunity; one way to generalize mindfulness practices into social interactions/relationships.

Table 7 Current Adaptations of the *Mindful Schools* Curriculum for Adolescents

Current Adaptation	<i>Mindful Schools</i> curriculum
2-hour format	15-minute format
1x/week	1-2x/week
6 weeks' total	9-18 weeks' total
18 lessons (3 each week)	18 lessons
Extended practice times (3-5 minutes)	Practice times of 1-3 minutes
Mindful movement practice (Yoga and Qi Gong)	Does not contain a mindful movement practice
Expectation for 10 minutes of "homework" each week	No expectation for homework
"ABC" practice (Levitt, 2015) included in week 3's lesson.	N/A
Intervention takes place at a parent education resource center (PERC) within a school district	Intended for use in schools/classrooms

Table 8 Study Measures

Domain	Measure	Frequency
Stress	Perceived Stress Scale (PSS-10)	Pre- and posttreatment
Depression	Patient Health Questionnaire (PHQ-9)	Pre- and posttreatment
Distress/Well-being	Outcome Rating Scale (ORS)	Weekly (6 weeks)
Mindfulness	Child and Adolescent Mindfulness Measure (CAMM)	Weekly (6 weeks)
Practice Quality	Practice Quality – Mindfulness (PQ-M)	Weekly (6 weeks)

CHAPTER III

RESULTS

Main Research Questions: Results

Results of Research Question 1

Will the majority of the participants rate this adaptation of the Mindful Schools curriculum as acceptable?

For this question, it was decided that the group would be found “acceptable” if the majority of participants rated the group as at least satisfactory (3/5 or 60% overall).

Following completion of the group, each participant completed the Participant Satisfaction Survey, which was developed for this study by the PI. Participants rated their experience in the group on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*) on a number of items that addressed feasibility and acceptability of the group. Eight of the 21 participants rated their satisfaction at an overall 80% or higher. Fifteen of 21 participants rated their satisfaction at an overall 60% or higher. Importantly, 16 of 21 participants marked *Agree* or *Strongly Agree* on the item that asked if they would recommend the group to other teens who are dealing with stress. No participants answered this question as *Disagree* or *Strongly Disagree*. Table 9 shows mean responses to the Participant Satisfaction Survey questionnaires, by question. In addition, participants were asked to reply to two open-ended questions that asked about their favorite and least favorite parts

of the group. Several participants provided similar responses and a sampling of these written responses is presented in Table 10.

Results of Research Question 2

Will the majority of participants enrolled in the Just Breathe group complete the intervention?

This question was examined using the percentage of initial enrolled participants who completed the group. Group completion was defined as completing at least four of six classes, including the last class. Forty-eight participants enrolled in total (22 for Intervention Group 1 and 26 for Intervention Group 2). Of those 48, 32 attended the first class meeting (15 for Intervention Group 1 and 17 for Intervention Group 2) and one participant started the intervention on Week 2 (Intervention Group 2). Overall, 21 participants completed the intervention (10 in Intervention Group 1 and 11 in Intervention Group 2). These results indicate that 44% of initial enrolled participants completed the Just Breathe group. Sixty-six percent of participants who consented and assented to participate completed the group intervention. Table 11 provides a visual representation of participant enrollment and retention.

Results of Research Question 3

What was the percentage of adherence to the treatment protocol by the group leaders?

This question was examined using the Treatment Integrity Checklist developed by the PI for this study. The checklist contained the following components: Group leader(s) checked reviewed material and checked in with group, group leader(s) taught each of

three *Mindful Schools* lessons for the week, group leader(s) facilitated a wrap-up discussion and reviewed expectations for homework, group leader(s) encouraged group discussion, group leader(s) related activities to each lesson, and group leader(s) encouraged participation from all group members. The checklist was completed by the PI for the study. Results indicated a 100% adherence to the expected treatment protocol.

Results of Supplemental Research Questions

Results of Supplemental Research Question 4

Do participants show evidence of decreased stress from pre- to posttreatment?

Participants completed the Perceived Stress Scale (PSS-10) prior to starting the group and directly after completing the 6-week group. To test whether participants' stress levels decreased from pre- to posttreatment, a correlated samples *t* test was conducted. Results indicated a significant decrease from pre-treatment stress levels ($M = 23.05$, $SD = 7.50$) to posttreatment stress levels ($M = 19.90$, $SD = 7.97$), $t(20) = 2.79$, $p = .011$. The effect size for this analysis met Cohen's (1988) convention for a small effect ($d = .40$). Figure 3 offers a visual representation of results from the PSS-10.

Results of Supplemental Research Question 5

Do participants show evidence of decreased depression from pre- to post-treatment?

Participants completed the Patient Health Questionnaire (PHQ-9) prior to starting the group and directly after completing the 6-week group. To test whether participants' depressive symptoms decreased from pre- to posttreatment, a correlated samples *t* test was conducted. Results indicated no significant change from pretreatment depressive

symptoms ($M = 10.05$, $SD = 7.57$) to posttreatment depressive symptoms ($M = 8.43$, $SD = 6.86$), $t(20) = 1.71$, $p = .10$. Figure 4 offers a visual representation of results from the PHQ-9.

Results of Supplemental Research Question 6

Do participants show evidence of an increase in well-being over the course of the intervention?

Participants completed the Outcome Rating Scale (ORS) at the start of each of six weekly group meetings. It is important to note that some participants were absent for either one or two sessions; therefore, two separate tests were used to analyze participant ratings of well-being. The first, a correlated samples t test, examined whether there was a significant change in well-being from Week 1 to Week 6. This test included data from 20 participants, as one participant joined in Week 2. Results indicated a significant increase in self-reported well-being from Week 1 ($M = 20.54$, $SD = 8.85$) to Week 6 ($M = 25.87$, $SD = 9.66$), $t(19) = -2.82$, $p = .011$. The effect size for this analysis was found to meet Cohen's (1988) convention for a medium effect ($d = .58$).

A one-way repeated measures ANOVA was conducted to compare the differences in mean reported well-being scores across the six different sessions. This test included the data from nine participants, as 12 participants missed at least one class, making it impossible to include their data in the ANOVA. In terms of data analysis, the smaller sample size is due to the listwise deletion of cases that had missing measures at different time points, as described above. Mauchley's test of sphericity indicated that the data did not violate the assumption of sphericity, $\chi^2(2) = 5.03$, $p = .99$. The repeated measures ANOVA with sphericity assumed showed a statistically significant difference in the

means of reported well-being between the six time points ($F(5, 40) = 3.83, p = .006$). Results indicated a linear effect of the intervention on ratings of well-being. Table 12 provides specific findings from the ANOVA for ORS scores over the six weeks.

Results of Supplemental Research Question 7

Do participants show evidence of an increase in self-reported mindfulness over the course of the intervention?

Participants completed the Child and Adolescent Mindfulness Measure (CAMM) at the start of each weekly session. Some participants were absent for some weeks. A correlated samples *t*-test was used to examine whether there was a significant change in self-reported mindfulness from Week 1 to Week 6. Results indicated a significant increase in self-reported mindfulness from Week 1 ($M = 22.50, SD = 8.19$) to Week 6 ($M = 26.10, SD = 8.69$), $t(19) = -3.68, p = .002$. The effect size for this analysis was found to meet Cohen's (1988) convention for a small effect size ($d = .43$).

A one-way repeated measures ANOVA was conducted to compare the differences in mean reported mindfulness scores across the six different sessions. Mauchley's test of sphericity indicated that the data did not violate the assumption of sphericity, $\chi^2(2) = 12.613, p = .581$. The repeated measures ANOVA with sphericity assumed showed a statistically significant difference in the means of reported mindfulness between the six time points ($F(5, 40) = 4.428, p = .003$). Results indicated a linear effect of the intervention on ratings of mindfulness. Again, it is important to note the smaller sample size, which is due to the listwise deletion of cases that had missing measures at different time points. Table 13 provides specific findings from the ANOVA for CAMM scores over the six weeks.

Results of Supplemental Research Question 8

Do participants show evidence of an increase in practice quality over the course of the intervention?

Participants completed the Practice Quality – Mindfulness (PQ-M) at the end of each weekly session for six weeks. A correlated samples t test was used to determine whether there was a significant change in practice quality from Week 1 to Week 6. Results indicated no significant difference in practice quality from Week 1 ($M = .64$, $SD = .141$) to Week 6 ($M = .62$, $SD = .16$), $t(19) = .752$, $p = .461$.

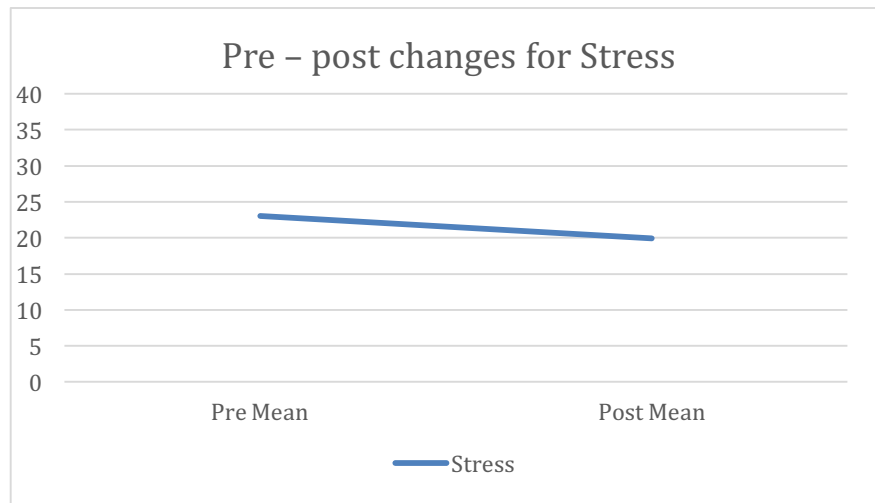


Figure 3 Changes from pre- to posttreatment mean raw scores on the PSS-10

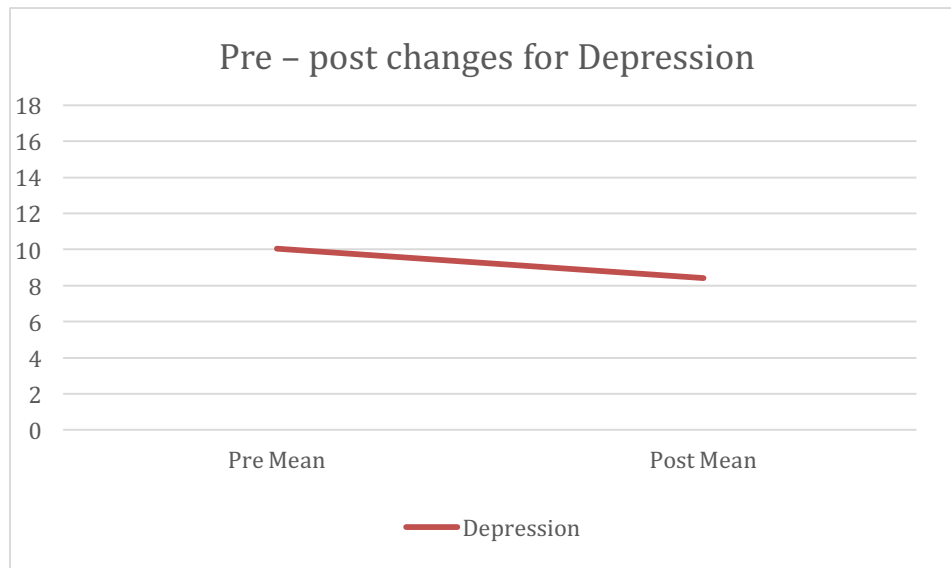


Figure 4 Changes from pre- to posttreatment mean raw scores on the PHQ-9

Table 9 Means and Standard Deviations of Scores on the Satisfaction Survey ($N = 21$)

Question:	Mean (<i>SD</i>)
Enjoyed the group	3.87 (1.03)
Learned coping skills	3.87 (0.99)
Decreased stress	3.07 (0.89)
Learned more about mindfulness	3.96 (0.79)
Used skills at school	3.17 (1.40)
Used skills at home	3.21 (1.43)
Plan to continue mindfulness	3.51 (1.07)
Recommend to other stressed teens	4.30 (0.91)
The group helped me	3.62 (1.22)

Note: Scale of 1-5 (1 = *Strongly Disagree*; 5 = *Strongly Agree*)

Table 10 Participant Written Responses

What did you think was the best part about the Just Breathe group?
<p>“The mindful breathing, it helped a lot.”</p> <p>“I like the attention and care that was given to try and help us with our problems and finding new coping skills.”</p> <p>“Mindfulness”</p> <p>“Doing activities and meditations.”</p> <p>“Body scan was very fun for me also the heartfulness for me and family.”</p> <p>“The yoga and qi gong.”</p> <p>“It helped me relax more.”</p> <p>“I made new friends, and mindful listening was good too.”</p> <p>“Learning how to cope with stress and to not attack my brother.”</p> <p>“Meeting new people so you don’t feel awkward. You can relate to all the people in group.”</p> <p>“This group helped me to gain more mindfulness in my life.”</p> <p>“Just the calm and understanding atmosphere.”</p> <p>“Having 2 calm hours in the week.”</p>
What did you think was the worst part about the Just Breathe group?
<p>“Talking in front of people I don’t know and who glare at me.”</p> <p>“The other kids got off topic or out of control.”</p> <p>“The sitting positions.”</p> <p>“Mindful eating.”</p> <p>“I feel like it personally just didn’t benefit me that well. I could see how it could very much help other people though.”</p> <p>“There were times when it felt just like ‘stereotypical’ therapy.”</p> <p>“Sitting still, I need to be able to move.”</p> <p>“I got distracted a lot. The skills didn’t always work.”</p> <p>“Having our phones taken away.”</p> <p>“I don’t know.”</p> <p>“Nothing really, all of it was reasonable or great.”</p> <p>“It feels kinda stressful and uptight like school.”</p> <p>“That it was late in the day.”</p> <p>“Leaving the group early, having only 6 weeks.”</p>

Table 11 Participant Enrollment and Retention

	Group 1	Group 2	Total
Initially enrolled	22	26	48
Did not attend first group	7	8	15
Consented and assented	15	18	32
Dropped out during intervention	5	7	12
Completed intervention	10	11	21

Table 12 ANOVA Findings for ORS Scores Over 6 Weeks

Source		Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
Time	Sphericity Assumed	503.861	5	100.772	3.832	.006
Error (Time)	Sphericity Assumed	1051.956	40	26.299		

Table 13 ANOVA Findings for CAMM Scores

Source		Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
Time	Sphericity Assumed	188.370	5	37.674	4.428	.003
Error (Time)	Sphericity Assumed	340.296	40	8.507		

CHAPTER IV

DISCUSSION

This study evaluated the feasibility of implementing an adaptation of the *Mindful Schools* curriculum in a group format offered to adolescents at an urban school district's parent education resource center (PERC). In addition, information was gathered about the curriculum's effectiveness in terms of reducing participants' stress and depression and improving feelings of well-being, use of mindfulness, and enhancement of practice quality.

Current research on mindfulness interventions shows a positive effect of intervention on a number of health and mental health related outcomes for adults, including stress, depression, and anxiety. Research with children and adolescents is also gaining momentum and has shown similar positive effects. However, there is less research on adolescents, and research has tended to focus on clinical populations rather than community samples.

A recent area of interest is to integrate mindfulness interventions in a school setting. This is likely in response to the fact that organizations have been pushing for the development and implementation of social emotional learning (SEL) programs within the schools. Admittedly, there are few programs that meet the social emotional needs of school-age children; in particular, adolescents who have high levels of stress and

considerable difficulty managing this in a healthy way. The Society for Research in Child Development (SCRD) suggests that schools face enormous pressure to increase academic achievement and target SEL skills. However, integration of SEL programs into the classroom is rare, and few staff are trained in accessible SEL curricula (Jones & Bouffard, 2012). A mindfulness curriculum such as the one used in this study seems to fit this need.

Currently, MBIs exist in many environments, including hospitals, schools, and counseling centers. Much is known about popular mindfulness interventions such as MBSR and MBCT; however, little is known about the effectiveness of other widespread interventions, including interventions targeted at the schools such as *Mindful Schools*. This study sought to provide insight into the feasibility and potential benefit of the intervention. In order to lead/teach the *Mindful Schools* curriculum, one must be trained in the curriculum and is encouraged to have a mindfulness practice of one's own. In comparison to the training required to lead MBSR or MBCT groups, the *Mindful Schools* training is less time-intensive and can be completed online, which allows for a greater accessibility and wider distribution. Group leaders can include teachers, educators, school psychologists, principals, counselors, and others. The ease of training and implementation makes the *Mindful Schools* curriculum attractive in a school setting, where time and resources are often limited.

Given the available research regarding the wide variability of outcome measures and the lack of consistency in data analysis across mindfulness studies, many authors have recommended starting with feasibility studies and moving on to RCTs and more rigorous studies when conducting research on MBIs. The present study sought to fill in

gaps in the research literature by examining the feasibility and preliminary effectiveness of this Mindfulness-Based Intervention (MBI), Just Breathe, which was based on the *Mindful Schools* Curriculum for Adolescents. Twenty-one adolescents from a local school district and surrounding area served as participants in this study. All adolescents participated in at least four of six weekly sessions. Each weekly session included content from three consecutive Mindful Schools lessons. These lessons teach core mindfulness skills including body scan practice, sitting mindfulness practice, walking mindfulness practice, and informal mindfulness practices. The curriculum was adapted by adding a weekly movement practice (yoga and qi gong) and the “ABC” Technique in Week 3. In addition, the longer class time (two hours) allowed for expanded practice and discussion based on the *Mindful Schools* lesson components. The current study is the first, to our knowledge, to examine feasibility and preliminary effectiveness of the *Mindful Schools* Curriculum for Adolescents on mental health outcomes in a community sample. In addition, to our knowledge there are no published studies examining the efficacy of the Curriculum for Adolescents specifically. Rather, previous studies have focused on the implementation and effectiveness of the K-5 (Elementary) curriculum (Black & Fernando, 2014; Liehr & Diaz, 2010).

Main Findings

Feasibility

In order to determine whether the current adaptation of the Mindful Schools curriculum was considered feasible to implement, this study focused on three areas of feasibility research: acceptability, demand, and implementation.

Acceptability

Acceptability was assessed using a participant satisfaction survey developed for the current group. Results of the current study indicated that 71% of participants rated the group as overall 60% or higher acceptability. Thirty-eight percent of participants rated the group as overall 80% or higher acceptability. However, when asked if they would recommend the group to other teens dealing with stress, 16 of 21 participants (76%) answered *Agree* or *Strongly Agree*. In addition, none of the response means for any individual question fell below a 3 or *Neutral*. Participants were also asked to comment on “the best” and “the worst” parts of the Just Breathe group. Their responses varied, but overall “best” themes emerged of enjoying the specific techniques, learning new skills, being calm and relaxed, and enjoying the group atmosphere and friends. In general, comments about the “worst” part of the group were less focused on content and more focused on situational factors, including the rule that phones must be put away, conflicts with time of day, sitting and not moving around enough, and being easily distracted by peers. A number of participants commented that they did not have any “worst” parts of the group to comment on, and one participant even expressed a desire that the group could continue for more than six weeks. These additional comments add interesting data to this question of acceptability. Based on their comments, it appeared that many of the teens felt they benefitted from being in a group with other teens and learning mindfulness techniques.

Demand

Demand was assessed by reporting the number of individuals/families who expressed interest, number of participants enrolled, number of participants who

consented/assented, and number (percentage) of participants who completed the intervention. Overall, recruitment efforts for this group appeared successful, and 48 participants enrolled initially. Of those 48, 32 attended the first meeting to consent/assent and attend Week 1, with one participant who consented/assented and started in Week 2. In total, 21 participants completed the intervention by attending at least four of six group meetings including the last week (Week 6). Sixty-six percent of participants who began the Just Breathe intervention were considered treatment completers. Data were not available to determine whether the Just Breathe intervention was able to retain more participants as compared with other offerings at the particular PERC. A number of families who initially expressed interest were not able to have their adolescent attend due to factors such as distance, time of day, and scheduling conflicts. A number of families and clinicians/educators reached out during the course of the intervention to inquire whether future groups would be held in additional locations and at additional times, and asked to be informed of possible future groups. Given that participants in the current study were voluntarily enrolled and were a community sample rather than a school or inpatient setting, some attrition is to be expected. Based upon current rates of attendance and the finding that 66% of participants completed the intervention, demand for the current intervention was considered sufficient.

Implementation

The current program was delivered by two school psychologists with training in the Mindful Schools curriculum. The adapted class followed the curriculum directly, with the addition of the following components: mindful movement (yoga and qi gong), expanded time for discussion and practice, and the “ABC Technique” (described

previously). The PI was the group co-leader and completed a treatment integrity checklist at the end of each session. Treatment fidelity was found to be high (100%). This is due in part to the fact that the facilitators were working directly from the curriculum in which they were trained, each had extensive training in mindfulness and each had run the exact group adaptation at least 5 times before the current study.

It is likely that there are more meaningful ways to assess implementation of mindfulness-based interventions. To our knowledge, there is one treatment adherence scale specific to mindfulness based cognitive therapy (MBCT) called the Mindfulness-Based Cognitive Therapy Adherence Scale (MBCT-AS; Segal, Teasdale, Williams, & Gemar, 2002b). The scale measures therapist adherence to the MBCT treatment protocol. The tool was found to be reliable and findings suggested the usefulness of such a scale with MBCT in particular. Due to the differences between the MBCT curriculum and the *Mindful Schools* curriculum used for the Just Breathe group, this measure was not applicable to the current study. Development of a scale specific to the *Mindful Schools* curriculum, although outside the scope of the current study, may be an area of future interest and would likely add value and meaning to ratings of treatment fidelity.

Supplemental Findings: Preliminary Effectiveness

Stress

The current study showed a small, significant decrease in self-ratings of stress from pre- to posttreatment on the PSS-10. The PSS-10 has been widely used in the research literature on stress and mindfulness. Findings from previous studies (Biegel et al., 2009, Sibinga et al., 2016) have been mixed in regards to the effect of MBIs on adolescent stress. Biegel et al. (2009) found a significant decrease in PSS-10 scores from

pre- to posttreatment following an 8-week MBSR course for adolescents. Magnitude of this change was found to be large (Cohen's $d = .89$). Results of the current study indicated a small magnitude of change on the PSS-10 (Cohen's $d = .40$). There are several factors that may have influenced this difference in magnitude of change between the two studies. For one, while MBIs in general focus on teaching the core mindfulness skills, including the body scan, sitting meditation, walking meditation, and informal mindfulness practices, MBSR is the most widely used MBI and explicitly integrates discussion of one's relationship to stress in a way that the *Mindful Schools* curriculum may not capture as fully. Secondly, the current study used a small number of participants, thus limiting the power of the statistical tests to detect changes on this measure. In comparison, the Biegel et al. (2009) study had a larger sample size. In addition, the MBSR group ran for eight weeks while the group for the current study ran for six weeks. It is possible that the current intervention would need to be longer or more in-depth in order to produce larger effects. It may also be the case that adolescents with higher baseline levels of stress would show more of a change in stress levels from pre- to posttreatment. The current study recruited a community sample of participants who self-selected. Recruitment procedures did not specify whether participants needed to have clinically elevated levels of stress or anxiety prior to enrolling in the study. However, participant ratings of stress in the current study were considered elevated above the mean normative data for the PSS-10 at pretreatment. Previous studies have demonstrated effectiveness of MBIs for decreasing anxiety, but these findings were limited to children with clinically elevated levels of anxiety at baseline (e.g., Semple et al., 2010).

In contrast with both current results and results from the Biegel study, findings

from a randomized controlled trial (RCT) of MBSR with 350 students between grades five and eight showed no significant differences in stress between the intervention group and a comparison group which received health education (Sibinga et al., 2016). The Sibinga study is unique in that the study population was 99.7% Black, and 99% of the students included in the study were eligible for free lunch. In addition, the authors reported that many of these students had been directly exposed to community violence and were experiencing chronic stress living in urban areas of Baltimore. Although the small difference in mean reported scores on the PSS-10 was not significant, students in the intervention group did differ significantly from the comparison group on measures of posttraumatic stress disorder (PTSD), including decreased depressive features and decreased re-experiencing symptoms. It is difficult to comprehend why measures of PTSD, but not stress, would differ significantly between treatment and comparison groups. It is possible that the PSS-10 did not have high enough sensitivity to detect small but potentially meaningful differences in the chronically stressed population in the Sibinga (2016) study. Participants in the current study, in contrast, were 71% White, living in a suburban setting in the Salt Lake City area, and were likely not exposed to community violence or chronic stress to the same degree as those participants in the Sibinga (2016) study, who resided in the urban neighborhoods of Baltimore. Given that ethnic minority and low-income students are often underrepresented in the research literature (i.e. Black & Fernando, 2014; Sibinga et al., 2016), it is important to consider the effectiveness of mindfulness interventions with these groups in addition to the population for the current study.

Depression

The current study found no significant change from pre- to posttreatment on self-ratings of depression on the PHQ-9. The small change in mean PHQ-9 score (-1.62) was not significant at the .05 level on a *t* test conducted for data analysis. This finding is similar to the findings from a feasibility and preliminary effectiveness study conducted by Mendelson et al. (2003), which showed no difference between depression scores for students who received a mindfulness and yoga intervention in the schools and those who did not. These results are in contrast to a number of studies that use MBIs with adolescents which suggest a significant decrease in depressive symptoms following a mindfulness intervention (i.e., Raes et al., 2014; Sibinga et al., 2016). Interestingly, all three of the above-mentioned studies were conducted in school settings, so it is not likely that setting had an effect on whether participant depression decreased. The setting for the current study (a parent education resource center) may be considered unique, given its inclusion within a school district and serving a mental health role, given its provision of counseling services, parenting classes, anger management classes, and other similar offerings. While setting may not be a moderator of treatment impact on depressive symptoms, type of intervention does seem to make a difference. The two school-based studies that showed significant differences on ratings of depression utilized adaptations of mindfulness based stress reduction (i.e., Sibinga et al., 2016) or a combination of both MBSR and MBCT (i.e., Raes et al., 2014). In contrast, Mendelson et al. (2003) utilized a combination of “mindfulness and yoga” instruction, and the current study utilized an adapted version of the *Mindful Schools Curriculum for Adolescents*, which was created for implementation in the school setting and therefore tends to focus on outcomes

including attention, self-regulation, compassion, and calming rather than specific mental health outcomes. The contrast in depression outcomes in relation to type of intervention is not surprising, given that MBCT was originally designed for depression relapse prevention (Segal et al., 2002a). In addition, there are previous findings supporting the efficacy of MBSR for adult mental health outcomes (Grossman et al., 2004, Khoury et al., 2013; Ludwig & Kabat-Zinn, 2008; Ruff & Mackenzie, 2009).

Although the small change in mean PHQ-9 scores from pre- to posttreatment was not found to be significant, there may be some evidence for the clinical significance of these findings. The PHQ-9 scoring algorithm offers a rating of depression severity. In addition, participants are asked to rank “how difficult [the symptoms] have made it for you to do your work, take care of things at home, or get along with other people” (Kroenke et al., 2001). Table 14 shows participant depression severity at pre- and posttreatment, and Table 15 provides a snapshot of participant responses regarding their perception of how difficult everyday life is due to any depressive symptoms. In total, the number of participants who met PHQ-9 criteria for “moderately severe depression” or “severe depression” was cut in half over the course of the intervention, from six participants (29%) to three participants (14%). Although raw scores were not statistically significant according to a *t* test, this reduction in number of adolescents with (moderately severe to severe) depression is notable. In addition, the total number of participants who rated their symptoms as causing “very difficult” or “extremely difficult” circumstances was reduced from 7 (33%) at pretreatment to 4 (19%) at posttreatment. These findings add to the clinical relevance of this intervention, if not to the statistical significance. In the words of John Kabat-Zinn and his description of MBSR, it is “less about curing and

more about *healing*, which I define as *a coming to terms with things as they are* in full awareness” (2011, p. 292). The finding that some participants rated their symptoms as less difficult after completing the intervention speaks to the ability of mindfulness to change the relationship to suffering, even when it cannot change the suffering itself.

Well-Being

Participants showed evidence of an increase in well-being, with mean ORS scores improving significantly from pre- to posttreatment (*t* test). These scores yielded a medium effect size (Cohen’s $d = .58$). In addition, an ANOVA showed a statistically significant difference in mean ORS scores between the six time points for participants who attended all six sessions ($N = 9$). The smaller N for the ANOVA was due to missing data from participants who were absent for one or two sessions.

The observed increase in well-being over the course of the intervention is consistent with previous findings that participation in MBIs is correlated with an increase in positive affect (Broderick & Metz, 2009; Ciarrochi et al., 2011), self-reported mood and self-esteem (Meiklejohn et al., 2010), and wellness (Brown et al., 2011). A recent RCT conducted by Schonert-Reichl et al. (2015) also showed a significant increase in the well-being of elementary school children who participated in a mindfulness intervention group as compared with an active control condition. Interestingly, increases in well-being were accompanied by significant changes in stress physiology, as measured via salivary cortisol levels.

In the current study, the intervention was found to have a significant linear effect on participant ratings of well-being over time. This finding is interesting, and may suggest that participants in the group did not stop benefitting from the intervention after a

particular “dose” of the intervention, nor did they receive more benefit in any particular week. Taken together, this information suggests the possibility of some benefit from just one group, just as it may also suggest the possibility of increased benefit from an ongoing mindfulness group.

Mindfulness

Participants showed evidence of an increase in mindfulness. Mean CAMM scores improved significantly from pre- to posttreatment (t test). In addition, an ANOVA showed a statistically significant difference in mean CAMM scores between the six time points for participants who attended all six sessions ($N = 9$). Again, the smaller N for the ANOVA was due to missing data for some participants who missed classes but still met criteria for group completion (at least four of six classes). Assuming that the *Mindful Schools* curriculum teaches mindfulness practices, which in turn lead to an increase in trait mindfulness, this finding is predictable. This finding is consistent with previous research with adults, children, and adolescents.

Just as the intervention was found to have a significant linear effect on well-being over time, so it was with mindfulness. Participants were found to benefit from the intervention consistently over time, rather than benefitting most from any particular session or reducing gains after a certain amount of time. The implication is that, if the group were to continue, participants would likely continue to increase their mindfulness scores.

Increases in mindfulness have been found to correlate with other changes, including decreased stress and increased learning in students (Napoli et al., 2005). Many researchers assert that this increase in mindfulness is a key component to a successful

mindfulness intervention. Given previous findings that increased mindfulness correlated with increased quality of life (e.g., Greco et al., 2011), it is unsurprising that participants' mindfulness and well-being increased during the course of this MBI.

Practice Quality

Participants in the current study showed no evidence of change in practice quality from pre- to posttreatment or over the course of the intervention. It is difficult to interpret why ratings of practice quality did not increase, while ratings of well-being and mindfulness did. On an initial validation study of the PQ-M, Del Re et al. (2013) found that the PQ-M and the Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003) were “moderately to strongly related to one another but also seem to be measuring their own unique constructs” (Del Re et al., 2013, p. 62). Given this information, it was expected that the CAMM may also be related to the PQ-M, and that an increase in mindfulness scores on the CAMM would coincide with an increase in practice quality scores on the PQ-M. However, these measures were developed separately and it has not been assessed whether CAMM scores correlate with MAAS scores. It may be that each of these measures are actually tapping into a different component of “mindfulness” or that they are actually measuring slightly different constructs altogether. It is also possible that the PQ-M, which asks questions directly related to the curriculum lessons (specifically MBSR lessons), actually looks at participant adherence to treatment protocol as much as it measures practice quality. It would be expected that higher scores on the PQ-M would also reflect higher levels of participant engagement with the curriculum.

Informally, it was observed that participants tended to rush through the PQ-M questionnaire, which was administered just prior to 9:00 p.m. at the end of each 2-hour

group. It is likely that participants were tired and eager to return home. Additionally, the first three items of the PQ-M are worded positively (e.g., “During practice, I attempted to return to my present-moment experience, whether unpleasant, pleasant, or neutral”) while the last three items are worded negatively (e.g., “During practice, I was actively avoiding or ‘pushing away’ certain experiences”). The last three items are reverse-scored. During scoring and data analysis, it was observed that some participants tended to mark a percentage on one end of the number line for each of the six questions rather than to respond thoughtfully to each question. This could have affected the scores. However, post hoc analysis explored whether there was a significant trend for either the first three questions or the last three questions rather than the questionnaire as a whole. Again, it was found that there was no significant change in practice quality and that this was not affected by examining the positive questions and negative questions separately. One additional factor that may have influenced participant response on the PQ-M is the more complicated language and wording of the PQ-M as compared with the other measures. In general, the PQ-M had lengthier questions, sometimes with multiple parts (e.g., “During practice, I was struggling against having certain experiences [e.g., unpleasant thoughts, emotions and/or bodily sensations]”). Given that some participants were as young as 12 and just starting middle school, it is likely that some of the PQ-M questions were difficult to interpret. Although explicit instructions were given regarding completion of the questionnaire, and both group leaders and an assistant were available to answer any questions, it is likely that some of the participants found the wording to be confusing and may have been hesitant to ask for help.

Limitations

There continues to be significant variability across mindfulness studies in terms of intervention components, research design, and diversity of participant populations. This can make it difficult to draw conclusions about the effectiveness of these interventions. The present study, though conducted with a curriculum that has not been widely assessed in the literature, sought to assess areas of common interest in other mindfulness studies, including stress, depression, well-being, and mindfulness. In addition, mindfulness practice quality was also assessed, given that it has been suggested that practice quality is an important variable that is not considered as often as it ought to be.

There are several threats to internal validity for this study. Adolescent participants were placed in groups based on when parents contacted the PI and which group (Winter or Spring) would be most convenient for the family. Therefore, participants were not randomly assigned to one of the two treatment groups. In addition, the two treatment groups were not matched on variables such as age, gender, or mental health diagnosis. Although efforts were taken to ensure that group differences would not impact change in outcome measures over time, the lack of random assignment or matched assignment limits any casual conclusions about the effect of the Just Breathe group on outcomes. For data analysis, groups were combined.

This study lacked a control group; therefore, it is difficult to tell whether the observed changes are due to a natural change over time or due to participation in the Just Breathe group. It is possible that the well-being and mindfulness of the participants increased over time as participants matured, and that stress naturally decreased over time. For ratings of well-being and mindfulness, findings from the repeated measures help to

alleviate this concern. Without an active control group to compare to the intervention group, it is impossible to tell whether observed effects are due solely to group participation or whether they were influenced by additional factors.

Outcome measures relied primarily on self-report of the participants, who were fully aware of their participation in the study. It is likely that some of the adolescent participants were aware of the desired outcomes and may have answered questions in order to provide socially desirable responses rather than to reflect their current level of functioning. If this were in fact the case, it would be likely that all measures would reflect this trend. Results of the current study measures were mixed, making this trend towards social desirability less likely.

A limitation for this research or any group study is the potential for group effects, which increase the risk for Type I errors to occur. That is, any one member of a group has the potential to influence the treatment effects for the other group members. This phenomenon violates the assumption of the independence of observations (Baldwin et al., 2005). In the current study, each participant was treated as an individual. This method of data analysis does not take into account the intragroup correlation (IGC), which increases the risk for error. Coehlo, Canter, and Ernst (2007) criticized the lack of analyses considering the IGC when they commented on recent studies of MBCT. In response, Williams, Russell, and Russell (2008) reanalyzed existing data using multilevel modeling, which took into account the IGC. These researchers failed to find evidence of IGC, but found that the stronger reanalysis actually supported initial study findings, but suggested that future studies take account of the IGC. The current study did not take into account the IGC and did not use multilevel modeling as suggested by the authors above.

Therefore, the study did not assess whether there was significant IGC and whether that affected results. Interestingly, in response to the questions regarding the “best” and “worst” parts of the Just Breathe group, many of the participants commented on the group dynamic, both in positive (e.g., “Meeting new people so you don’t feel awkward, you can relate to all of them”) and negative terms (e.g., “Some people were distracting and weren’t paying attention” or “Talking in front of people I don’t know and who glare at me”). From these comments, it is clear that some of the adolescent participants experienced a level of cohesion or derision over the course of the group. It remains unclear whether these factors greatly impacted findings of the current study.

Lastly, the small sample size ($N = 21$) of this study limits the statistical power to detect reliable changes in scores. Due to low power, statistical tests in the current study may have failed to detect meaningful changes following participation in the Just Breathe group.

Implications for Further Research

Additional research examining the effectiveness of intervention programs such as Just Breathe, specifically those utilizing the *Mindful Schools* curriculum, is warranted, given that the program was considered feasible to implement, and was associated with changes in stress, well-being, and mindfulness over the course of the intervention. Future studies should use an increased sample size in order to improve the ability to detect meaningful results by increasing the statistical power. In order to increase validity, future large-scale studies should include randomization of group assignment, and should utilize a waitlist control group or an active control group. Some studies (e.g., Schonert-Reichl et al., 2015) have done so, but none with the *Mindful Schools* curriculum. In addition, this

study relied upon self-report measures. Future studies may wish to include parent and/or teacher measures in order to provide an opportunity to corroborate findings from self-report measures. Importantly, studies involving group interventions need to take into account the intragroup correlation (IGC) and account for this in the data analysis, in order to reduce the likelihood of Type I error.

Given the significant linear effect of the intervention on both well-being and mindfulness, future research may wish to explore the effects of a shorter “dose” of the intervention with students. For example, a group meeting for 3 weeks rather than 6 may provide some benefit and would impose less time constraint on students and after-school settings. Alternately, an ongoing and consistent group may also continue to provide benefit, and could be open and accessible to students from one year to the next.

Assessment of the effects of an ongoing community group may prove to be difficult in terms of data analysis, but would have significant implications for practice if findings were positive. In addition, future researchers may wish to examine whether additional “booster sessions” conducted after group completion are helpful in maintaining or expanding treatment effects.

Given the absence of changes on the measure of practice quality, it is likely that the measure was either not understood or not completed correctly by participants. Future researchers are encouraged to adapt a version of the PQ-M for a child and adolescent population, making it easier to understand and administer to this age group. Mindfulness practice quality is an important consideration in studies of MBIs and should be monitored. In addition, future researchers may wish to include a practice diary, log, or parent rating of time spent practicing mindfulness techniques each day. This will add a

potential moderator of treatment outcome and will provide valuable information as to whether at-home practice increases the magnitude of outcomes for participants.

Increasing the strength of this intervention could provide the opportunity to more easily detect results, and to achieve stronger results. Intervention strength could be increased through increasing the duration of the program past six weeks. In addition, a half-day or all-day “retreat” session could be added as is common with MBSR groups. In this study, homework expectations were set but not monitored. Future studies could monitor at-home practice time and provide an incentive for completion of at-home practice.

The current study was conducted with a wide age range due to a limited sample size within a community sample. Future researchers could consider separating groups into “middle schoolers” and “high schoolers” in order to allow for increased group cohesion and the possibility of tailoring group discussions to the appropriate developmental level.

Conclusions

This study sought to assess the feasibility and preliminary effects of the Just Breathe group for adolescents. Initial support was found for the feasibility of the group, including a 66% group completion rate for those who started treatment, overall acceptable ratings by participants, and high treatment fidelity. There was initial evidence for the effectiveness of the group in decreasing stress, as evidence by decreased mean ratings on a self-report measure of stress. In addition, weekly ratings of well-being and mindfulness indicated increases in these two domains, both from pre- to posttreatment, and over the course of the intervention. Although there was no statistically significant

evidence for a decrease in depressive symptoms, post hoc examination of participant level of depression as well as subjective rating of difficulty of symptoms indicated the possibility for clinical significance in this domain. These results indicate that this type of group could be an asset to parent education resource centers (PERCs), schools, and other settings that serve an adolescent population. This type of group may also help to fulfill the need for programs that focus on social emotional learning (SEL) within the schools. Given time and resource constraints, the 6-week group format at a separate location (e.g., PERC) within the school district is a potential alternative to groups or interventions which may otherwise interfere with competing demands on class time. Those who wish to implement this program or other MBIs should be aware of the importance of training and background in mindfulness. In addition, future research involving group mindfulness-based interventions should consider possible group effects in addition to any treatment effects, therefore reducing the risk of Type I error.

Table 14 Number and Percentage of Participants Scoring at or Above the Clinical Cutoff for “Moderately Severe Depression” or “Severe Depression” (as assessed by PHQ-9)

	Pretreatment	Posttreatment
Group 1 (%)	4 (40%)	0 (0%)
Group 2 (%)	2 (18%)	3 (27%)
Total (%)	6 (29%)	3 (14%)

Table 15 Number and Percentage of Participants Rating Their Symptoms as Making Their Daily Lives “Very Difficult” or “Extremely Difficult” (as rated on the PHQ-9)

	Pretreatment	Post-treatment
Group 1 (%)	1 (10%)	1 (10%)
Group 2 (%)	6 (55%)	3 (27%)
Total (%)	7 (33%)	4 (19%)

APPENDIX A

PARTICIPANT SATISFACTION SURVEY

Just Breathe Participant Satisfaction Survey

Name: _____ Date: _____

1. I enjoyed the Just Breathe group.

1-----2-----3-----4-----5

Strongly Disagree

Strongly Agree

2. I learned some new coping skills (skills to help me feel better).

1-----2-----3-----4-----5

Strongly Disagree

Strongly Agree

3. I decreased my stress (I feel less stressed overall).

1-----2-----3-----4-----5

Strongly Disagree

Strongly Agree

4. I learned more about mindfulness.

1-----2-----3-----4-----5

Strongly Disagree

Strongly Agree

5. I have used my mindfulness skills at school.

1-----2-----3-----4-----5

Strongly Disagree

Strongly Agree

6. I have used my mindfulness skills at home.

1-----2-----3-----4-----5

Strongly Disagree

Strongly Agree

7. I plan to continue to practice mindfulness after the group is over.

1-----2-----3-----4-----5

Strongly Disagree

Strongly Agree

8. I would recommend this group to other teens who are dealing with stress.

1-----2-----3-----4-----5

Strongly Disagree

Strongly Agree

9. I think that going to the Just Breathe group helped me.

1-----2-----3-----4-----5

Strongly Disagree

Strongly Agree

Please flip this page over and answer the additional questions on the back!

Additional Questions:

What did you think was the best part about the Just Breathe group?

What did you think was the worst part about the Just Breathe group?

APPENDIX B

TREATMENT INTEGRITY CHECKLIST

Treatment Integrity Checklist

Facilitator: _____

Date: _____ Group 1 Group 2

Session Number: _____

Instructions: Put an X next to each component completed for each session.

Component	
Check-in with Group/ Review	
Lesson 1 Teaching Practice Discussion &/or Journaling	
Lesson 2 Teaching Practice Discussion &/or Journaling	
Lesson 3 Teaching Practice Discussion &/or Journaling	
Wrap up discussion/Review of homework expectations	
Encouraged group discussion	
Related activities to Lesson	
Encouraged participation from all group members	
Total Number of Checks	/8
Session Integrity %	

APPENDIX C

PERCEIVED STRESS SCALE (PSS-10)

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts **during the last month**. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.

Name _____ Date _____

Age _____ Gender (Circle): **M** **F** Other _____

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

- | | | | | | |
|--|---|---|---|---|---|
| 1. In the last month, how often have you been upset because of something that happened unexpectedly? | 0 | 1 | 2 | 3 | 4 |
| 2. In the last month, how often have you felt that you were unable to control the important things in your life? | 0 | 1 | 2 | 3 | 4 |
| 3. In the last month, how often have you felt nervous and "stressed"? | 0 | 1 | 2 | 3 | 4 |
| 4. In the last month, how often have you felt confident about your ability to handle your personal problems? | 0 | 1 | 2 | 3 | 4 |
| 5. In the last month, how often have you felt that things were going your way?..... | 0 | 1 | 2 | 3 | 4 |
| 6. In the last month, how often have you found that you could not cope with all the things that you had to do? | 0 | 1 | 2 | 3 | 4 |
| 7. In the last month, how often have you been able to control irritations in your life? | 0 | 1 | 2 | 3 | 4 |
| 8. In the last month, how often have you felt that you were on top of things?.. | 0 | 1 | 2 | 3 | 4 |
| 9. In the last month, how often have you been angered because of things that were outside of your control?..... | 0 | 1 | 2 | 3 | 4 |
| 10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? | 0 | 1 | 2 | 3 | 4 |

Please feel free to use the *Perceived Stress Scale* for your research.

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The PSS Scale is reprinted with permission of the American Sociological Association, from Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 386-396.
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APPENDIX D

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: _____ DATE: _____

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

add columns + +

(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL:

10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	Not difficult at all	_____
	Somewhat difficult	_____
	Very difficult	_____
	Extremely difficult	_____

APPENDIX E

OUTCOME RATING SCALE

Outcome Rating Scale (ORS)

Name _____ Age (Yrs): ____ Sex: M / F Session # ____ Date: _____ Who is filling out this form? Please check one: Self _____ Other _____ If other, what is your relationship to this person? _____

Looking back over the last week, including today, help us understand how you have been feeling by rating how well you have been doing in the following areas of your life, where marks to the left represent low levels and marks to the right indicate high levels. *If you are filling out this form for another person, please fill out according to how you think he or she is doing.*

ATTENTION CLINICIAN: TO INSURE SCORING ACCURACY PRINT OUT THE MEASURE TO INSURE THE ITEM LINES ARE 10 CM IN LENGTH. ALTER THE FORM UNTIL THE LINES PRINT THE CORRECT LENGTH. THEN ERASE THIS MESSAGE.

Individually

(Personal well-being)

I-----I

Interpersonally

(Family, close relationships)

I-----I

Socially

(Work, school, friendships)

I-----I

Overall

(General sense of well-being)

I-----I

Institute for the Study of Therapeutic Change

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APPENDIX F

CHILD AND ADOLESCENT MINDFULNESS MEASURE (CAMM)

Child and Adolescent Mindfulness Measure (CAMM)

We want to know more about what you think, how you feel, and what you do. **Read** each sentence. Then, circle the number that tells how often each sentence is true for you.

	Never True	Rarely True	Sometimes True	Often True	Always True
1. I get upset with myself for having feelings that don't make sense.	0	1	2	3	4
2. At school, I walk from class to class without noticing what I'm doing.	0	1	2	3	4
3. I keep myself busy so I don't notice my thoughts or feelings.	0	1	2	3	4
4. I tell myself that I shouldn't feel the way I'm feeling.	0	1	2	3	4
5. I push away thoughts that I don't like.	0	1	2	3	4
6. It's hard for me to pay attention to only one thing at a time.	0	1	2	3	4
7. I get upset with myself for having certain thoughts.	0	1	2	3	4
8. I think about things that have happened in the past instead of thinking about things that are happening right now.	0	1	2	3	4
9. I think that some of my feelings are bad and that I shouldn't have them.	0	1	2	3	4
10. I stop myself from having feelings that I don't like.	0	1	2	3	4

APPENDIX G

PRACTICE QUALITY – MINDFULNESS (PQ-M)

Revised six-item Practice Quality-Mindfulness (PQ-M)

With respect to today's session, please place a vertical mark on the line below each question to indicate the approximate percentage of time that your experience reflected each statement below.

1. During practice, I attempted to return to my present-moment experience, whether unpleasant, pleasant, or neutral.



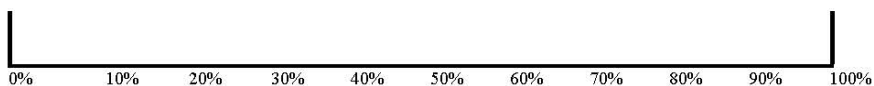
2. During practice, I attempted to return to each experience, no matter how unpleasant, with a sense that "It's OK to experience this".



3. During practice, I attempted to feel each experience as bare sensations in the body (tension in throat, movement in belly, etc).



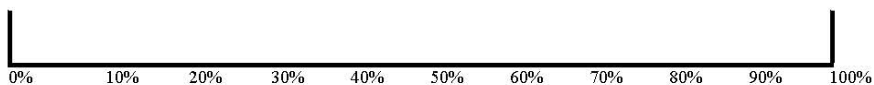
4. During practice, I was struggling against having certain experiences (e.g., unpleasant thoughts, emotions, and/or bodily sensations).



5. During practice, I was actively avoiding or "pushing away" certain experiences.



6. During practice, I was actively trying to fix or change certain experiences, in order to get to a "better place".



APPENDIX H

JUST BREATHE GROUP FLYER

JUST BREATHE: TEENS LEARNING TO LIVE MINDFULLY WITH STRESS AND DRAMA

Designed for middle and high school students, ages 13-17, this class teaches essential mindfulness skills that can lead to more efficient coping with difficult situations, as well as decreased stress and anxiety. Learn to relax and unwind while building self-help skills that will last a lifetime.

Part of a Research Study sponsored by the University of Utah. Contact Emily [Haygeman](#) at

for additional information

Classes begin
Tuesday,
MARCH 29, 2016
7:00 – 9:00 p.m.

Class participants should bring a notebook, something comfortable to sit on (cushion, pillow or blanket) and a water bottle to class.

APPENDIX I

INFORMATION AND SCREENING SCRIPT

Information and Screening Script (for parents)

“Thank you for your interest in the *Just Breathe: Teens Learning to Live Mindfully with Stress and Drama* group. I am going to ask you a couple questions, tell you a little bit about the group and then we will have time to address any questions you may have.

To begin, please answer the following questions:

Is your adolescent in middle or high school?

If YES, continue.

If NO, inform that they do not meet criteria and refer to another group offered through the JFEC for the appropriate age group.

Has your adolescent ever participated in a group-administered mindfulness intervention in the past?

If NO, continue.

If YES, ask if they would like to be put on the wait list for future groups that are not a part of the current research study.

This group is offered to adolescents in middle and high school, and is designed to teach mindfulness techniques that have been shown in the research to decrease stress and anxiety, increase concentration and improve emotional well-being. Mindfulness is often described as moment-to-moment, non-judgmental awareness. It offers us a lens through which to experience our lives in a more present, alert, and gentle way. The mindfulness techniques we will practice during the group include seated meditation, walking meditation and gentle yoga. We will also practice mindfulness in everyday activities such as eating or having a conversation, and we will have discussions about mindfulness and how it can have an effect in our lives. Because this is a research study, we will need to collect some information from yourself and your teen before, during and after group participation.

The group will meet for 6 weeks total. The class meets Tuesday evenings from 7-9. The first meeting will involve an orientation, opportunity to provide permission to participate, and an opportunity to fill out questionnaires. Please plan to arrive at 6 on the first group meeting so that we have time for everything. (Snacks will be provided).

Are you able to make the commitment to attend the 6 group meetings and the one additional data meeting at the Jordan Family Education Center?

If YES, place their name on the list.

“Thank you for your interest in having your teen participate. We will be calling you soon to set up a time for you to come in to go over the details of the study and the consent form you need to sign in order for your teen to participate. Do you have any questions about the study right now?”

If NO, ask about barriers to group meeting. Ask if they would like to be put on the wait list for future groups.

APPENDIX J

DEMOGRAPHIC AND BACKGROUND QUESTIONNAIRE

Parent Information**Person completing this form:**

Mother Father Other _____

Parent Relationship Status:

Single parent Married, living together Married, separated
 Divorced, single Divorced, remarried Living together, unmarried

In terms of race/ethnicity, which of the following do you most identify with?

- White/Caucasian
 African American
 Hispanic/Latino
 Native American
 Asian American
 Other: _____

In terms of race/ethnicity, which of the following do you most identify for your teen?

- White/Caucasian
 African American
 Hispanic/Latino
 Native American
 Asian American
 Other: _____

How many years of formal education have you completed?

- Less than high school High school/GED Some college or trade school
 Graduated college

How familiar are you with the practice of “mindfulness”?

- Not familiar at all/ No knowledge of the practice
 Somewhat familiar/ Have some knowledge of the practice
 Familiar/ Have knowledge of the practice
 Very familiar/ Have in-depth knowledge of the practice

If you marked “Somewhat familiar,” “Familiar,” or “Very familiar,” on the above question, please answer the following questions:

How did you learn about mindfulness?

- News article or television

- Counselor or therapist
- As a participant in a mindfulness group
- Through a friend or family member
- Other _____

How often do you practice mindfulness yourself?

- Never
- Occasionally (At least once a month)
- Often (At least once a week)
- Almost every day
- Other _____

How did you hear about our group?

- Flyer/advertisement
- Counselor or teacher at my student's school
- Referred by past participant(s)
- After participating in another class at Jordan Family Ed Center
- Other _____

Have you or your spouse been diagnosed with any psychiatric diagnoses (such as ADHD, Anxiety Disorder, Mood Disorder, Bipolar Disorder, Depressive Disorder, Autism, etc.)?

- Yes
- No

If (Yes), Please list the diagnosis/diagnoses:

Participating Teen Information

Name: _____ **Nickname/Goes by:** _____

Date of birth: _____

Gender: _____

Grade in school: _____

Has your teen learned mindfulness before?

- Yes
- No

If (Yes), Please describe the activity: _____

Has your teen been diagnosed with any psychiatric diagnoses (such as ADHD, Anxiety Disorder, Mood Disorder, Bipolar Disorder, Depressive Disorder, Autism, etc.)?

Yes

No

If (Yes), Please list the diagnosis/diagnoses:

In the past, has your teen participated in counseling or therapy?

Yes

No

If (Yes), Please describe the type of therapy and duration of therapy:

Currently, does your teen participate in counseling or therapy?

Yes

No

If (Yes), Please describe the type of therapy and duration of therapy:

In the past, has your teen taken any medications for psychological symptoms (such as depression or anxiety)?

Yes

No

If (Yes), Please describe below:

Currently, is your teen taking any medications for psychological symptoms (such as depression or anxiety)?

Yes

No

If (Yes), Please describe below:

During a few of the lessons, we will practice easy “mindful movement” practices that are similar to simple yoga. Does your teen have any physical issues or disabilities of which we should be aware?

Yes

No

If (Yes), Please describe below:

We will be giving out snacks towards the end of each group session. Please note any diet restrictions your teen may have:

APPENDIX K

GROUP PARTICIPANT EXPECTATIONS

Just Breathe: Teens learning to live mindfully with stress and drama

What to Expect from this Class:

In this class we will work with mindfulness practices that have been shown to decrease stress, increase concentration, and improve emotional well-being. Each week we will learn a new technique, practice together, and have discussions. Techniques include breath awareness, body scan practices, and gentle yoga. At first the techniques may seem simple. Stick with it, and see how it goes for you!

Expectations:

- Our goal is to create a safe atmosphere in this group. In order to do so, here are our expectations:
 - What is said in group stays in group
 - Listen to others, do not interrupt
 - Stay positive, no putdowns
 - Keep cell phone silenced and put away
- There will be a small amount of homework! Homework is to do 10 minutes daily of mindfulness practice.

Weekly Class Schedule:

- Centering with bell
- Check-in with group (stress level, mindfulness practice)
- Lesson 1
 - Includes Teaching, Practice, and Discussion/Journaling
- Break
- Centering with bell
- Lesson 2
 - Includes Teaching, Practice, and Discussion/Journaling
- Lesson 3
 - Includes Teaching, Practice and Discussion/Journaling
- Snack/ Discussion
- Wrap up discussion/ Review of homework expectations

What to Bring:

Healthy snacks will be provided each week. Please bring the following to class with you:

- Water bottle
- Cushion or pillow to sit on
- Journal or notebook for reflection (paper will be provided as necessary)

Any questions or concerns during the week? Please contact us.

Emily: emily.haygeman@gmail.com

APPENDIX L

PARENT INFORMATION SHEET

Just Breathe: Teens learning to live mindfully with stress and drama

Parent Information Sheet

Rationale for the Group:

Research has shown that adolescence is a time of increased stress. The most recent edition of the Stress in America Survey™, conducted by the American Psychological Association (APA), found that teens are experiencing levels of stress that meet or exceed that of adults. Additionally, most teens experience more challenges dealing with their stress, and they have less solidified coping skills as compared with adults.

Research in the area of mindfulness interventions has been promising. Researchers have found that a mindfulness practice can decrease stress, anxiety and depression, enhance immune function, decrease need for medication, increase motivation to make changes, and improve sleep quality. In addition, research with children and teens has reported improvements in working memory, attention, academic skills, social skills, emotional regulation, and self-esteem, as well as improvements in self-reported mood, and decreases in anxiety, stress and fatigue.

What is Mindfulness?

The following definition of mindfulness is borrowed, with permission, from mindfulnessutah.com.

Often described as moment-to-moment, non-judgmental awareness, mindfulness offers us a lens through which to experience our lives in a more present, alert, and gentle way. One might say it is a way of life that cultivates our capacity for sharpening the mind and opening the heart.

In his book *Wherever You Go There You Are*, Jon Kabat-Zinn wrote: “This kind of attention nurtures greater awareness, clarity, and acceptance of present-moment reality. It

wakes us up to the fact that our lives unfold only in moments. If we are not fully present for many of those moments, we may not only miss what is most valuable in our lives but also fail to realize the richness and the depth of our possibilities for growth and transformation.”

The busy pace of our lives holds us captive from ourselves and others in our lives. Even the beauty of a sunset or our child’s laughter can be lost on us. When was the last time you were able to give a thoughtful, honest answer to the question “How are you doing?” Running from one place to the next, working down the “to do” list, we keep up the pace until we feeling exhausted, overwhelmed, out of balance, and out of touch.

Mindfulness practice offers us a way to relate directly to what we are feeling in our bodies, hearts, and minds with gentleness, curiosity, and compassionate awareness. All that we encounter in our lives – the stress, the pain, the pressures of daily life – can be experienced through this lens of mindfulness. As a result, we may feel many positive benefits and a general sense of wellbeing and balance.

What to Expect from this Class:

This class uses a curriculum called *Mindful Schools*, which was developed in Oakland, CA. The curriculum is originally intended for use within a classroom setting, and is comprised of 15-min lessons to be delivered over 18 weeks. This class at Jordan Family Education Center will builds on those lessons in a group-based format designed to be delivered for 2 hours a week over 6 weeks. More information about *Mindful Schools* can be found here: <http://www.mindfulschools.org/>.

In this class, your teen will work with mindfulness practices that have been shown to decrease stress, increase concentration, and improve emotional well-being. Each week they will learn a new technique, practice in a supportive group environment, and discuss stress and coping skills.

With regular mindfulness practice, your teen may choose to engage in some introspection or quiet times during the next six weeks. Please allow them to do so. Looking inward can, at times, cause one to reflect on one's emotions and experiences. Depending on the particular emotion or experience, this can be a pleasant or unpleasant experience. Please allow your teen the freedom to be "in the moment" with whatever they are feeling. Of course, if there are changes or concerns that arise during the group or as a result of the group, please let us know (contact information below).

How You Can Help:

We will be asking participants to commit to a daily practice of the techniques learned during group. You can offer support in these areas:

- *Finding an appropriate place and time for the practices.* This is most effective if they choose a safe, calm place where they can get some peace and quiet (encourage other family members and siblings to give them space during this time). They can set up a cushion, blanket or chair where they feel comfortable. They may also choose to make the space "their own" by adding a candle or something special to them.
- *Gently reminding and/or checking in with them, rather than forcing them to do the practices/homework.* We have found that it is most helpful to be gently supportive in your reminders to do the homework. If your teen chooses to do the homework, great. If not, and you choose to remind them, gently remind them once. If they choose to not do it, it is not your job to force them to. We will talk about barriers to practice during the group itself.
- *Practicing yourself ☺* The best way to support your teen in this practice is to model some mindful practices yourself. This can simply mean a commitment to being "more present" in your conversations with your teen. It can also mean

practicing some mindfulness techniques yourself. Below are some suggestions for building your own practice. Feel free to email us for more information!

Resources for Mindfulness Practice:

- Building a mindfulness practice for yourself can be a great way to support your teen during the next six weeks. Here are some helpful resources for adults:
- <http://marc.ucla.edu/body.cfm?id=22> This website through University of California Los Angeles (UCLA) offers free guided meditations for home practice.
- <http://mindfulnessutah.com/> This website offers a good description of what we mean when we say “mindfulness” in this group. It lists local classes and offers resources about mindfulness.

Weekly Class Schedule:

- Centering with bell
- Check-in with group (stress level, mindfulness practice)
- Lesson 1
 - Includes Teaching, Practice, and Discussion/Journaling
- Break
- Centering with bell
- Lesson 2
 - Includes Teaching, Practice, and Discussion/Journaling
- Lesson 3
 - Includes Teaching, Practice and Discussion/Journaling
- Food for Thought
- Wrap up discussion/ Review of homework expectations

What to Bring:

Healthy snacks will be provided each week. Please encourage your teen to bring the following to class each week:

- Water bottle
- Cushion or pillow to sit on
- Journal (additional paper will be provided as needed)

Any questions or concerns during the week? Please contact us.

Emily: emily.haygeman@gmail.com

APPENDIX M

“ABC” TECHNIQUE

Mindfulness in the Moment

The ABC Technique

R. Olin Levitt, Ph.D., R.Y.T.

“Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom.” (Viktor E. Frankl)

This set of integrated tools was inspired by the above quote and is a means by which one may create the “space” in which our “power to choose” exists. The technique has been successfully used in a multitude of settings by a variety of populations from preschoolers to adults. It can be practiced whenever one feels stress/anxiety/worry rising up in the body and mind.

A = **A** mindful breath

B = **B**oth words and tapping

C = **C**hoose wisely

A mindful breath helps dissipate stress in the body and mind. It could be defined simply as a breath that is paid attention to. No conscious attempt is made to manipulate the breath in any way. One may find, however, that directing attention inward often results in a deeper and longer breath. This technique creates a little space, helps one soften into the stressful experience, and soothes the nervous system in remarkable ways.

Both words and tapping is a method of grounding/centering oneself and sets the stage for skilled decision-making (via the prefrontal cortex) by coordinating a positive, four-beat phrase with the tapping of all four fingers on each hand. The finger tapping can be done on the sides of backs of the legs (while standing) or tops of the legs (while seated). Prior to the tapping, the thumbs (i.e., “anchors”) are brought into contact with the body, leaving the four remaining fingers of each hand slightly off the body and free to move. As the phrase is spoken, mentally, the fingers, beginning with the two index fingers, are brought into contact with the body and are left there to rest. When finished, both hands are flat on the body, which has a warm and soothing effect, similar to a hug. With practice, this technique can be done quickly, subtly, and privately.

Some examples of four-beat phrases:

- “I am here now.”
- “I can do this.”
- “I am ok.”
- “I can be here.”

- “I’m a calm lake.”
- “I have a choice.”
- “I can choose love.”

Choose wisely is a powerful pointer and the final step in the series. It is an internal reminder that a conscious and humane response is available in any stressful situation. A wise choice could be one that benefits both oneself and others. Given this, a wise choice could be said to be a nonviolent, loving choice. It is important to understand that a wise choice may take many forms, including silence.

Frankl, V.E. (1984). *Man’s search for meaning: An introduction to logotherapy*. New York: Simon & Schuster.

The finger tapping technique was inspired by Jennifer Cohen Harper, founder of Little Flower Yoga (<http://littlefloweryoga.com>)

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