

Mindfulness for Students Classified with Emotional/Behavioral Disorder

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A six-week investigation utilizing a standard mindfulness for adolescents curriculum and norm-based standardized resiliency scale was implemented in a self-contained school for students with Emotional/Behavioral Disorders (E/BD). Informal integration of mindfulness activities into a classroom setting was examined for ecological appropriateness and improvement of student resiliency as conceptualized by pre and post-tests using a standardized measure. T-tests demonstrated that students perceived a significantly greater sense of personal mastery after six weeks of mindfulness activities, defined by the scale as optimism, self-efficacy, and adaptability. Additionally, students perceived a significant decrease in the level of emotional reactivity defined as sensitivity, recovery and impairment. Although a third scale, relatedness, did not reach significance, it was strongly supported and represented a trend in the significant direction. The results, both quantitatively and qualitatively, speak to the power of incorporating informal mindfulness activities into the daily educational curriculums of students.

*Do not dwell in the past, do not dream of the future,
concentrate the mind on the present moment (Buddha).*

Instead of a safe place for learning to occur, schools and classrooms have become a significant source of stress for students, teachers, and parents alike. These elicited strong negative emotions may in part be due to educational initiatives enacted to demand excellence from teachers and students – initiatives such as No Child Left Behind (NCLB) and common core educational standards – resulting in the increase in standardized testing and a *teaching to the test* mentality. The social-emotional effects on students with the increased focus on NCLB and academic achievement reforms in the U.S. have been documented through films such as *Race to Nowhere* (Abeles, 2010), calling attention to the damage the educational system is inflicting on students in the push toward and pursuit of higher levels of achievement. High-stakes testing and standards do more than push students to achieve – the current climate has also contributed to the rise of emotional dysregulation in many forms, with the paradoxical effect of lower

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grade point averages (Sena, Lowe, & Lee, 2007). Research has documented that the use of high stakes testing in schools has led to a rise in anxiety in general and test anxiety in particular (Putwain, 2008; Segool, 2009). Approximately 30 percent of all students suffer from test anxiety (Gregor, 2005), with children as young as seven years old registering complaints in this area (Putwain, 2008). The identification of anxiety disorders, such as specific phobia, social anxiety, and separation anxiety has become more prevalent among school-age children (U.S. Department of Education, 2008). General education classrooms have become more inclusive of students with learning, behavioral, and other differences, thus increasing the chance that every teacher will, at some point in his or her career, encounter students who will evidence chronic or acute anxiety. Furthermore, environmental factors outside the school setting contribute to amplified stress in schools. These factors are due, in part, to (a) violence in the community that is intensified through portrayal in the media, (b) instability in the home, such as high rates of divorce, single parent households, and unemployment, and (c) the influence of parental anxiety, all of which contribute to the rising rates of anxiety experienced by students in classrooms (Austin & Sciarra, 2016).

“Emotion is a process, a particular kind of automatic appraisal influenced by our evolutionary and personal past, in which we sense that something important to our welfare is occurring, and a set of physiological changes and emotional behaviors begins to deal with the situation” (Ekman, 2003, p.13). Although Ekman was not specifically speaking about educational attainment when he wrote “something important to our welfare is occurring...” students, teachers and parents are all well aware that how the student performs on the high stakes test is important to the welfare of all three constituents, and thus anxiety provoking for all. The physiological and emotional consequences experienced are very real. The body’s physiological response to stressful situations can include a variety of changes in body temperature, changes in breathing response, and other physical symptoms such as headaches, stomachaches, and difficulty sleeping. In similar fashion, the emotional response to stress is individual and varied. While some individuals may experience changes in mood, others may experience fear, panic, somatic responses, and a loss of control. The physiological and emotional responses are, as Ekman stated, automatic, happening outside of conscious control, but frequently co-occurring with cognitive contributions of loss of concentration, forgetfulness, and negative attribution (Ekman, 2003).

Anyone who has ever experienced the debilitating effects of anxiety knows how complex the reactions are. Anxiety disorders in general are marked by fear and avoidance. Fear is normally the response to a perceived imminent threat, while anxiety results from the anticipation of a future threat (APA, 2013). When fear prevails, the symptoms are more internalized; when avoidance dominates, the symptoms are more externalized (Dozier, Stovall-McClough, &

Albus, 2008). Internalized fear may result in somatic discomfort, while externalized fear may result in school avoidance or outward aggression. Nonetheless, fear and avoidance work together, because the instinctual solution to reduce or eliminate the fear is to avoid the thing that is feared. From a behavioral learning perspective, the avoidance is reinforced by the subsequent removal of fear. Arguably, one might hypothesize that students that are fearful, and thus experiencing high anxiety levels, would be the ones most needful of and aided by classroom based strategies to manage their symptoms and, yet paradoxically, the most resistant to these strategies simply because they are new, unfamiliar, and therefore anxiety-producing.

When feelings are not well managed, thinking can be impaired. Recent scientific advances have shown how the interrelated development of emotion and cognition relies on the emergence, maturation, and interconnection of complex neural circuits in multiple areas of the brain.... The circuits that are involved in the regulation of emotion are highly interactive with those associated with “executive functions” (such as planning, judgment, and decision making), which are intimately involved in the development of problem solving skills during the preschool years. In terms of basic brain functioning, emotions support executive functions when they are well regulated, but interfere with attention and decision making when they are poorly controlled (National Scientific Council on the Developing Child, 2004, p.3).

A national educational initiative, Positive Behavior Intervention Supports (PBIS) (Sugai & Horner, 2006), has called for students to be taught, supported and surrounded with social-emotional learning (SEL) practices at the individual and environmental level. SEL focuses on developing within students the ability to recognize emotions, their own as well as the emotions of others, while providing them the skills necessary to communicate this emotional understanding. School systems recognize the need to integrate SEL curriculums into the educational programming for students as one way to foster the development of resiliency (Zenner, Herrnleben-Kurz, & Walach, 2014). “Resiliency reflects the degree to which an individual’s personal resources match or exceed their reactivity to internal or external stress” (Prince-Embury, 2007, p. 1). Resiliency, thought to be a characteristic of normal development (Masten, 2001), enables everyone to hold an attitude of optimism and basic trust during times of uncertainty. Research in this area has identified many protective factors such as an easy temperament, emotional support, positive relationships, and good school experiences, to name a few. If in fact, resiliency is part of normal development, then it is possible for these qualities to be nurtured in all children and environ-

ments. Researchers, have identified factors of resiliency that depict resourcefulness and flexibility as effective responses to environmental circumstances, noting that individuals who exhibit higher levels of resiliency, experience less symptoms of emotional dysregulation.

Buddha is attributed with the saying, “What we think, we become.” Explicitly embedding SEL goals in educational curriculum can help to address ongoing learning in emotional self-awareness and self-management, teaching students tools to manage their thinking. Meditation in general and mindfulness specifically is designed to direct the individual’s thoughts with the goals of (1) self-regulation of awareness, (2) directing internal and external attention, (3) metacognition, and (4) the adoption of a non-judgmental attitude (Bishop, Lau, Shapiro, Carlson, Anderson, Carmody, et al. 2004), all of which support the notion of *positive psychology*. Seligman (2000) has detailed a need for restructuring the focus in psychology, away from pathology and toward positive psychology. Positive psychology, based in cognitive theory, employs structured interventions to build resiliency with the goal of buffering symptoms of emotional dysregulation. The concept of positive psychology is consistent with mindfulness, a practice that can aid in teaching students the tools to recognize emotions. Loosely defined, mindfulness is the deliberate act of paying attention in the moment while withholding judgment; more specifically it is “moment-to-moment, non-judgmental awareness, cultivated by paying attention in a specific way, that is, in the present moment, and as non-reactively, as non-judgmentally, and openheartedly as possible” (Kabat-Zinn, 2005, p.108).

Research has examined the effectiveness of mindfulness in clinical applications since the 1970’s (Langer, Janis, & Wolfer, 1975), associating the concept with psychological wellbeing (Langer, 2005) and the decrease in psychological symptoms such as anxiety and depression (Schonert-Reichl, Oberle, Lawlor, Thompson, Oberlander, & Diamond, 2015). A literature review concluded that mindfulness activities could elevate positive psychological feelings, improve functioning, and help to alleviate psychological distress through the direction of self-regulatory processes (Hart, Ivtzan, & Hart, 2013). Furthermore, preliminary studies have found that mindfulness activities can convey significant benefits to children evidencing difficulties with social competence (Flook, Goldberg, Pinger, & Davidson, 2015), as well as those suffering from social anxiety disorder (Norton, Abott, Norberg, & Hunt, 2014), and difficulties modulating attention (Semple, Lee, Rosa, & Miller, 2010).

In addition to the benefits of mindfulness practice in clinical settings, research has come out in support of the implementation of mindfulness activities in school settings (Zenner, Herrnleben-Kurz, & Walach, 2014); reporting beneficial results in areas such as academic improvement, increased attendance rates, and decreased suspensions, in addition to a sense of increased well being.

Some schools around the country have gone as far as implementing full mindfulness curriculums into the school day with the goal of improving educational outcomes and school climate for all students. Two specific curriculums with documented success in schools are *Quiet Time*, utilized successfully in the San Francisco school district (Dierke, 2012), and *Mind UP*, a curriculum in place at schools in Vancouver, British Columbia (Wickelgren, 2012). Similarities of the two mindfulness curriculums include direct instruction in meditation, guided practice several times a day, and faculty, staff and administrative support; with differences centering on the specific type of meditation taught as well as procedural implementation. Proponents of *Mind UP* found that having children focus on their breathing “can calm the emotional storm, making the skies for learning blue again” (Wickelgren, 2012, p. 52). The authors conclude that the program helped to protect students from the end of year stress. Similarly, proponents of *Quiet Time* found that by starting the day off with a 15-minute meditation, students “get a break from all the pressured activity in their lives (Dierke, 2012, p.15). When students participating in the *Quiet Time* program were surveyed, results found that 85 percent felt the program reduced their stress levels.

While large-scale implementation of mindfulness curriculums in school systems may be a worthy goal, fiscal restraint and budgetary considerations hinder progress for many school districts looking to incorporate SEL into the educational day. Fiscal concerns may impede large-scale implementation of mindfulness curriculums, leaving teachers who might otherwise like to access the benefits of mindfulness training for their students out of the movement. Toward this end, it is important to note that mindfulness techniques need not be done on a school-wide basis. Individual teachers could utilize mindfulness techniques in their classrooms in order to avail students of the documented benefits of mindfulness; as the core of mindfulness is “a flexible state of mind in which we are actively engaged in the present” (Langer, 2000, p.220), as well as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 1994, p.4). Approaches to training mindfulness embody qualities that any teacher with a little knowledge, training, and motivation can and should be able to embed into his/her own classroom.

As stated, mindfulness training is a research-based intervention that can be easily implemented in the classroom with documented effectiveness in reducing stress and anxiety. The goal of the present investigation was to determine whether the integration of mindfulness activities, taken from a published, publicly available mindfulness curriculum, could be successfully integrated into a classroom setting by a certified teacher who was not formally trained in mindfulness. The most frequently diagnosed emotional disorder at the school in which the researchers conducted their study is anxiety disorder with approximately 60 percent of the students presenting with this as a primary or secondary diagnosis

(Barowsky & Austin, 2013). Therefore, the present investigation was conducted with students who were, for the most part, diagnosed with an anxiety disorder. As it is unlikely that every school within a district has psychological staff, it is important that teachers not only familiarize themselves with the characteristics of anxiety but also learn strategies to mitigate anxiety's effects; decreasing the significant impact anxiety has on a student's academic performance in addition to their overall well being (Austin & Sciarra, 2010). The researchers sought to answer the questions of whether this informal approach to exposing students to mindfulness was (1) ecologically appropriate, and (2) if it could improve the student's resiliency as conceptualized by a standardized measure of resiliency.

METHOD

Participants

The study took place during a summer school program at a residential school located in the northeast region of the United States. The school serves secondary-level students with E/BD, located in the lower Hudson Valley of NY State. Fifteen adolescents, aged 15-17 diagnosed with an emotional or behavioral disorder and classified as Emotionally Disturbed under IDEA (2004), completed a pre and post-test assessment, as well as in-class mindfulness activities. The specific diagnoses of the students included Anxiety Disorders, Mood Disorders, and ADHD-Combined Type.

Materials

Learning to breathe: A Mindfulness Curriculum for Adolescents to Cultivate Emotion Regulation, Attention, and Performance (Broderick, 2013), a publication that presents a standardized mindfulness curriculum for adolescents was used in this investigation. This book provides a flexible outline of content designed to help students pay attention and lays out a plan for either a six or 18-session course of mindfulness study, but allows for openness and flexibility in administration on the part of the facilitator. The curriculum aims at "facilitating adolescents' recognition of their own personal experience, at the moment of that experience. This is best accomplished through your connectedness to your own inner and outer experience and to your students" (Broderick, 2013, p.3).

The Resiliency Scales for Children and Adolescents (Prince-Embury, 2007) a standardized self-report measure was utilized for the pre and post-tests. This instrument was developed in response to a need to measure previously identified constructs associated with resiliency. The scales are a self-report measure that has been written at a third grade reading level to make it accessible and understandable to various ages and ability groups (Prince-Embury, 2007). The instrument uses three different subscales, each taking approximately five minutes to complete, measuring core personal qualities associated with resiliency, and normed from a developmental perspective. The rationale for developing the self-report

instrument was based on research demonstrating that an adolescent's account of their internalizing behaviors is more accurate than others' perception (parents or teachers) of the behaviors (Berg-Nielson, Vika, & Dahl, 2003).

The three scales that constitute *The Resiliency Scales for Children and Adolescents* are:

- 1). MAS - The individual's response to interaction with the environment. Low scores indicate low mastery while high scores indicate strong feelings of mastery. Subscales are:
 - Optimism - positive attitude about life;
 - Self-Efficacy - sense that one can master their environment, competence; and
 - Adaptability - receptive to feedback, ability to learn from mistakes.
- 2). REL - The individual's connection to others in a social context. Low scores indicate poor relatedness while high scores indicate a connection with others. Subscales:
 - Sense of Trust - ability to receive and accept what is given, reliability of others;
 - Perceived Access to Support - there are others to whom one can turn in adversity;
 - Comfort with Others - experiences had in the presence of others without anxiety; and
 - Tolerance of Differences - belief that differences can be expressed safely.
- 3). REA - A pre-existing vulnerability or threshold of tolerance. Low scores indicate resiliency while high scores indicate vulnerability. Subscales:
 - Sensitivity - threshold and intensity of reaction;
 - Recovery - ability to bounce back from emotional arousal; and
 - Impairment - ability to maintain emotional equilibrium when aroused.

Procedure

The study was conducted over a six-week period during which the students were enrolled in the summer school program. The classroom teacher administered the self-report instruments and mindfulness activities during the homeroom period at the beginning of the day; taking place from approximately 8:30-8:45 am, Monday-Friday. The *Resiliency Scales for Children and Adolescents*, a three scale, 64-item self-report instrument that assesses qualities of resiliency from a standardized, norm-referenced perspective (Prince-Embury, 2007), was given to students before beginning the mindfulness activities. Each student was asked to complete all three scales before beginning the program (pretest) and at

the end of the six-week program (post-test), after the completion of six weeks of regular mindfulness activities.

The classroom teacher, a New York State certified educator, conducted mindfulness exercises following the *Six Session Program* as outlined in Broderick (2013), *Learning to breathe: A mindfulness curriculum for adolescents to cultivate emotion regulation, attention, and performance*. Each morning, during the home-room period, one of the mindfulness exercises, which typically lasted from 5-10 minutes, was presented to students.

Each session began with a *centering* exercise during which each student-participant was encouraged to adopt a relaxing sitting position with eyes closed, and then to focus only on her or his breathing in silence. At the conclusion of each session, students were asked for their feedback relative to their levels of attending, stress, and focus.

An example of the practice of “mindfulness” as it was implemented in the teacher’s classroom follows:

Teacher: “This morning I’m going to teach you a way to help you improve your focus and reduce your stress and anxiety. First, I want you to sit comfortably in your chair with your back straight and both feet on the floor. Next, place your hands on your desk, open and palms up. Now, close your eyes and breathe normally in and out of your nose. As you do this, I want you to gradually shift the focus of your attention to your breathing and consciously breathe deeply and slowly, in and out. As you do this, thoughts will enter your mind, queries about the purpose of this exercise, such as ‘Why am I doing this?’ concerns about how you look, what you have to do next in your day, what you did earlier this morning and yesterday. Don’t focus on these thoughts; simply acknowledge them and let them go. Try not to judge them or assign them a value, just stay focused on your breathing, being mindful of your body, from the soles of your feet to the top of your head.” [This process continued for a few minutes, after which the teacher signaled the conclusion of the session with a gentle word or sound.]

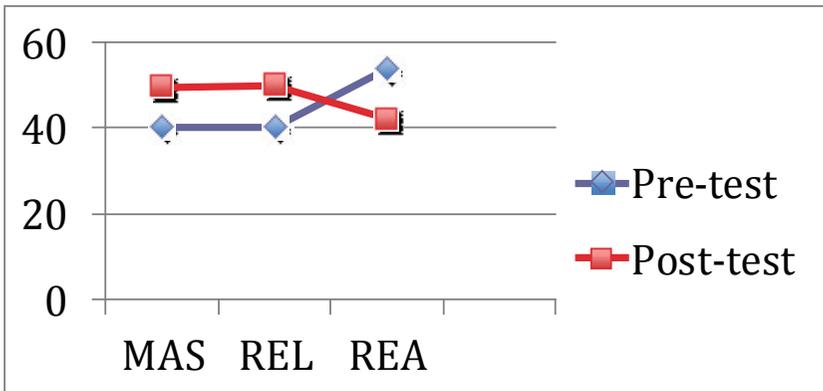
RESULTS

Fifteen students completed both the pre and post-test administration of the three subscales that comprise the *Resiliency Scales for Children and Adolescents*. Pre and post-test forms were coded in order to provide confidentiality to students. Names associated with coded forms were securely kept by one of the two primary researchers in a locked file cabinet. Student identities were anonymous to all others.

Each scale was scored utilizing the specified method detailed in the test manual and raw scores were converted to T-Scores using the validated and normed tables provided by the test developer. T-scores for each scale were aver-

aged for both the pre and post-test on each of the three scales (See Figure 1). Examination of the graphed pre and post-test mean scores depicts a pattern of initially lower scores on the MAS and REL scales, with higher scores on the REA scale. After the six-week mindfulness intervention, the students' pattern of scores reversed. The post-test scores demonstrated higher MAS and REL scores and lower REA scores, which is a preferred score profile.

Figure 1. Pre-Post Test T-Scores for Three Resiliency Scales



A two-tailed t-test for paired scores was conducted to analyze the significance of mean pre and post-test score differences for each scale (See Table 1). A paired two-tailed t-test of student mean scores for the MAS scale revealed a p-value of $p = 0.011954$, which indicates strong statistical significance $p \leq .05$ (See Table 1). The MAS, which examines interaction with the environment and an individual's optimism, self-efficacy, and adaptability, with high scores indicating strong feelings of mastery in these areas, demonstrated significant improvement from pre to post-test. On the MAS, there was a significant increase for 12 of the 15 participants.

In addition, a paired two-tailed t-test of the means of student scores for the REL scale revealed a p-value of $p = 0.151281$, which indicates a positive directional trend (See Table 1). Similarly, the REL, measuring connection to others in a social context; specifically, an individual's sense of trust, perceived access to support, comfort with others, and tolerance of differences, and for which a high score indicates connection with others, showed a positive directional trend overall with a significant increase for 9 of the 15 participants.

The REA, which measures pre-existing vulnerability or threshold of tolerance, for which a *low score* indicates resiliency, indicated a significant decrease for 11 of the 15 participants. Furthermore, a paired two-tailed t-test of the

means of scores for this scale indicated a p-value of $p = 0.001375$, which clearly evidences very strong statistical significance $p \leq .01$ (See Table 1).

Table 1. Two-tailed T-Test for Paired Scores

Subscale	Significance
Sense of Mastery (MAS)	.011954 *
Sense of Relatedness (REL)	.151281
Emotional Reactivity	.001375*

N=15. * $p \geq .01$.

Observed Student Participant Behaviors and Feedback

Throughout the six-week program, the classroom teacher informally observed the students as they participated in the mindfulness activities. Each morning, all 15-student participants appeared to be actively engaged in the mindfulness exercises. When present, each student participated fully for the entire six-week program. Several student participants shared that they perceived the mindfulness exercises to be effective in helping them feel centered and focused for the day. Several student participants shared that they truly looked forward to the morning’s mindfulness exercises and hoped that the class would continue to practice them throughout the regular school year. On occasion, students asked to lead the exercises, and this was both permitted and encouraged by the homeroom teacher.

DISCUSSION

Positive Behavior Intervention Supports (PBIS) are required parts of school curriculums, and mindfulness activities represent one strategic way to bring social and emotional learning (SEL), part of PBIS, into schools. As rates of stress and anxiety increase for children and adolescents (U.S. Department of Education, 2008), it is imperative to teach them how to manage these strong emotions, before the emotions undermine academic, social, and behavioral success. Mindfulness proves to be a useful tool in that direction (Zenner, Herr-

leben-Kurz, et al., 2014). Students in a self-contained special education school devoted to individuals with E/BD were an ideal group to utilize an intervention that promotes attention, emotional regulation, and self-efficacy. Results of this investigation demonstrated a significant increase in student's self-reported resilience, measured as optimism, self-efficacy and adaptability, as well as a decrease in student's vulnerability, measured as sensitivity, recovery, and impairment after only six weeks of implementation. Although this investigation utilized students primarily diagnosed with anxiety disorders, this is a curriculum that could also be beneficial to all students.

Thus, based on the measurable outcomes derived from the *Resiliency Scales for Children and Adolescents* (Prince-Embury, 2007), as well as behavioral observations, and the positive feedback provided by several of the student participants, the standard mindfulness program was observed to be beneficial in improving the focus of these students and, in so doing, helped to increase their perception of resilience. The teacher reported that students appeared more centered and less anxious after participating in the mindfulness exercise. Later in the school day, when participants were informally asked for their perception of the effects of the mindfulness practice on their anxiety-levels, students unanimously expressed their belief in its contribution to a reduction in both stress and anxiety. In addition, the implementation of the standardized program was easily learned and managed by the classroom teacher. Although the teacher had no formal training in mindfulness or meditation, the manualized approach was similar in structure to typical educational curriculums, facilitating the ease of administration. By incorporating methods of mindfulness training into the students' day, a major contribution toward dysregulated behavior, experiences of anxiety, was reduced. Tools to moderate anxiety, such as mindfulness techniques, which contribute to better academic, social, and cognitive function, can and should be placed in the repertoire of classroom teachers.

The results of this investigation, though encouraging, represents but a small beginning in the quest to substantiate the efficacy and feasibility of introducing an informal mindfulness program in schools by teachers. Accordingly, the authors encourage other educators and educational researchers to contribute further to this endeavor by studying the effectiveness of a mindfulness curriculum on the self-efficacy, resilience, and social skills of school-age students by: gender, grade, age, culture, and exceptionality, to suggest a few analytic variables. The results of many such investigations might provide sufficient evidence that mindfulness protocols are effective for school-age children in the areas identified, as well as others that were not acknowledged in this study. Perhaps then, schools and teachers nationwide might implement effective mindfulness programs, for the benefit of their students.

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