The Impact of Mindfulness-Based Yoga Interventions on Elementary Students’ Perceived Emotional Wellbeing and Classroom Transitions

by
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Dedication

This manuscript is dedicated to all of my future students.
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ABSTRACT

ASHLEY BERRY: The Impact of Mindfulness-Based Yoga Interventions on Elementary Students’ Perceived Emotional Wellbeing and Classroom Transitions
(Under the direction of Dr. Alicia Stapp)

In recent years, there have been rising expectations for students’ academic performance in the United States (United States Department of Education, 2016). As a result, many students experience stress and anxiety. Simultaneously, an increased amount of instructional time has led to more sedentary behavior in the classroom (Burns et al., 2015). Therefore, this study sought to alleviate students’ daily stress and anxiety while also giving students the chance to move and stretch through the utilization of mindfulness-based yoga interventions.

Recent studies have found that mindfulness is beneficial for people cognitively, physically, and mentally (Blair, 2007; Folleto, 2016; Mendelson, 2010). This study examined the benefits in a fifth-grade classroom through the implementation of mindfulness-based yoga interventions. Fifty-eight students in three separate fifth-grade mathematics classes in a Northwest Mississippi intermediate school participated in the study, which took place between Monday, October 15th, 2018 and Friday, November 30th, 2018. The study consisted of three weeks of observations and three weeks of interventions. Interventions took place during the first five minutes of each class and consisted of guided breathing exercises and yoga poses. A pre- and post- intervention questionnaire revealed that mindfulness-based yoga interventions had a positive impact on most students’ perceived anxiety, stress, and ability to transition. Findings also suggest that these interventions may be particularly beneficial for remedial males.
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**Introduction**

Children in the United States are asked to do and learn more than ever before. With rising expectations for academic performance, schools and teachers have been forced to make cuts in non-academic parts of the school day (Davidson, 2007; Reilly, Buskist, & Gross, 2012). The Every Student Succeeds Act, signed into law in 2010 by former President Barack Obama, mandated that all students be held to high academic standards. This law increased instructional time across the nation, as states and districts made adjustments to meet their goals (United States Department of Education, 2016). Schools, teachers, and students are now expected to perform on a higher level. This revision in law has also precipitated a change in daily academic schedules by shortening times for physical education and recess in order to increase time for focusing on academic subject areas (Kohl & Cook, 2013). Students are now required to stay sedentary for the majority of their day (Burns et al., 2015). As children, students are meant to lead active lives, and they benefit from mental, physical, and emotional activities. This trend in increased sedentary classrooms and decreased physical activity provides justification for classroom teachers to find ways to incorporate small breaks into classroom routines. Thus, this study aimed to incorporate small mindfulness-based yoga breaks throughout the day to determine its impact on students’ perceived stress, anxiety, and ability to transition to work.
Literature Review

In 2001, under President George W. Bush’s administration, the No Child Left Behind Act (NCLB) was put into law. It included yearly testing on reading and mathematics, beginning in the third grade. In order to increase the stakes and push schools toward higher academic achievement, the Race to the Top initiative was introduced in 2009. This initiative put states against each other to compete for federal education grants. This funding was based on states’ test scores. In 2015, under President Barack Obama’s administration, the Every Student Succeeds Act (ESSA) supported the mandatory testing set forth in the NCLB. This act was put in place without sufficient evidence that these annual tests actually increased the achievement of students in reading and mathematics (Stotsky, 2016). With these annual tests in place, teachers and administrators were forced to place an even stronger emphasis on the material that the tests covered, while instructional time in these subject areas increased substantially.

Due to both federal instructional mandates and increased sedentary behaviors during the school day, many students now have an especially difficult time focusing on instructional tasks in the classroom, which hinders their abilities to perform well academically (Reilly et al., 2012). A lack of effective intervention strategies to assist students with attentiveness during instruction is compounded by the extensive amount of stress and pressure students are placed under to perform well (Hagen, 2014). While academic expectations for students have risen considerably, very few adopted and consistent interventions or programs enable students to reset their brains and bodies
During classroom instruction and manage rising pressures. Subsequently, this leaves many students inattentive, restless, and fidgeting in the classroom.

One approach to preventing inattention in the classroom that has steadily gained momentum over the past decade is the practice of mindfulness. While this is becoming an emerging trend for classroom teachers, there is a deficiency in the literature regarding effective mindfulness practices in the elementary classroom. Moreover, there is even less research on effective mindfulness-based yoga interventions for the classroom. Therefore, this study focused on the implementation of mindfulness-based yoga interventions in the classroom and documented changes in students’ perceived stress and anxiety levels, alongside their perceived ability to transition into the classroom through researcher observations, a teacher interview, and student pre- and post questionnaires.

Mindfulness

Definitions of mindfulness vary by practice or researcher, but a consistent theme in all definitions is the intentional focus and awareness on one’s present environment. Researchers at The University of California Berkley noted that it includes a non-judgemental thought process with the knowledge that there is no correct way to think or feel in any given moment (Greater Good Magazine, n.d.). The word “mindfulness” itself is a translation of the Sanskrit word “smrti,” meaning remembering and recollecting, particularly remembering the teachings of Dhamma (Sharf, 2015, p. 473). It is an internal practice rooted in Buddhist meditation and is often seen in yoga and tai chi. Sharf (2015) stated that early Buddhist beliefs expressed a need for suffering in life; in order to relieve this suffering, one must escape this world. Mindfulness was practiced to abandon the good and happiness of this world in order to cultivate that suffering. However, as time
continues, the Buddhist beliefs have progressed towards a stronger focus on happiness. Mindfulness is more recently practiced as a “therapeutic release” in search of peace and fulfillment (Sharf, 2015). The practice of mindfulness has also become more common in Western culture and recent research has revealed the emotional, social, and physical benefits that arise when children practice mindfulness (Ager, Albrecht, & Cohen, 2015), as outlined below.

**Mindfulness in the classroom setting.** As studies centered on proving the benefits of mindfulness in adults become more common and results are published more frequently, researchers turn their attention to students and children. Like adults, mindfulness benefits all aspects of students’ lives. While many believe that the classroom is only meant for academia, the classroom should also foster growth of the whole child. All students’ needs must be met including their social, emotional, and physical needs before students can begin to focus on their learning (Lund, 2010). The implementation of mindfulness-based interventions into the classroom has the potential to reach all of these aspects of a child’s learning. Mindfulness has been implemented in all areas of the world through curriculum and school-based programs such as the Master Mind Program (Parker, Kupersmidt, Mathis, Scull, & Sims, 2014), Mindful Schools (Mindful Schools, 2007) and Open Circle Program (Open Circle, 1987); along with apps such as Calm (Calm, n.d.) and Head Space (Head Space, 2010).

Mindfulness has the ability to benefit students of all different ages, genders, and ability levels. Napoli (2005) stated “if students can learn to be ‘fully-present,’ they can increase the quality of their learning performance by being more focused, and become better able to deal with stressful situations” (p.101). This is true for students in both the
general and special education classroom. These students have shown increased
improvements in attention level, performance, behaviors, and socialization through the
implementation of mindfulness.

**Effects of mindfulness on self-regulation.** Mindfulness is often seen as a non-
judgemental awareness of the present moment. By using this definition alone, one can
gather the benefits of mindfulness on both mental and emotional states. Mindfulness also
fosters thoughtful responses rather than immediate actions, which can improve reactions
to the obstacles and stressors faced daily at school (Parker et al., 2014; Pepping,
O’Donovan, & Davis, 2013). More specifically, when students utilize mindfulness
strategies it can improve their self-control and self-regulation, directing them away from
poor decisions (Parker et al., 2014).

Mindfulness can also be fostered through the practice of yoga, which adds the
element of physical strength alongside the mental strength found in mindfulness
practices. Children often struggle with monitoring their reactions and decisions, but
practicing yoga can help foster the development of the ability to self-regulate their
emotions and stressors by taking a step back to focus and understand what is going on
around them before reacting (Razza, Bergen-Cico, & Raymond, 2013). Students are then
more aware of their thoughts and emotions, and utilize that awareness to respond to
various situations (Parker et al., 2014).

Razza et al. (2013) conducted a study that analyzed mindfulness-based
interventions on self-regulation in an urban classroom of 29 students – 16 students in the
intervention group and 13 students in the control group. The study used a pre- and post-
test – completed by both parents and students – rating the students’ self-regulation.
Following the pretest, the intervention students began receiving yoga instruction in their classes, while the control group did not. Both groups were then given a series of tests that observed their attention, delay of gratification, and inhibitory control. The study found that the student who received yoga instruction exhibited increased attention and inhibitory control. These findings indicate that the impact mindfulness-based yoga can have on self-regulation is vital in the classroom, as it helps students stay more calm, alert, and focused on the task at hand (Blair, 2007). This state of calm focus is where the best learning occurs.

**Effects of mindfulness on stress.** With the rise in expectations for academic achievement and standardized testing performance, many students also fall under an increased amount of stress (Hagen, 2014). The following studies examined the alleviation of stress through yoga. One study (Stuck & Gloeckner, 2007) focused on the emotional well being of 48 fifth-grade students. Throughout this study, students participated in yoga classes. Students would begin with a period of relaxation in which they would prepare themselves for the yoga by focusing on each part of their body. The students would then move to a session of yoga. Throughout the study, 23 different yoga exercises were taught to the students. The end of the class focused on the students’ social wellbeing and partnered students together to complete trust exercises, partner massages, and sensory games. At the conclusion of this study, the students who participated reported a decrease in feelings of helplessness, stress, and aggression. The students also showed more positive behaviors in the classroom and an increased control over emotions after the implementation of yoga. Similarly, Mendelson (2010) also examined the stress and mental health of fourth and fifth-grade students. These students were introduced to yoga-
based physical activity, breathing techniques, and guided mindfulness practices. The
students participated in the study for 12 weeks and were encouraged to utilize what they
had learned outside of yoga class. Students were very enthusiastic about the intervention
and reported a decrease in stress through their responses to a questionnaire focused on
responses to stress.

**Effects of mindfulness on anxiety.** Anxiety can also negatively affect students in
school; however, the practice of mindfulness can help reduce anxiety. Kristina Suter, a
special education teacher, noted that her students were often worried about everything
else going on or what was to come, but after they learned to be mindful of the present
moment, they were able to better focus on the task at hand (Garey, n.d.). Relief from
anxious situations can also affect all students regarding unit tests and standardized
testing, which helps them to be more focused on their performance rather than be anxious
about their results. A study conducted by Carsley and Heath (2015) examined students’
anxiety before a spelling test. Participants consisted of 152 students, half of which
completed a mindful activity before their spelling task, while the remaining half had a
free draw activity before their spelling test. It was found that students who participated in
the mindful activity had significantly lower anxiety levels than the students who did not
complete the mindful activity.

Semple (2010) conducted a study that examined twenty-five students using
Mindfulness-Based Cognitive Therapy, but modified the therapy to fit children. The
participants were between nine and thirteen years old and were each enrolled in a reading
program for remedial students. Throughout the study, the students practiced seated
breathing techniques and body meditations. They also practiced bringing mindful
attention to students’ thoughts and emotions. Students who initially showed high levels of anxiety at the beginning of the study showed a significant reduction in anxiety levels and negative behaviors at the end of the study. Another study sought to examine how students felt about the implementation of mindful programs in school (Ager et al., 2015). Elementary school students kept journals throughout the duration of the study, and underlying themes were pulled from the students’ writing to support the research. The study found that mindfulness improved the overall wellbeing of students, and the use of guided breaths helped students manage anxiety.

**Physical benefits of mindfulness.** The physical benefits of yoga are predominantly found in adults; however, the practice of yoga has proven to be helpful in body awareness and brain development in children. Broderick and Metz (2009) conducted a study in a Catholic, all-girls school which noted the benefits of mindfulness in the classroom through a series of interviews and pre- and post-tests. The study focused on body awareness, understanding one’s feelings, thoughts, and bodily sensations. The study was implemented in a high school senior classroom setting and consisted of a short lesson, group activities, and mindful meditation. The students who participated in this study reported considerable reductions in tiredness and stated that they felt a decrease of general aches throughout their body.

Children have also shown significant gains in motor development through yoga programs. Follenfo (2016) conducted a study that examined sixteen first-graders’ balance, strength, and flexibility. Student participants completed a twelve-week intervention that consisted of two forty-five minute yoga sessions a week. A motor proficiency test was used to determine the change in students’ motor abilities. Following the interventions,
students showed positive changes in balance, strength, and flexibility. A similar study conducted by Donahoe-Fillmore (2019), studied the balance, strength, coordination, and flexibility of twenty-six students, ages ten, eleven, and twelve. These students participated in forty-minute yoga classes one to three times a week for eight weeks. The researcher utilized a motor proficiency test to measure changes in the students. The study showed significant changes in balance and hamstring flexibility.

**Cognitive benefits of mindfulness.** Through a TedTalk, Rick Hanson (2013) noted that mindfulness meditation could help strengthen our brain. He also asserted that those who practice mindfulness have “measurably thicker brains” in the insula region, the frontal region of the prefrontal cortex, and the somatosensory cortex. Providing evidence to these claims, Hanson (2013) worked with a cohort study comparing the brain thickness of those who practice mindfulness meditation and those who do not. Those who did not practice mindfulness experienced thinning of the brain, or cortical thinning, which is typical with aging. Finally, he identified that those who did practice mindfulness did not experience cortical thinning, but rather their brain remained the same thickness even as they aged (Hanson, 2013).

Within the classroom, a study conducted by Bellinger, DeCaro, and Ralston (2015) focused on the relationship between mindfulness and test scores. Within this study, the undergraduate student participants listened to recordings of mindful breathing exercises and completed questionnaires to examine their anxiety and mindfulness. At the conclusion of the recordings and questionnaires, participants completed a set of math problems. The study found that participants completed the problem set with more accuracy following the intervention because of a decrease in test anxiety.
**Classroom benefits for teachers.** Teachers also face high stress and anxiety in their lives, which can affect the classroom environment. Research has found that some teachers struggle managing stress related to students who lack motivation, student discipline, workload, constant changes, evaluations, administration, self-esteem, and poor work conditions (Kyriacou, 2001). The attitude and behavior of a teacher can even affect a student’s learning and the quality of the overall classroom. Students in happier classrooms with positive teacher-student relationships were found to be more engaged and performed better in school (Eccles, 2004; Holas & Huston, 2012). Therefore, interventions that are not only beneficial to the students, but also to the teachers, could be deemed highly instrumental in classroom success.

Mindfulness and yoga have proven to be helpful for adults, and teachers in particular can see this in their classrooms and in their daily lives. Carole Clancy, a special education supervisor in Pennsylvania, stated that before her school implemented yoga, she faced a high teacher turnover rate. Since the implementation of yoga, the turnover rate has decreased dramatically (Garey, n.d.). With hyperactive and seemingly uncontrollable students, teachers came and went year after year, until finally mindfulness was introduced in their classroom. The students started practicing awareness of the “attention to breath, to how different parts of their bodies feel, how their feet connect to the floor, their seats to their chairs, and… the present moment” (Garey, n.d., para. 4). Through their practices, the students were calmer and more capable of self-regulating, making their education and their teachers’ work more enjoyable and effective.
Current Research on Mindfulness-Based Programs

While there are many individual benefits of practicing mindfulness, schools have recently begun to adapt mindfulness-based programs in light of these advantages. Several programs have been developed in an effort to implement these practices into classrooms across the United States. The Open Circle Program was created for kindergarten through fifth-grade. This curriculum is based on five topics - beginning together, managing ourselves, strengthening relationships, how to sort problems, and problem solving. Mindfulness is found throughout the curriculum through activities such as “calm breathing techniques, pause button, partner reflections, chair yoga, 3-minute breathing space, walking meditation, and what color are your feelings?” Open Circle believes that “mindfulness is a key support for optimal learning” and “cultivated greater self-awareness and an expanded awareness of others around the world” (Open Circle, 1987, para 1).

Another program, Mindful Schools, focuses on “under-resourced public schools facing high turnover rates and toxic stress” (Mindful Schools, 2007, para. 1). This program provides a simple curriculum that is easy to implement into the typical school day. It is the belief of the program creators that mindfulness is more than just a trendy fad, but rather an important practice that is beneficial to all children. Mindful Schools wants teachers to understand the emotions and stress that students in today’s society increasingly experience, so courses are offered in order to equip the nation’s teachers with the ability to utilize mindfulness-based interventions to work with students on these issues.
Calm Schools took a different approach and rather than writing curriculum, created an app that can be utilized in the classroom (Calm, n.d.). They provide the app free to every teacher across the world in order to provide teachers with the necessary resources to engage students in calming activities. The app contains breathing exercises, calming music, and guided meditation sessions with a focus on topics such as anxiety, stress, self-esteem, and happiness. There is also a Daily Calm feature to get the day started in a peaceful and calm manner.

Head Space is another app that was initially created with businessmen in mind, but further developed to allow everyone access to mindful practices at all times (Head Space, 2010). The app consists of guided meditation exercises for work, children, sleep, focus, stress, and anxiety. The meditation aimed towards children includes themed exercises to help them focus, be kind, calm down, go to sleep, and wake up. These exercises are further grouped for different age groups including under five-years-old, six to eight-years-old, and nine to twelve-years-old.

The Master Mind program was developed specifically to equip students with self-control regarding substance use (Parker et al., 2014). The program is comprised of four sections – awareness of the body, awareness of feelings, awareness of thoughts, and awareness of relationships. The awareness of body is focused on students’ understanding of the body and sensations their body may have. The awareness of feelings encourages students to become more attuned to their emotions and to express what they are feeling and why they may have that feeling. The awareness of thought gives students strategies to calm their mind and not become stuck on a single thought. Finally, the awareness of relationships focuses on student interactions and behaviors exhibited during these
interactions. The students discuss compassion and communication and their importance and significance in a relationship. Each of these sections are rooted in mindful breathing, and encourage students to understand and discuss how their mindful practices could help them make the right choice when in a vulnerable situation. The program utilizes videos to lead the students in exercises. In order to make the videos more relatable, each video features child actors who were previously trained in yoga. The program can be taught during the regular school day and was designed to be easily performed in the classroom next to the child’s desk. Each lesson was also designed to include one engaging and interactive activity for the students to facilitate the growth of peer relationships.

The Momentous School, founded in 1997, has been monitoring students for twenty years, tracking their progression through mindfulness-based education (Kinder, 2017). The school is focused on protecting students from the harmful stress of today’s society. They use mindfulness to teach students to focus on “regulating their nervous system” and “manage their internal world regardless of what comes at them externally” (Kinder, 2017, para. 7). The Momentous School conducted a two-year study comparing students who received mindfulness-based interventions with those who received a typical education without mindfulness. This study had a particular focus on academic achievement, as students were followed from pre-kindergarten to kindergarten (Thierry, Bryant, Nobles, & Norris, 2016). After completing pre-kindergarten, the students who received mindfulness training “showed improvements in teacher-reported executive function skills, specifically related to working memory and planning and organizing, whereas students in a business as usual control group showed a decline in these areas” (Thierry et al., 2016, p.2). The study continued to follow these students as they moved up
to kindergarten and found that by the end of the year the students who had practiced mindfulness had increased vocabulary skills compared to that of their peers.

**Mindfulness-Based Strategies for Classroom Transitions**

Although there is research that focuses on the utilization of mindfulness and yoga as interventions for the release of stress, anxiety, and focus, very little research is centered on the effects of mindfulness-based yoga strategies when utilized during classroom transitions. Transitioning from subject to subject can be difficult enough for students and oftentimes chaotic, but the transitions of middle school students in particular can be extremely challenging. In elementary school, transitions typically consist of words of guidance from the teacher and a shuffle of textbooks and papers. In middle school, this transition can change drastically as students are now asked to independently leave their classrooms, walk along the halls with social distractions of friends and phones, and then settle into a new classroom, ready to learn. The transitions from one classroom to another can disrupt a routine that students were familiar with in the elementary school (Holas & Huston, 2012).

While transitions are part of normal school day routines, the effectiveness of such routines has been found to be vital to classroom success. Research has indicated that there is a strong correlation between the time a student spends actively engaged to their achievement (Finn, Pannozzo, & Voelkl, 1995). However, the process of settling down and reaching a state of mind that is prepared to learn and actively engaged can take up a good portion of instructional time in the classroom. Teachers can also have a hard time getting and keeping students engaged to introduce the day’s lessons, resulting in an average loss of 20% of instructional time (Codding & Smith, 2008; Gettinger & Seibert,
While transitions can be a challenging part of the academic school day for both teachers and students alike, transitional interventions, such as mindfulness-based yoga movement may prove to alleviate such barriers.

**Study Aims**

Even though there is a slowly increasing trend in the research examining the impact of mindfulness-based interventions for children, there is still a need for more research in this area to validate its use in the elementary classroom. Specifically, there is little to no research regarding a classroom transition intervention based on yoga and mindfulness. Additionally, less research has been conducted on the effects that mindfulness-based yoga transitions may have on the wellbeing of elementary school students, including their stress and anxiety levels. Therefore, the present study focused on this research gap by utilizing mindfulness-based yoga interventions in a fifth-grade classroom during transitions.
Methodology

This study examined the impact of mindfulness-based yoga interventions on fifth-grade students’ perceived anxiety and stress, as well as their ability to transition into the classroom over a six-week duration. This study aimed to answer the following questions:

1. What is the impact of mindfulness-based yoga interventions on fifth-grade students’ perceived stress and anxiety levels in a mathematics classroom?
2. How do mindfulness-based yoga interventions impact students’ abilities to transition in a fifth-grade mathematics classroom?

Participants and Setting

This study took place in three fifth-grade mathematics classes at an intermediate school in Northwest Mississippi. Participants were recruited to participate in the study based on the researcher’s student placement, thus a convenience sample was used. Fifty-eight students, ranging from ages 10-12 chose to participate with parental consent. Of these participants, forty-two were identified as White (72.41%), twelve identified as African-American (20.69%), two identified as Hispanic (3.45%), and two identified as Asian (3.45%). Participants in the first class consisted of seven males and five females. The second class consisted of eight male and thirteen female participants. The third class consisted of twelve male and thirteen female participants. In total, there were twenty-seven male participants (46.55%) and thirty-one female participants (53.45%).

Participants were separated into classes based on their ability level. This was determined by their state test scores from the previous year. The first class consisted of
students with the lowest scores, with the exception of students with an Individualized Education Program – twelve of these students participated in the study (57.14% of the class). In this class, one student participant was on Tier 3 for mathematics and English, while another student participant was on Tier 2 for mathematics and Tier 3 for English and behavioral interventions. The second class consisted of students in the average range – twenty-one of these students participated in the study (77.78% of the class). None of these student participants were in the tier process. The final class consisted of advanced students – twenty-five of these students participated in the study (89.29% of the class). In this class, one student participant was on Tier 3 for behavioral interventions.

**Procedures**

**Design.** This study utilized both quantitative and qualitative measures to garner information about the impact of mindfulness-based yoga interventions on transitions and the anxiety and stress levels of students in three fifth-grade mathematics classrooms. A concurrent quantitative-qualitative mixed methods design was used (Creswell, Plano Clark, Guttman, & Hanson, 2003), as the qualitative data was utilized to supplement the quantitative findings. Quantitative data (pre-questionnaire) were collected first, followed by observational baseline data collection. The next phase included the intervention (qualitative observation process) and ended with a post-questionnaire survey and clinical instructor interview. The goal was to triangulate the questionnaire, observations, and interview in order to validate both types of data and/or to generate insights for further research on the topic.

After the researcher received approval from the University of Mississippi’s Institutional Review Board, written consent was obtained from a fifth-grade mathematics
teacher. The researcher then obtained parental consent from legal guardians of students in three fifth-grade mathematics classes. Consent had to be obtained by the morning of Friday, October 12th in order for students to participate in the study. When parental consent was received, the researcher obtained student assent for the study on the afternoon of Friday, October 12th. Guardians and students were made aware that each student must complete the intervention as a part of their classroom activity; however, if they chose not to obtain consent or provide assent, students did not complete the pre- or post-intervention questionnaire and were not included in the intervention observations.

The timeframe of the present study was Monday, October 15th, 2018 to Friday, November 30th, 2018. Prior to the intervention, students completed an anonymous pre-intervention questionnaire and placed their answers in an envelope so that they could not be identified. Following data collection of the questionnaire, the researcher observed the classes for three weeks to collect baseline data. Observations were conducted throughout each class while the researcher recorded field notes with a particular focus on the transitions from the hallway to the classroom and the students’ schedules. The researcher noted how well the students transitioned by observing how they entered the classroom and how quickly they began the day’s work. The researcher considered the transition positive when the students came into the classroom and quickly started their morning work with a limited amount of conversation. A poor transition was noted when students came into the classroom and walked around or spoke to their friends without starting their work when asked to do so. The researcher also noted changes that may have affected their transitions, such as a difference in recess or change in schedule.
The intervention phase of the study began on Monday, November 5th, 2018 after baseline data were collected for three weeks. Interventions were completed at the beginning of every class period for five minutes (7:35-7:40 am/11:32-11:37 am/1:07-1:12 pm). The interventions were a series of guided breathing exercises and stretches that consisted of guided breath exercises led by the researcher that would bring students’ attention to their breath and help them relax before the class began (See Appendix B). During each breathing exercise, students would first be given a few seconds to quietly find their own space in the room where they were comfortable. They had the option to remain at their desk, stand up, sit on the floor, or lay down. For example, a counted breathing exercise was completed once students were settled into their space by giving them a designated number of counts to breathe in and out. The students had the option to close their eyes or let them remain open. The researcher would begin the exercise by breathing in and slowly counting up to the designated number while the students followed along silently. The researcher would then release the breath and breathe out as she counted down from the designated number. Following the breathing exercises, students would complete light yoga stretches such as downward dog, butterfly pose, and tree pose while light music was played in the background. The researcher continued to observe students during this phase of the study as they transitioned and took observational notes in between each class and during times of quiet or graded work, with a particular focus on the transitions from the hallway to the classroom.

At the conclusion of the intervention phase of the study, the students completed a post-intervention questionnaire. The survey was anonymous and identical to the pre-questionnaire. Students were asked to place their answers in an envelope so that they
could not be identified. The researcher also conducted a semi-structured interview with the clinical instructor at the conclusion of the study that enabled the researcher to obtain further insight into the clinical instructor’s perceptions of the intervention.

**Instruments**

**Questionnaire.** Quantitative data were collected via a self-assessment questionnaire that was adapted from the School Experience Survey created by the Community and Youth Collaborative Institute at Ohio State University (Anderson-Butcher, Amorose & Iachini, 2016) (See Appendix A). Participants completed this questionnaire once at the beginning of the study and again at the conclusion of the study. The questionnaire was anonymous and consisted of thirty-two questions regarding academic motivation, school connectedness, academic pressure, college and career readiness, internalizing behaviors, on-task behaviors, and student demographics. The researcher specifically examined statements on the questionnaire within the factors of internalizing behaviors, on-task behaviors, and student demographics when interpreting the results of the study.

For each of the statements, students were asked to circle one of four options - “4 - YES!”,” “3 - Yes”, “2 - No”, or “1 - NO!” according to how much they agreed or disagreed with the statement. The participants were asked to complete this questionnaire to the best of their ability. The answers were then given a numerical value that corresponded with their chosen answer. The researcher then calculated averages using the numerical data to determine the average change in answers from the pre-intervention questionnaire to the post-intervention questionnaire.
**Field observations.** Observations occurred throughout all three math classes for three weeks during the baseline phase of the study. The researcher observed the participants on Mondays and Wednesdays during their transitions from the hallway to the classroom. The researcher also kept a log of the students’ schedules, including lessons taught, test dates, and recess schedule. Throughout the following three weeks, during the intervention phase of the study, the interventions were conducted for the first five minutes of each math class. The researcher continued to observe student transitions on Mondays and Wednesdays and log their schedule, including lessons taught, test dates, and recess schedule. This was later analyzed to determine academic factors that might have affected stress and anxiety or a change in transitions.

**Semi-structured interview.** At the conclusion of the study, the researcher conducted a semi-structured interview with the clinical instructor. The interview, which took place in the clinical instructor’s classroom at the end of the school day, consisted of five questions that were used to guide discussion about the clinical instructor’s observations and perceptions related to the mindfulness-based yoga interventions (Appendix B). Interview questions were derived from the study’s research questions to help provide insights into what was found in the quantitative survey data regarding the effectiveness of the interventions. Unscripted follow up questions were used to clarify any thoughts or misunderstandings and further probe the research topic. The interview was audio recorded and transcribed verbatim. The transcription was studied to discern key points from each response that either corroborated or dispelled what was found within the quantitative data.
Data Analysis

The study consisted of three weeks of baseline observations by the researcher as participants continued through their normal classroom routine. Observations consisted of field notes from the study. The field notes were organized by how the transitions went that particular day, any unusual change to the flow of the day, and the topic taught that day. The field notes were analyzed to find any behavior patterns throughout the duration of the study. These patterns were used to determine different ways transitions were affected and what might cause students’ perceived stress and anxiety to elevate during certain time of the day.

The questionnaires were analyzed by placing results for each question into a spreadsheet and then calculating the average change from the pre-intervention questionnaire to the post-intervention questionnaire. For every “Yes!” answer, a four was recorded, for every “Yes” answer, a three was recorded; for every “No” answer, a 2 was recorded; and for every “No!” answer, a 1 was recorded. A numerical average (mean) was derived for the answers within the following categories: all classes, by individual class, males by individual class, females by individual class, each males’ answers, each females’ answers, each student with ADHD’s answers, and each student without ADHD’s answers. Results for each category were then placed into bar graphs to display the findings. Averages were taken for each question, comparing the pre-intervention questionnaire to the post-intervention questionnaire overall. The pre-questionnaire and post-questionnaire averages were then compared to determine the percentage change. Averages were compared across the three classes, females to males, and students diagnosed with ADHD to those not diagnosed with ADHD.
The interview conducted with the clinical instructor was transcribed verbatim. The researcher took the transcription and studied the responses in regards to the results to determine if there were any similarities or differences within the clinical instructor’s interview results compared to the findings of the questionnaire.
Results

Overall findings of the students’ pre- and post-intervention questionnaires indicated that there was a slight increase in students’ perceptions of their ability to transition from the hallway into the classroom at the conclusion of the study. The results also revealed that there was an overall decrease in students’ perceived levels of stress along with a slight increase in perceived anxiety levels from pre to post questionnaire.

Results for Research Question 1: What is the impact of mindfulness-based yoga interventions on fifth-grade students’ perceived stress and anxiety levels in a mathematics classroom?

Questionnaire Results

Results overall. Across all three classes, students reported an average increase of 1.9% in perceived anxiety levels (See Appendix D) in response to the questionnaire and an average decrease of 9.29% in perceived stress levels in response to the questionnaire (See Figure 1).
Results by gender. All of the male participants within the classes reported an average decrease of 2.22% in perceived anxiety levels (See Figure 2) and an average decrease of 20.63% in perceived stress levels (See Figure 3). All of the females reported an average increase of 5% in perceived anxiety levels and no change in perceived stress levels.
Results by ability level and gender. In the first class, which consisted of remedial students and students with an Individualized Education Program, males reported a decrease of 16.67% in perceived anxiety levels and an average decrease of 31.58% in perceived stress levels, while females in the same class reported an average decrease of 9.09% in perceived anxiety levels and an average increase of 7.69% in perceived stress levels (See Figures 3 and 4).
In the second class, which consisted of average level students, the males reported an average increase of 9.09% in perceived anxiety levels and an average decrease of 25% in perceived stress levels, while the females in the same class reported no change in perceived anxiety levels or stress levels (See Appendix D).
In the third class, which consisted of advanced students, the males reported no change in perceived anxiety levels and an average decrease of 8.33% in perceived stress levels, while the females in the same class reported an average increase of 16% in perceived anxiety levels and an average decrease of 2.86% in perceived stress levels (See Appendix D).

**Results on anxiety and stress for students with ADHD.** Overall, the five students who stated that they had been diagnosed with ADHD, reported an average decrease of 22.08% in perceived anxiety levels and an average increase of 3.9% in perceived stress levels (See Appendix D). The remaining students not diagnosed with ADHD reported an average increase of 5.03% in perceived anxiety levels and an average decrease of 10.58% in perceived stress levels (See Appendix D). The students diagnosed with ADHD in the first class reported an average decrease of 14.29% in perceived anxiety levels and an average increase of 33.33% in perceived stress levels. The students diagnosed with ADHD in the second class reported an average decrease of 16.67% in perceived anxiety levels and an average decrease of 6.67% in perceived stress levels. In the third class there was no data to report.

**Results on anxiety and stress by ability level.** The students in the first class, consisting of remedial students and students with an Individualized Education Program reported an average decrease of 13.04% in perceived anxiety levels and an average decrease of 15.6% in perceived stress levels. The students in the second class, which consisted of average students, reported an average increase of 2.86% in perceived anxiety levels and an average decrease of 10.2% in perceived stress levels. The students in the third class, which consisted of advanced students, reported an average increase of 8.51%
in perceived anxiety levels and an average decrease of 5.08% in perceived stress levels (See Figures 6 and 7).

**Figure 6. Class Average Perceived Anxiety Levels of Students.**

**Class Average Perceived Anxiety Levels of Students**

![Class Average Perceived Anxiety Levels of Students](image)

**Figure 7. Class Average Perceived Stress Levels of Students.**

**Class Average Perceived Stress Levels of Students**

![Class Average Perceived Stress Levels of Students](image)

**Interview**

While the quantitative findings revealed that some of the students felt a change in the stress and anxiety levels throughout the intervention, the clinical instructor reported
that of her students, “10% are going to stress and have anxiety no matter what”, but students have “expressed” how much the mindfulness-based yoga interventions helped them deal with stress and anxiety in general. Students told the clinical instructor that they were “using mindful breathing outside of class to manage anxiety and stress and to help them go to sleep and stop racing thoughts.” Regarding school in particular, the clinical instructor stated that the interventions “helped them reduce stress and anxiety.” When asked, the clinical instructor was emphatic that some of the most positive changes included the following:

… definitely in test taking. I think even some of them will come in cause you're not here on test days, but some of the girls for sure will come in and they're like ‘okay let me find my headspace for a minute. Let me chill out. You know I'm about to take a test,’ because they do have a lot of test anxiety and they just take a moment to breathe and then I will actually play some of the meditation music in the background to kind of go along with everything you've been doing because I've seen how much it helps and it just kind of eases them right through.

The clinical instructor also stated that the students had reported their use of mindful breathing before tests in other classes as well. The researcher noted a change in the stress and anxiety levels of students around test days, further supporting the clinical instructor’s statement on her perception of the impact of the mindfulness-based yoga interventions. It was noted that students seemed more stressed and anxious around test days, before and during the intervention period, but the stress and anxiety seemed to lessen as students participated in the interventions.
**Results for Research Question 2:** How do mindfulness-based yoga interventions impact students’ abilities to transition in a fifth-grade mathematics classroom?

**Questionnaire Results**

**Results overall.** According to responses gathered from the transition statements in the questionnaire, students reported an average 2.5% increase in their perceived ability to transfer from the hallway to the classroom following the intervention (See Figure 8).

Figure 8. Overall Perceived Ability to Transition of Students.

![Overall Perceived Ability to Transition of Students](image)

**Results by gender.** Across all three classes, the males showed an average increase of 11.9% in their perceived ability to transition, while the females reported a 4.31% decrease in their perceived ability to transition (See Figure 9).
Results by gender and ability level. In the first class, which consisted of remedial students and students with an Individualized Education Program, the males reported an average increase of 26.32% in the perceived ability to transition, while the females in the same class reported no change in their perceived ability to transition (See Figure 10).

Figure 10. Remedial Students’ Perceived Ability to Transition.
In the second class, which consisted of average students, the males reported an average increase of 3.70% in their perceived ability to transition, while the females in the same class reported an average decrease of 10.42% in their perceived ability to transition (See Appendix D).

In the third class, which consisted of advanced students, the males reported an average increase of 10.53% in their perceived ability to transition, while the females in the same class reported no change in their perceived ability to transition (See Appendix D). On average, male participants perceived their ability to transition after the intervention as higher compared to females.

**Results for students diagnosed with ADHD.** Students diagnosed with ADHD reported similar average results to students not diagnosed with ADHD. Students diagnosed with ADHD reported an average increase of 3.17% in their perceived ability to transition to the classroom. Similarly, students not diagnosed with ADHD reported an average increase of 2.21% in their perceived ability to transition to the classroom (See Appendix D).

**Results by ability level.** Students in the first class, which consisted of remedial students, as well as students who have an Individualized Education Program, is the only class that reported an overall average increase in their perceived ability to transition. The report showed an increase of 13.51% in the perceived ability to transition for the first class. The second class, which consisted of average students, reported an average decrease of 5.33% in their perceived ability to transition. The third class, which consisted of advanced students, reported an average increase of 4.55% in their perceived ability to transition (See Figure 11).
The clinical instructor reported that prior to the study, the students “struggled going from class to class in the hallways, coming in, and settling down,” but she saw a change throughout the intervention in the students’ ability to transition. Throughout the intervention, many students were able to transition into the classroom and focus on the task at hand easier. These students also noticed and reported these changes in themselves in the pre- and post intervention questionnaires. When asked if the intervention helped students transition and focus, the teacher stated, “I do think it has helped because they know that they're coming in to do that. So it's kind of like they come in calm and it prepares them to move forward.” This is important to note, as routines are essential to effective transitions in the classroom. When asked if she would continue to utilize mindfulness-based yoga transitions, the clinical instructor stated that she would, but added that if she continued it would “definitely be more of a mindful thing and not the
yoga” because it “woke them up” more rather than calming them down and preparing them for learning.

During observations, the researcher noticed that while most students positively practiced mindfulness and yoga throughout the interventions, few students did not want to positively participate and attempted to distract their peers; each of these students as noted in the field notes were male. These participants were each in the second class and had a tendency to laugh and whisper to their friends throughout the interventions. The researcher noted that these students were typically more active, talkative, and attention seeking throughout the class regardless of the intervention. When these participants were not present for a school day, the interventions and transitions went much smoother for the whole class. Both prior to the intervention and throughout the intervention, the researcher also noticed that transitions improved when the students were allowed to go outside for recess that day. Without recess, the students were more hyperactive and with the change from their normal schedule, they were not prepared to come in to the classroom to work.
Discussion

This chapter discusses the significance of study results through examination of the groups of students – those with and without an ADHD, females and males, and remedial students, average students, and advanced students – who benefited from the yoga and mindfulness-based yoga interventions. Furthermore, it takes into consideration the limitations involved in the research and analysis within the study. In addition, concepts for future research to better understand the continued benefits of these interventions are included.

Significance

Results from the study indicate that mindfulness-based yoga interventions in the classroom have the ability to decrease students’ stress and increase their ability to transition, particularly with remedial students. In alignment with Carsley and Heath (2015), the classroom teacher reported an overall improvement in students’ test anxiety throughout the duration of the mindfulness-based yoga interventions. The present study’s results also align with a previous study conducted by Semple (2010) who found that mindfulness-based cognitive therapy may be beneficial to remedial students’ perceived anxiety levels.

While the most impactful results came from students in the remedial class, the results revealed varying effects on each group. Male participants reported the greatest benefits, with the largest decrease in perceived stress, a slight decrease in perceived anxiety, and an increase in the perceived ability to transition. Similarly, Parker et al.
(2014) found that males benefited most from mindfulness interventions in regards to their self-control. In particular, males in the remedial class reported the greatest changes, with the highest percentage decrease in perceived anxiety, the second highest decrease in stress, and the second highest increase in their perceived ability to transition. In further alignment with the study conducted by Parker et al. (2014), the females in the remedial class also reported an average decrease in perceived anxiety levels. This could be explained by the timing of the class, which was the students’ first class of the day. This is noteworthy because the transition was easier to make earlier in the morning, before any of the students had faced academic stressors in the day at the time of the intervention.

However, not every student reported the same positive results throughout the study, according to the questionnaire responses. In regards to students’ anxiety levels, the questionnaire revealed that both average and advanced level students’ felt a slight rise in perceived anxiety levels between the pre-intervention and post-intervention questionnaires. The same two classes also reported a decrease in their perceived ability to transition between this period. The females in these two classes also reported a rise in their perceived anxiety levels along with a decrease in their perceived ability to transition. This may have been a result of a lack of prior knowledge regarding yoga and mindfulness, a change in stressors, distractions, or academic content between the pre-intervention questionnaire and the post-intervention questionnaire. In contrast to these students’ responses, the clinical instructor noticed a general change in all of her classes throughout the intervention. She felt that overall, students’ anxiety had improved since beginning the intervention, specifically in regards to testing. The researcher also saw changes in students’ behaviors surrounding tests dates throughout the intervention.
inclusive of less chaotic behavior, more calm test taking, and less concerned comments about grades. The researcher noted this observation as an apparent decrease in stress and anxiety in students, further supporting the classroom teacher’s statements.

Similar to previous research (Ager et al., 2015; Semple, 2010; Stuck & Gloeckner, 2007), it could be stated that the results of this study support the claim that mindfulness-based yoga interventions in the classroom can improve students’ perceived anxiety and stress levels, particularly with males and remedial students. With very little evidence of the impact mindfulness has on transitions, the findings of this study also adds to previous research by revealing that mindfulness-based yoga interventions may also benefit classroom transitions (Orlowski & Hart, 2010).

Limitations

While results of this study indicated a positive change, particularly in remedial males’ perceived stress levels and their perceived ability to transition into the classroom environment, there are some limitations that must be taken into consideration. Conducting research in a classroom has its hindrances, due to constantly changing school schedules. Activities such as pep rallies and character education time adjusted the students’ daily schedule and routine, which oftentimes left many confused or tardy. Interruptions from administration, other teachers, or other students also disrupted the intervention throughout the study. These distractions and changes made classroom transitions challenging, and introduced deviations from the students’ focus, which may have affected their ability to transition effectively or levels of stress and anxiety.

The questionnaire was also limited in part by students' capabilities in regards to particular terms that were necessary to conduct research. Specifically, the term "ADHD"
presented a challenge in that many students who had ADHD were not aware of their
diagnosis, and therefore did not correctly answer any questions pertaining to it.

Finally, the daily academic foci also changed the students’ willingness and ability
to transition, as well as their perceived stress and anxiety levels. The beginning of new
material and concepts could increase perceived anxiety and stress among some students
as they worked towards grasping the ideas presented. Other students feel perceived stress
and anxiety with mathematics in general (Kucian, McCaskey, Tuura, & von Aster,
2018). Therefore, simply being in the mathematics classroom heightened their perceived
stress or anxiety levels. Students are also more eager and quick to fully transition and
participate in the classroom when the material is deemed interesting or enjoyable. On the
other hand, material that students consider to be mundane or pointless can create an
anathema towards the classroom and inhibit learning and transitioning.

Future Research

This study indicates that the use of mindfulness-based yoga interventions can
benefit students’ perceived stress and anxiety levels and also improve classroom
transitions, particularly with males and remedial students. Future research should be
conducted on a more expansive scale with an increased variety of participants to further
validate the findings of this study. Furthermore, it should examine how mindfulness
benefits different age groups, grades, and ethnicities.

Conclusion

In summary, this study found that mindfulness-based yoga interventions had the
largest impact on males in a remedial class. Within all sub-groups of students examined,
males showed the largest decrease in perceived stress and anxiety levels from pre- to
post-intervention. Additionally, this study adds to the breadth of research on the benefits of mindfulness-based interventions as it relates to classroom transitions. This benefit was seen particularly in males within the present study. While findings indicated that males may benefit the most from mindfulness-based yoga interventions, overall findings indicated an increase in perceived ability to transition and a decrease in perceived stress, with a slight overall increase in anxiety. Thus, it could be contended that implementing mindfulness-based yoga methods and teaching students’ strategies to calm down both in and out of the classroom in order to relieve their stress and anxiety did not hinder students’ emotional wellbeing and ability to transition in the classroom. On the contrary, such interventions may be an advantageous way to assist in development of the whole child, while also promoting a positive classroom environment and effective transitions within the elementary classroom setting.
Bibliography


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Appendix A

Student Self-Assessment Questionnaire
Adapted from the Community and Youth Collaborative Institute

Please read each question carefully. On your sheet, circle in the 4 - YES! if you really believe the sentence to be true; 3 - Yes if you sort of believe the statement; 2 - No if you sort of do not believe the sentence; and 1 - NO! if you really do not believe the sentence.

These questions ask you about your experiences at school. Please mark how strongly you feel about each sentence.

ACADEMIC MOTIVATION
1 - NO! 2 - No 3 - Yes 4 - YES!
1. I have a positive attitude toward school.
   - 1- NO!
   - 2- No
   - 3- Yes
   - 4- YES!
2. I like the challenges of learning new things in school.
   - 1- NO!
   - 2- No
   - 3- Yes
   - 4- YES!
3. I am confident in my ability to manage my school work.
   - 1- NO!
   - 2- No
   - 3- Yes
   - 4- YES!
4. I work hard at school.
   - 1- NO!
   - 2- No
   - 3- Yes
   - 4- YES!
5. I try my best at school.
   - 1- NO!
   - 2- No
   - 3- Yes
   - 4- YES!

These questions ask you about your experiences at school. Please mark how strongly you feel about each sentence.

SCHOOL CONNECTEDNESS
1 - NO! 2 - No 3 - Yes 4 - YES!
6. I enjoy coming to school.
   - 1- NO!
   - 2- No
   - 3- Yes
   - 4- YES!
7. I have good relationships with my teachers and other adults at my school.
   1- NO!
   2- No
   3- Yes
   4- YES!

8. I am proud to be at my school.
   1- NO!
   2- No
   3- Yes
   4- YES!

9. I feel like I belong at my school.
   1- NO!
   2- No
   3- Yes
   4- YES!

These questions ask you about your experiences at school. Please mark how strongly you feel about each sentence.

ACADEMIC PRESSURE
1 - NO! 2 - No 3 - Yes 4 - YES!

10. My school wants me to learn a lot.
    1- NO!
    2- No
    3- Yes
    4- YES!

11. My parents want me to learn a lot.
    1- NO!
    2- No
    3- Yes
    4- YES!

12. My teacher wants me to learn a lot.
    1- NO!
    2- No
    3- Yes
    4- YES!

These questions ask you about your future. Please mark how strongly you feel about each sentence.

COLLEGE & CAREER READINESS
1 - NO! 2 - No 3 - Yes 4 - YES!

13. I know I will finish high school.
    1- NO!
    2- No
    3- Yes
    4- YES!

14. I know I will go to college.
    1- NO!
    2- No
15. I know what job I want when I am an adult.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!

These questions ask you about feelings you might have experienced during the week. Please mark how strongly you feel about each sentence.

INTERNALIZING BEHAVIORS
1 - NO! 2 - No 3 - Yes 4 - YES!

16. In the past week, I felt sad.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!

17. In the past week, I felt afraid.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES

18. In the past week, I felt lonely.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!

19. In the past week, people were not nice to me.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!

20. In the past week, I felt worried.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!

21. In the past week, I felt like I didn’t matter.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!

22. In the past week, I had trouble sleeping.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!
23. In the past week, I felt shy.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!
24. In the past week, I felt others didn’t like me.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!
25. In the past week, I felt anxious.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!
26. In the past week, I felt stressed.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!

The following questions ask you about your on-task behaviors. Please mark how strongly you feel about each sentence.

ON-TASK BEHAVIORS
1 - NO! 2 - No 3 - Yes 4 - YES!

27. I feel that I transition well from the hallway to my classroom.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!
28. I start my classroom work as soon as I get into my classroom.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!
29. I easily focus on the assignment I am given.
   · 1- NO!
   · 2- No
   · 3- Yes
   · 4- YES!

Circle the answer that best describes you.

Demographics:
30. I am:
   A. a boy
   B. a girl
   C. I prefer not to say
31. I am:
   A. 8 years old
   B. 9 years old
   C. 10 years old
   D. 11 years old
   E. 12 years old
   F. 13 years old

32. I have been diagnosed with ADHD:
   A. Yes
   B. No

Adapted from:
Appendix B

Interview Questions

1. How do students transition into your classroom?
2. What impact does testing have on students?
3. How did the mindfulness-based yoga interventions change classroom transitions?
4. Do you think the mindfulness-based interventions helped reduce students’ stress and anxiety levels? If so, where did you see these changes?
5. Will you use mindfulness-based yoga interventions with your future classes? If so, what changes would you make?
Appendix C

Mindfulness-based Yoga Interventions

Yoga Poses
- Tree pose
- Butterfly pose
- Downward dog
- Warrior pose

Guided Breathing Exercises
- Counted breaths
  - Students would breathe in for a set amount of counts and then breathe out for the same amount of counts.
- Body scan breaths
  - Students would close their eyes and breathe in and out. While continuing their even breaths, students completed a body scan starting by focusing on their toes and bringing the focus all the way up their legs, through their body, to the top of their head.
- Focused breaths
  - Students would close their eyes and focus solely on their breaths. They would continue to breathe naturally while attempting to forget about their surroundings.
- Imaginary breaths
  - Students would close their eyes and deepen their breaths while imagining themselves in a calming environment.
Appendix D

Average Transition of Students

Average Stress Levels of Students
Perceived Anxiety Levels of Advanced Students

Perceived Anxiety Levels of Average Students

Perceived Levels of Stress for Advanced Students
Perceived Stress Levels of Average Students

- Males: Pre-Intervention 1.88, Post-Intervention 2.23
- Females: Pre-Intervention 2.23, Post-Intervention 2.23

Overall Perceived Anxiety Levels of Students

- Average: Pre-Intervention 1.81, Post-Intervention 1.84