

## Factors Affecting the Implementation of a Mindful Yoga Preschool Intervention: A Mixed Methods Study

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### **Abstract**

*This study examined factors affecting the implementation of a mindful yoga preschool intervention. Through a mixed methods phenomenological approach, teachers' perceptions and their experiences with yoga and mindfulness were measured via surveys, focus groups, and observations. Results indicated that teachers' perceptions of yoga and mindfulness for preschoolers, comfort level with yoga, and the benefits of teaching yoga and mindfulness increased. However, pre- to post-survey results were not statistically significant ( $t = 82$ ;  $p = .42$ ). Qualitative analysis regarding teachers' perceptions of mindful yoga revealed the following: (a) high motivation level to implement the curriculum; (b) perceived direct benefits for students; (c) beneficial links to Conscious Discipline; and (d) challenges existed regarding space, time, technology, and the need for more variety. In summary, this study provides novel insight on mindful yoga with preschool children and serves as a catalyst for further research and development of mindful yoga interventions with preschool children.*

**Keywords:** mindful yoga, teacher perceptions, preschool, program implementation

### **1. Introduction**

Mindfulness has been defined in the literature as an internal practice that enables awareness of the present moment by intentionally tending to immediate stimuli in an open, accepting, and discernable manner (Coffey et al., 2010). Or in other words, "Paying attention, on purpose, in the present moment, non-judgmentally" (Kabat-

Zinn, 1994, p. 2). The utility of mindfulness has gained traction over the past decade in schools across the United States. Subsequently, it has emerged as a tool in the classroom for navigating emotions while also improving children's cognitive, social, and emotional development (Ager et al., 2015; Zelazo & Lyons, 2012). Furthermore, it has been noted that when mindfulness is coupled with yoga practice it can assist in bolstering children's mental and physical capacity (Wolff & Stapp, 2019; Serwacki & Cook-Cottone, 2012; Verma et al., 2014). Yoga enables children to develop perception, thus bringing awareness to children's physical surroundings through sensorimotor experiences that formulate multimodal representations in human memory (Malvidi, 2017). This is important because bodily awareness is a cornerstone of effective mindfulness practice and can be retrieved daily through multimodal representations embodied during yoga. Ultimately, when yoga and mindfulness are practiced, they provide children with tools that empower them to increase their quality of learning through attuned focus and knowing how to maneuver through stressful situations (Napoli & Holly, 2015).

Although many studies have focused on the outcomes of children who participate in mindfulness-based school programs, minimal studies have focused on programs for young children that integrate both yoga *and* mindfulness into the preschool curriculum. Moreover, as mindfulness programs emerge in schools across the United States it is critical to understand the role of teachers in the implementation of such programs. The pilot curriculum examined in this paper, *Growing Healthy Minds, Bodies, and Communities* (GHMBC), integrated yoga *and* mindfulness techniques into the program's three units through mindful yoga videos. Accordingly, this study is novel as mindful yoga was embedded into the curriculum, and teachers' perceptions, beliefs, and experiences were examined to determine factors affecting implementation.

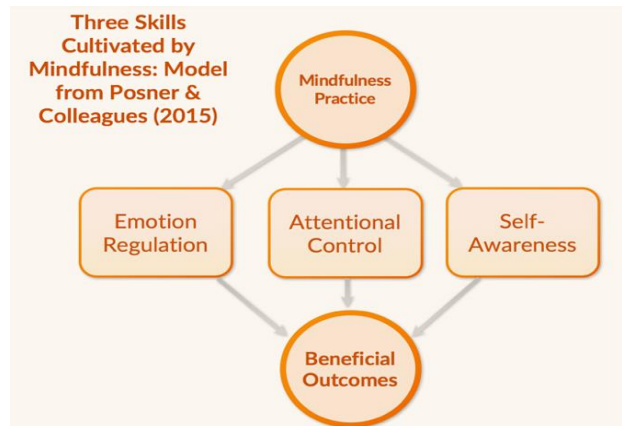
## **2. Literature Review**

### **2.1 History of School-Based Mindfulness Programs**

Interest in the beneficial outcomes of mindfulness has moved from medicine and psychology into education over the past few decades as seen in Figure 1. The first formalized mindfulness education interventions took place throughout the United States in the mid-2000s and focused on teaching mindfulness to teachers as self-care. These programs encourage the use of mindfulness skills as a resource to relieve the daily stressors and situations that teachers encounter (Jennings et al., 2016). As teachers began to experience the benefits of mindfulness, some set out to introduce these practices in educational settings for students. Other implementers of mindfulness programs included school counselors and community youth organizations (Maynard et al., 2017). Between the years of 2005 and 2012, mindfulness interventions saw expansive growth and 14 studies (six elementary and eight high school) regarding teaching students mindfulness were conducted. Together the findings suggest strong evidence on the benefits of the intervention, including improvements in working memory, attention, academic skills, social skills, emotional regulation, and self-esteem, as well as self-reported improvements in mood and decreases in anxiety, stress, and fatigue (Meiklejohn et al., 2012). Since 2012, other studies have extended to younger samples and corroborated these findings showing improved concentration, sensory clarity, and equanimity (Young, 2016). Mindfulness practices have been shown to enhance focus in typically developing children (Crescentini et al., 2016; Felver et al., 2016; Waters et al., 2015; Zenner et al., 2014) and in children with attention deficit hyperactivity disorder (ADHD) (Zhang et al., 2016). However, it is important to note that the work examining mindfulness interventions in young children is limited and more work with rigorous experimental design is needed to fully understand the utility of yoga and mindfulness within preschoolers (Zelazo & Lyons, 2011).

Figure 1

## Three Skills Cultivated by Mindfulness



*Note.* This figure summarizes the three main skills cultivated by mindfulness and how these skills relate to beneficial outcomes (Tang et al., 2015).

## 2.2 The Role of Yoga in Mindfulness

Another important consideration to understanding mindfulness interventions is the role of movement within these practices. Mindful practices can take place sitting, standing, lying down, or while moving. As such, yoga (i.e., defined as a set of practices that include physical postures, breathing techniques, meditation, and relaxation, Hagan & Nayar 2014) has also grown in popularity and is being implemented in schools as a mindfulness-based technique. Research suggests that yoga programs are beneficial to children's cognitive, social-emotional, and physical development (Verma et al., 2014). Additionally, studies have indicated a decrease in stress and anxiety for children who participate (Butzer et al., 2015; Weaver & Darragh, 2015).

It is important to stress that the research on children and adolescents in regards to yoga *and* mindfulness is emerging (Roeser, 2014). To date, very few studies have examined the outcomes of yoga *and* mindfulness practices with very young children (Wolff & Stapp, 2019; Diamond, 2013; Greenberg & Harris, 2012; Roeser & Peck, 2009; Zelazo & Lyons, 2012). The current body of literature suggests that mindfulness interventions can increase young children's emotional regulation, attention, increase a child's sense of calm, decrease stress and anxiety, improve impulse control, and increase empathy and conflict resolution skills (Bergen-Cico et al., 2015; Cullen, 2011; Flook et al., 2015; Poehlmann-Tynan et al., 2016; Serwacki & Cook-Cottone, 2012). There is evidence, however, that mindful yoga, defined as mindfulness-based programs that include simple breathing and yoga poses, can be effective in enhancing self-regulation among preschool children (Adair & Bhaskaran, 2010; Flook et al., 2015; Poehlmann-Tynan et al., 2016; Razza et al., 2013). For example, meditation and simple yoga postures integrated across the year by classroom teachers in both public (Razza et al., 2013) and private preschools (Adair & Bhaskaran, 2010) have been associated with benefits in both behavioral regulation and the ability to focus. A recent review of studies involving preschool-aged children suggests that mindfulness-based programs also hold potential for young children, with benefits found in self-regulation, social-emotional skills, and physical development (Erwin & Robinson, 2016).

## 2.3 Mindful Yoga for Preschool Children

Yoga represents one mindfulness-based technique that has been well-adapted to be developmentally appropriate for preschool age children (Kaiser-Greenland, 2010; Roeser & Peck, 2009; Serwacki & Cook-Cottone, 2012). Mindful yoga practices include both contemplation and movement, and this movement component may make the intervention more accessible and appropriate for preschoolers whose metacognitive development is not fully formed (Moreno, 2017). Zelazo and Lyons (2012) hypothesized that mindfulness practices increase self-

regulation in young children through the process of repeatedly focusing and returning focus to an object (such as breath). This process of focusing on the breath is consistently practiced when children participate in yoga and in turn, wires the brain to routinely focus by building strong neural pathways. Why is this important? The ability to self-regulate must be developed over-time and is not present in newborn children, as infant nervous systems are not able to withstand physiologically intense stimuli. Therefore, an infant must rely on the care-giver as the soothing system until the nervous system is developed and can begin to regulate itself (Pahigiannis et al., 2019). During early childhood, many of the skills needed for self-regulation, such as the ability to focus and control impulses are being developed (Gard et al., 2014).

Mindful yoga presents a prime opportunity for young children to develop critical social-emotional and executive function skills. Subsequently, enabling children to self-navigate through the daily challenges and stressors of life. Moreover, key tenets of mindful yoga aid in cultivating compassion and unconditional kindness for self and others. This compassion, or deep, genuine sympathy for others who are different or even less fortunate, together with an earnest wish to ease suffering, can help improve empathy and lead to socially aware children who are willing to work for social change (Hopkins, 2001).

#### 2.4 Role of the Teacher/Teachers' Perceptions

Although the benefits of yoga and mindfulness are promising for children, there is limited information about the willingness and attitudes regarding program implementation of the teachers who may serve as gatekeepers to program implementation (Forman, 2013). For a new curriculum or school program to be effective it needs to be well-implemented. This includes teacher buy-in and the flexibility to make adaptations to the curriculum as needed (Durlak, 2015). It is important to note that only 31% of yoga and mindfulness programs have been implemented by teachers or school staff (Maynard, 2017). Whereas, the remaining studies were implemented by outsiders who are not necessarily key stakeholders in the outcome. Moreno (2017) argued that more research needs to be done that includes the teachers who are being trained on the curriculum and eliciting their feedback on its effectiveness and possibilities for adaptation. Roeser et al. (2012) found that mindfulness practices encourage teachers' professional development by promoting changes in old mindsets, or habits of mind, so that teachers are better prepared to meet the needs of their students as well as the demands of their job. There are very few studies that address the barriers and factors related to the implementation of a school-based yoga and mindfulness program in a preschool setting. One such study found that barriers included the time and space it took to lay out the yoga mats and the teachers' perceptions of yoga taking up too much time (Rashedi, 2018).

#### 2.5 Whole Child Approach to School-Based Yoga and Mindfulness

In contrast to programs that utilize yoga and mindfulness as separate components of the curriculum or as part of physical education, the *Growing Healthy Minds, Bodies, and Communities* (GHMBC) curriculum encompasses yoga and mindfulness from a holistic approach. Meaning that, yoga and mindfulness in GHMBC are "part" of the curriculum in the classroom setting and not an "addition" to the curriculum. The GHMBC approach is also different in that pre-recorded mindful yoga videos were developed by the GHMBC research team so that they could be incorporated at any time throughout the school day versus live and in-person sessions.

Each of the three mindful yoga videos for GHMBC were scripted and created in collaboration with a certified children's yoga and mindfulness teacher who was part of the project team (See Appendix A). The mindful yoga videos were also aligned with the academic content taught within each of the three GHMBC units (social-emotional, anti-bias/anti-bullying, and gardening/nutrition) (See Appendix B). Each unit was four weeks in duration with one lesson per week and one mindful yoga video per unit. Teachers were requested to show the mindful yoga video three times per week. This offered teachers the opportunity to reinforce each unit's content through the mindful yoga videos. For example, the gardening and nutrition mindful yoga video asked students to breathe all of the elements that plants need into a garden, which was also a science concept reinforced throughout the nutrition and gardening unit. Students also completed a mindful sunshine breath in this video by drawing a circle starting at their legs and bringing their arms up over their head as they spread sunshine into their imaginary garden — and continued with water, soil, and air.

The *GHMBC* mindful yoga platform is also unique as mindfulness techniques were a central component of each unit's lessons. Within the gardening and nutrition unit, students learned how to "take their ladybug home" by using their hand as a leaf to trace their ladybug up and down each finger while focusing on the ladybug and breathing in and out. This concept was utilized at the beginning of each gardening/nutrition lesson to prepare students' minds and bodies for the forthcoming lesson.

## 2.6 Teacher Training for GHMBC

Teachers' perceptions and training are paramount to the success of any new educational initiative (Zeleny, 2010). Since mindfulness is relatively new in education, there is not a systematic or standardized approach to implementation (Albrecht et al., 2012; Napoli et al., 2015; Shapiro, 2009). To address the barriers and perceptions regarding integrating a curriculum to include mindful yoga, social-emotional skills, anti-bias, anti-bullying, and gardening and nutrition, the research team provided four 90-minute training sessions for participants that encompassed the major components of the *GHMBC* curriculum. The first session centered on helping children to recognize their own feelings and emphasized teaching children how to develop appropriate coping strategies. Participants were given an overview of the research on children's social-emotional development and were introduced to *GHMBC* standards-based lessons that help children cope with feelings of anger, stress, sadness and worry. In the second training session, participants explored the research-based benefits of including nutrition and gardening in the classroom and experienced several of the hands-on standards-based *GHMBC* lessons that integrate nutrition and gardening. The third session centered on creating anti-bias and bully-proof classrooms. This interactive workshop included research around bias, identity development, and creating classroom communities that celebrate difference. Participants were introduced to a painting activity called, *The Many Shades of Us!* and were introduced to several books on diversity that were age appropriate and part of the *GHMBC* curriculum. The final training session centered on the topic of yoga and mindfulness in early childhood education. Workshop participants began with a discussion about the concept of mindfulness, which can be very abstract. Some teachers admitted to being familiar with it but were not sure how to define it. Workshop leaders discussed the definition of mindfulness, the research related to it, and shared a book about mindfulness from the *GHMBC* curriculum. Teachers also participated in mindfulness techniques and yoga, and afterwards discussed the difference between adult and children's yoga. Each training session emphasized how these skills and concepts could be taught in timely, standards-based, and developmentally appropriate ways.

## 3. Methods

### 3.1 Design

The research questions that guided this study enabled the researchers to investigate the perceptions and experiences of participants, and therefore embodied the phenomenological approach. Creswell (2014) outlines phenomenological research as inquiry that describes the lived experiences of participants regarding a phenomenon as narrated by the individual. This study focused on teachers' perceptions of their experiences with yoga and mindfulness in the *GHMBC* curriculum. Teachers' perceptions and experiences were measured through surveys, focus groups, and observations in order to depict the gestalt of the participants' lived experiences.

The following research questions were investigated throughout the present study:

What impact does a mindful yoga video platform have on the perceived benefits, self-efficacy, and beliefs of teachers' when it is integrated into a standards-based curriculum?

What are teachers' perceptions of the impact of mindful yoga on children's social, emotional, physical, and cognitive domains?

What are teachers' perceptions of the barriers and experiences when mindful yoga is integrated into a standards-based curriculum?

To address the aforementioned research questions the researchers collected quantitative and qualitative data pre-, during, and post-hoc through a mixed methods sequential experimental design (Creswell et al., 2003). While the quantitative survey data were emphasized both pre- and post-hoc during interpretation, qualitative inquiry supplemented the quantitative findings with rich data throughout the study (Johnson & Onwuegbuzie, 2004). The

utility of both quantitative and qualitative data provided further understanding of the complexities and nuances of teachers' perceptions of yoga and mindfulness throughout the study.

### 3.2 Procedures

Participants of the study were ten early childhood education teachers in Northwest Mississippi from three different preschools. Prior to implementation of the intervention, curriculum approval was obtained from the university's Institutional Review Board and administrators at each preschool. Teacher consent was also acquired from teachers when they attended a professional development training for three days during Summer 2019. The training provided guidance on the curriculum and data collection procedures. Pre- and post-intervention data included a survey for teachers on their attitudes and experience with yoga and mindfulness. Focus groups with teachers occurred prior to the curriculum intervention to elicit teachers' perceptions of the challenges and barriers they might encounter with the implementation of the curriculum as well as the benefits. During the intervention, which took place for three months from September-November 2019, field notes were documented when lessons were taught by the researchers through participatory observation on a field observation form (See Appendix C). Teachers taught 3 units (4 lessons per unit) over 3 months (1 lesson per week) and were requested to show the unit's corresponding mindful yoga video three times per week. Post-intervention, the same measures administered pre-intervention were conducted.

### 3.3 Measures

#### 3.3.1 Teacher Survey

A pre- and post-survey was created and administered to teachers through Qualtrics to determine their beliefs about the benefits and their perceptions regarding the integration of yoga and mindfulness into the early childhood classroom (Qualtrics, Provo, UT). The survey consisted of 29 items and was adapted from the Early Math Beliefs and Confidence Survey (EM-BCS), which is a validated measure that assesses preschool teachers' beliefs and confidence about teaching and learning mathematics (Chen & McCray, 2013). To determine validity of the instrument, internal consistency of the survey's three domains were evaluated through Chronbach's alpha, wherein alpha ranged from .80-.90. Reliability was evaluated through multiple administrations of the survey over an 18-month period. Findings revealed no significant differences between the survey's domains, indicating a high level of reliability (Chen & McCray, 2013). The domains adapted for this study were as follows: (a) teachers' perceptions about preschoolers and yoga and mindfulness; (b) teachers' confidence in helping preschool children with yoga and mindfulness; and (c) teachers' perceptions of the benefits of yoga and mindfulness in the classroom. Teachers were asked to respond to a 7-point Likert scale for each survey item (e.g. 1 – strongly agree; 2 – agree; 3 – somewhat agree; 4 – neither agree nor disagree; 5 – somewhat disagree; 6 – disagree; 7 – strongly disagree). This study's survey included four factors that were derived from the curriculum — yoga/mindfulness (8 questions), gardening and nutrition (9 questions), social-emotional (5 questions), and anti-bias/anti-bullying (7 questions). The factors were adapted to address the three domains within the EM-BCS. For the purpose of this paper, only the questions regarding yoga and mindfulness were analyzed.

#### 3.3.2 Field Observations

Participatory observations were conducted weekly at each of the schools on a field observation form. A minimum of one research team member conducted an observation weekly over the 12-week duration of the study. Teachers communicated via email prior to the start of the study the day of the week they would teach each lesson. This assisted the researchers with creating a schedule for weekly observations. The observations provided additional anecdotal data during the intervention period, which yielded further insight and helped to illustrate the teachers' overall experiences with the mindful yoga intervention.

#### 3.3.3 Focus Groups

Participants took part in pre- and post-intervention focus groups. The focus groups took approximately 1.5 – 2 hours and consisted of open-ended questions (See Appendices D and E). The researchers intentionally sought out

an experienced moderator who was unfamiliar with the participants in order to mitigate any power imbalances and to lessen incidences of the participants telling the researchers what they wanted to hear due to social pressures. This was necessary, as one of the researchers served in a supervisory role to several of the participants and the other has a child enrolled in one of the schools that implemented the curriculum. Some studies have even shown that participants prefer focus groups to individual interviews (Morgan, 1996; Wilkinson, 1998). This may be because it is less intimidating. That is especially the case if the group is made up of participants who are from the same gender and background. In focus groups, participants can share lived experiences and support one another, which is exactly what happened in this focus group. The moderator probed and prompted participants, especially those who were more reluctant to speak. Higher moderator involvement kept the conversation on topic (Morgan & Lobe, 2011). A limitation of the focus group format is that it was less structured and the researchers had less control over the outcome because the group dynamics also played a large role in what direction the conversation flowed.

### 3.4 Data Analysis

Analysis of the survey items occurred by first placing the results for each survey item into a spreadsheet. The mean (M) and standard deviation (SD) of each survey item — both pre- and post — were then calculated and placed into a table. These descriptive statistics provided a baseline for additional parametric analysis. A paired samples *t*-test was conducted to provide further analysis of the impact the intervention had on teachers' perceptions. After significance was determined, Cohen's *d* was calculated to measure the overall effect size between the two data distributions.

For the qualitative analysis, researchers received copies of the interview transcription files and imported all the transcripts into NVivo for the first round of coding. This first cycle of coding included creating initial codes and examining the data for first impressions of themes, and creating analytic memos. After this first cycle, researchers shared their codebook and evaluated key themes utilizing these codes. Next, the researchers merged similar themes and developed subthemes into a higher-order category, which became the working set of codes. In cycle two, the researchers merged similar codes into higher-order categories, which became the final set of codes. Next, researchers examined each other's coding and discussed potential discrepancies to ensure inter-rater reliability. At this point, researchers decided a saturation point was found within the data, and no new codes or themes were emerging.

## 4. Results

### 4.1 Quantitative Findings

Descriptive statistics are displayed in Table 1, wherein the pre- and post-survey mean (M) for each survey item were derived in addition to the standard deviation (SD). Results in domain a, regarding teachers' perceptions about preschoolers and yoga and mindfulness increased on average from pre- to post-survey by .71% (item 1); .61% (item 2); 18.53% (item 3); and .77% (item 4). Teachers' participation in yoga and comfort level with participating in yoga with preschool children in domain b increased on average by 22.61% (item 5) and 3.25% (item 6). Findings from survey items in domain c revealed that on average, teachers' perceptions of the benefits of teaching mindfulness in the classroom increased by 6.36% (item 7) and perceptions of teaching yoga increased by 4.17% (item 8). Overall, item 5 (have you participated in yoga before?) and item 3 (children can learn through movement) revealed the greatest changes from pre- to post-survey.

Table 1

Pre- and Post-Survey Responses

Survey Questions	Pre (M)	Post (M)	SD
1. Yoga isn't for preschoolers (a)	6.00	6.33	.23

2. Preschoolers do not understand mindfulness (a)	5.36	5.67	.21
3. Children can learn through movement (a)	1.36	1.00	.25
4. Children can learn how to control their bodies through mindfulness (a)	1.64	1.67	.02
5. I have participated in yoga before (b)	2.91	1.50	.99
6. I would be comfortable doing yoga with my students (b)	2.00	1.83	.12
7. Teaching mindfulness is beneficial to the classroom (c)	1.45	1.67	.15
8. Teaching yoga is beneficial to the classroom (c)	2.27	2.00	.19

\*Note: (a) teachers' perceptions about preschoolers and yoga and mindfulness; (b) teachers' confidence in helping preschool children with yoga/mindfulness; and (c) teachers' perceptions of the benefits of yoga and mindfulness in the classroom.

Further analysis was conducted to determine if results were statistically significant from pre- to post-intervention. An independent paired sample *t*-test was conducted to test for statistical significance. Findings revealed that the responses from pre-survey ( $M = 2.27$ ) to post-survey ( $M = 2.00$ ) ( $SD = .19$ ) were not statistically significant ( $t = .82$ ;  $p = .42$ ). Cohen's  $d$  was then conducted to determine effect size between the two data sets. Findings revealed an effect size of .96, indicating a large effect size and a non-overlap of 51.6% within the two distributions.

## 4.2 Qualitative Findings

Based on the findings that emerged during the qualitative analysis, four themes were most prominent to the discussion of teachers' perspectives of the mindful yoga aspect of the curriculum: (a) high level of motivation to implement the curriculum; (b) perceived direct benefits for their students; (c) there were beneficial links to conscious discipline; and (d) challenges existed regarding space, time, technology, and the need for more variety.

### 4.2.1 High Motivation to Implement

The majority of participants expressed personal buy-in for the curriculum, stating that they believed aspects of it are important and needed for the children in their classrooms. They also emphasized that they volunteered to implement the curriculum because they believe in a whole-child approach to development. One teacher stated:

I feel like in general for this age, social/emotional is such a big part of what we do. You know I think so much of that is developed at the age of 4 to 5. It will just be good to have these extra lessons to reinforce the things we do all the time with this teaching to share, and teaching to be friends, just everything that comes along with this age. Patience and you know just... not giving up, trying new things...

Teachers also shared that they believed their own expectations and level of buy-in would impact its success. For example, one participant shared:

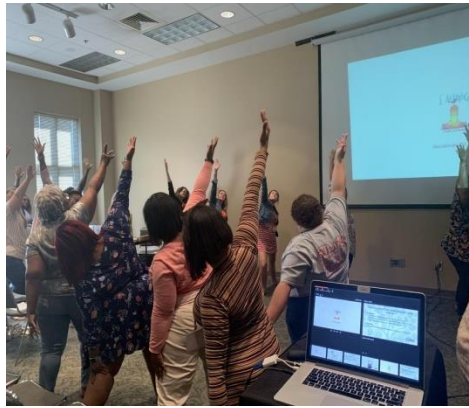
Our buy-in to it, a big part of it is getting to know the lessons and feeling good about teaching it and how we sell, not sell it to the kids, but get excited about it and let them know this is cool stuff. And you know how we present it will be a big part of it. Voice: If we are negative about it they won't want to do it.

Teachers also showed excitement for doing something new and different, but also noted that they appreciated that the strategies are research-based. Several of the teachers had experience with yoga and were comfortable with implementing the videos three times a week; while others shared they had some reservations. However, having access to the mindful yoga videos relieved that stress. One teacher stated:

I guess when I first thought about yoga, I thought oh goodness. But when we went there and did it with Tess [during the teacher training], I was like this is easy, this is doable and the kids would love it, even if I had some hesitation at first, I could just do that ....okay this is easy to do. (See Figure 2)



Figure 2



Note. Teachers participating in mindful yoga with Ms. Tess during teacher training.

Another teacher chimed in:

I think you can watch the video. So if there is something you're not comfortable doing then they can just watch the video.

In the pre-pilot focus group, teachers shared that they liked the idea of integrating mindful yoga with social-emotional and academic content. One participant expressed the hope that the curriculum would help students learn better ways to manage their emotions:

Maybe they will be able to get a hold of their own emotions when they feel like they are too big for them and they can go somewhere and say okay this is happening, but I got this to help me calm down. Even as adults sometimes I think we have problems doing that. You know, maybe if we start at an early age and teach them these emotions are normal it's just what we do with them and how we react to them I think that will be a good thing. (See Figure 3)

Figure 3



Note. Children learning to use their breath to move the pinwheel while regulating their emotions.

#### 4.2.2 Perceived Direct Student Benefits of Mindful Yoga

Throughout the year, teachers expressed perceptions of direct benefits to their students as part of participating in the curriculum. Teachers reported that the children seemed calmer after mindful yoga and that some of their students were showing improvement in their balance, coordination, and ability to focus. Furthermore, participants reported that the majority of students were participating and enjoyed doing it. Feedback from participants included; “They really enjoyed the yoga.” “ I thought the video was the perfect amount of time for our students-not too short or too long.” Students enjoyed yoga videos – especially the “repeat after-me” segments that taught vocabulary and reinforced concepts in the *GHBMC* lessons. For example, there was a yoga video that talked about all of the things that plants need to grow which connects to a lesson on plants. Teachers liked that these concepts were brought up in the yoga videos and also in the lesson, helping children integrate yoga and gardening together to strengthen their learning.

Teachers also perceived reduced behavioral issues in the classroom and shared they believed these reduced behavioral issues were due to students having more strategies to self-calm and self-regulate, specifically the skill to help them cope with anger. In one of the lessons, students are introduced to a chime and are taught how to mindfully listen to the sound while focusing on their breath. She shared,

We still use the chime everyday. Every time I hit the chime they raise their hand and do the breathing and it silences them and they just calm down.... I would say number one in our room is the chime... for sure.

#### 4.2.3 Links to Conscious Discipline

Two of the three schools involved in the study were already implementing Conscious Discipline prior to the implementation of the *GHBMC* curriculum. Conscious Discipline is a social-emotional learning program that works first with teachers to support self-regulation and help them to respond to and understand emotions like upset, anger, and sadness. Next, it provides tools and training for how teachers can model and teach children these same concepts.

Teachers in the study perceived the *GHBMC* as a complimentary addition while the teachers from the school not using Conscious Discipline mentioned that the *GHBMC* curriculum was even more needed in their classrooms. Several of the *GHBMC* lessons and mindful yoga videos utilize concepts that are also introduced in Conscious Discipline. For example, the use of breathing and stretching to calm down, the introduction of a glitter jar to describe feelings, using “cranky crème” lotion to self-soothe, and the idea of having a safe space or cool down corner to self-regulate. Teachers shared their own appreciation for ways the *GHBMC* curriculum helped them to implement strategies they may have learned in a Conscious Discipline workshop or training, in very concrete ways and during the existing lessons and mindful yoga videos.

#### 4.2.4 Challenges Regarding Space, Technology and A Need for More Variety

Teachers were requested as part of the pilot to show the mindful yoga videos three times a week. When teachers were asked about barriers or challenges they faced regarding the mindful yoga videos, participants expressed the need for adequate classroom space and shared just how challenging this was to find. All teachers were offered mats as an incentive to participate, but not all had the room for them. As one teacher stated, “We have 18 kids and a very small space so when I think about the yoga, which I think is a wonderful way to start the day, it’s just clearing all the tables, and then getting everything back into our centers” (See Figure 4). Another chimed in, “It’s a huge commitment.” And another added. They won’t be able to be in a full circle because they will need to be watching the TV screen (that’s true lots of voices, that’s true) so maybe a half a circle. I didn’t get the mats because we don’t have any storage space. So as much as I wanted the mats you know there isn’t anywhere to put stuff.

Figure 4



*Note.* This photo demonstrates the challenges teachers faced related to finding adequate space for yoga in their classroom.

Ultimately, teachers experimented with what would work for their own individual classroom limitations. Another concern was that safety would be an issue if students were too close to each other and hit or fell on one another. In the end, no one was hurt during the pilot and teachers were able to make space, although this was a considerable concern.

Another concern related to the curriculum implementation was for each unit only one mindful yoga video was created and available for the teachers. So the children had to do the same video 12 times before the next unit started. Teachers explained:

We did 36, well we were supposed to do 36 yoga videos, but I doubt that everybody did 36 yoga videos. Because that's how hard it was to get them to do it. They are getting tired of the same video and they keep asking if there is a different one. We always enjoy yoga, but I think my students are ready to move onto some new ideas.

Another teacher noted:

They are getting tired of doing the same video. We did them, but I had to bribe them a little bit. Really encourage them.

The final challenge was due to internet connectivity. The yoga videos were housed on the *GHBMC* website and teachers had to download them to play them for their class on their boards. There were several times that teachers reported no internet connection and thus were unable to participate. This, along with issues of limited space and student boredom due to lack of variety impacted the frequency of *GHBMC* yoga videos shown by teachers throughout the pilot (See Table 2).

Table 2

Frequency of GHBMC Mindful Yoga Videos Shown by Teachers Per Week

Vide o	GN Wk. 1	GN Wk. 2	GN Wk. 3	GN Wk. 4	SE Wk. 5	SE Wk. 6	SE Wk. 7	SE Wk. 8	Anti- Bias Wk. 9	Anti- Bias Wk. 10	Anti- Bias Wk. 11	Anti- Bias Wk. 12	Avg. p/wk.
T1	3	3	1	2	0	3	0	0	3	2	3	3	1.7
T2	3	3	3	0	3	3	3	1	3	3	3	1	2.3
T3	0	0	0	3	0	0	0	0	2	0	0	2	0.5
T4	3	3	3	1	2	1	2	0	2	0	0	3	1.6
T5	2	2	2	2	0	2	2	2	0	2	2	0	1.5
T6	2	3	0	3	3	3	3	0	2	0	0	3	1.8
T7	3	3	1	0	0	2	2	2	0	0	2	2	1.4
T8	2	2	3	0	0	2	2	2	0	0	0	0	1
T9	3	3	3	3	3	3	3	3	3	3	3	3	3
T10	3	2	0	2	0	2	2	2	0	0	0	2	1.2
T11	2	3	3	3	0	2	0	0	0	0	0	0	1
Avg													1.5

## 5. Discussion

The current study examined preschool teachers' experiences and perceptions of mindful yoga videos when integrated into the curriculum. Findings of this study are unique, as previous studies have predominantly examined the impacts of stand-alone mindfulness programs on children (Bergen-Cico et al., 2015; Cullen, 2011; Flook et al., 2015; Poehlmann-Tynan et al., 2016; Serwacki & Cook-Cottone, 2012), while excluding teachers' input as key stakeholders in program implementation (Moreno, 2017). Conversely, this study aimed to garner factors affecting implementation from the teachers' perspectives, so as to determine successes and areas for improvement regarding future development and implementation of mindful yoga videos for the *GHBMC* curriculum.

Utilizing a mixed methods design enabled the researchers to examine both quantitative and qualitative data from teachers throughout the study. Domain a in the survey asked teachers to respond to questions regarding their

perceptions of the benefits of mindfulness and yoga for children. The two items that revealed the greatest change were teachers' perception that children *do* understand mindfulness and that children *can* learn through movement. These findings were corroborated by the qualitative findings, as teachers consistently noted that their students were able to link vocabulary learned in the mindful yoga videos through movement back to the *GHMBC* lessons. In addition to these positive outcomes, teachers noted reduced behavioral issues due to the children's ability to transfer strategies for self-calming and self-regulating learned during the *GHMBC* mindfulness lessons. These findings are in direct alignment with the current literature that asserts yoga can improve children's cognitive and social-emotional development and that mindfulness is an effective intervention for developing social-emotional skills (Flook et al., 2015; Poehlmann-Tynan et al., 2016; Verma et al., 2014). While our findings support ongoing research regarding yoga and mindfulness for young children, it also adds to the breadth and scope of the very limited research regarding what we know about the effectiveness of both yoga *and* mindfulness practices with preschool children. Not surprisingly, statement 5 in domain b of the survey (I have participated in yoga before) revealed the largest increase from pre- to post-survey, as teachers who piloted the mindful yoga videos were asked to participate in the mindful yoga with their students. Perhaps the connection of teachers obtaining training on mindfulness prior to the pilot, providing modeled mindful yoga videos, and the consistent weekly practice of mindful yoga with children in their classrooms throughout the pilot coupled with teachers' overall positive outlook on a whole child approach to learning, increased program buy-in. The literature suggests teacher buy-in is critical for effective implementation of new programs (Durlak, 2015). Due to the fact that many of the pilot teachers (2 out of 3 schools) already had a social-emotional learning program with elements of mindfulness (Conscious Discipline) embedded in their school curriculum, a majority of the teachers were able to clearly identify the feasibility of connecting what is taught in the Conscious Discipline program with the mindfulness concepts in the *GHMBC* lessons and mindful yoga videos.

However, these findings are not without their challenges. For example, in the focus group, a teacher stated, "We still use the chime everyday. Every time I hit the chime they raise their hand and do the breathing and it silences them and they just calm down.... I would say number one in our room is the chime... for sure." The issue is that the chime was introduced in a lesson that was to help children become mindful listeners. It was not intended to be a bell that gets the children's attention in an effort for them to be quiet. This is a problematic use of mindfulness and one that has been critiqued by several scholars for taking the benefits of yoga and/or mindfulness and using them as a means to control an individual's behavior (Walsh, 2016). One of the most important factors when teaching mindfulness to students is for the teacher to embody self-awareness, presence, and compassion for self and others. This is an ongoing process and one that does not happen instantaneously. While some of the teachers shared that they had experienced yoga and/or mindfulness, there were many who were at best, learning along with the children. Therefore, the teacher who decided to use the bell as a signal for children to be quiet was not doing anything wrong per se, but was interpreting mindfulness through her own lens and understanding of it. This is an unintended consequence and one that demonstrates the need for increased teacher training and ongoing conversations about why we teach mindfulness. Similarly, Conscious Discipline, which is based on mindful principles, is about helping teachers learn to self-regulate in order to model and create safe and loving classroom communities. Teachers who are unable to first regulate themselves will not be able to teach others these skills.

Another critique of yoga and mindfulness comes from Purser (2019) who posits that mindfulness dulls social awareness and discourages individuals from fighting injustice and working towards social change. Furthermore, because yoga and mindfulness is often associated with the white, wealthy and educated people, concerns have been raised about its equitability and diversity (Kamenetz, 2020). This is a fair critique. The *GHMBC* curriculum works to counterbalance this with its emphasis on teaching children to celebrate diversity as well as stand up to injustice. In fact, during one of its lessons, the term "bystander" is used to describe a person who stands up for what is right and intervenes on behalf of others.

One last issue that was brought up during discussions while we were training teachers was a concern that some parents may not want their children doing yoga in our conservative "Bible Belt state." While yoga and mindfulness practices have become more commonplace, concerns have been raised as to its association with Eastern philosophy and religion (Ryan, 2012). Some critics have attacked mindfulness as an attempt to covertly establish religious doctrine within secular spaces. To combat these critiques, when training teachers on the *GHMBC* curriculum, the secularity of the curriculum is emphasized. Secular mindfulness focuses on the scientific evidence regarding the mental and physical health benefits of key practices rather than on religious traditions and/or

dogma. This approach also promotes the use of scientific terminology and avoids the use of words that come from religious texts (i.e., the term *namaste*, which is often used in yoga practice and originated from Sanskrit). Furthermore, we remind teachers that mindfulness techniques are practiced widely across a swath of religious traditions, including individuals who are not religious (Pew Research Center, 2017). Mindful Schools, an organization that promotes secular mindfulness in education, published guidelines and recommendations to support secular teaching of mindfulness in schools and two of the three authors have gone through their certification program (See Appendix F). While describing mindful yoga as secular and teaching it as such is important, especially within the contexts in which we work, this does not mean that we are ignoring or minimizing many of the concerns people have brought up about the cultural appropriation and commercialization of secular yoga. We grapple with these issues as scholars who are working towards ensuring that the *GHMBC* curriculum is accessible to children from all backgrounds. We continue to promote what Cash from the Center for Mindfulness, Compassion and Resilience at Arizona State describes as “equitable mindfulness” and honor the cultural origins of the practice (Kamenetz, 2020).

### 5.1 Future Research

Although teachers’ overall experiences with and perceptions of the *GHMBC* mindful yoga videos emerged as positive in both the quantitative and qualitative findings, there were several implementation factors and barriers that emerged and should be addressed in future research. Firstly, the video frequency chart revealed that teachers only showed the videos an average of 1.5 times per week, rather than the 3 times per week requested by the research team. While this reveals a 50% implementation rate, the qualitative findings are important to take into consideration as data revealed that teachers lacked time and space to implement. This barrier might have been a critical factor affecting consistent implementation. Another compounding barrier that is important to the conversation is the variety of mindful yoga videos provided. To our knowledge this is a new barrier to the literature and it certainly merits thoughtful consideration as mindfulness-based programs move forward with development of lessons and mindful yoga videos for young children.

### 5.2 Limitations

Despite the positive findings of the mindful yoga interventions within this study it is not without limitations. One such limitation is the limited geographical reach of this study. Future studies should aim to gather data from a broader geographical population. Secondly, we assert that teachers’ previous experiences with teaching mindfulness concepts could have potentially been a limiting factor to the success of this program’s implementation. However, the mindfulness-based program that the majority of teachers in this study participate in (Conscious Discipline) does not include yoga. Another limiting factor of this study was that teachers were bound to the space and time provided within each school to incorporate the mindful yoga videos within the *GHMBC* curriculum. Future research may aim to collaborate with teachers either prior to the study or throughout the study on ways to best address both classroom space as well as surveying teachers to determine best times for implementation of mindful yoga videos to ensure consistency of implementation. A last limitation is that the mindful yoga intervention was implemented through pre-recorded videos. While this might be a potential benefit since the videos were readily available for teachers, it is also limiting due to the fact that pre-recorded videos lack the ability to provide instantaneous performance feedback, tend not to be as motivating for children as live sessions, and make proprioception development more challenging.

## 6. Conclusion

Outcomes of this study revealed that time, space, and lack of video variety affected implementation. However, teachers still indicated positive perceptions and experiences with mindful yoga videos when integrated with the *GHMBC* curriculum. To our knowledge, this study is one of very few that has addressed factors affecting implementation of yoga *and* mindfulness through mindful yoga videos that are aligned with the preschool curriculum. Thus, it is novel in both its approach and findings. It is our hope that as the utility of both yoga and mindfulness increases with young children, factors underpinning effective implementation that emerged within

this study lead to a better understanding of the positive impact that mindful yoga can have on our youngest generation of children.

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## Appendix A

### Social/Emotional

### Mindful Yoga Script



Teacher notes: Come together in a circle, give each other enough space to move arms.

Good morning everyone and welcome to Growing Healthy Bodies, Minds and Communities Yoga Time! My name is Tess and I'm excited to be here with you today! Let's get started the same way we do every time we are together. We are going to plant our feet in the ground and stand up nice and tall. Let's take a big sun breath by breathing in and raising our arms up to the sky and then letting all the air out as we bring our arms back down to our sides. Okay let's do it all together when I count to three, 1..2..3 Breathe in.... Breath out.... Let's do it one more time Breathe in.... Breath out...

Each time we are together we get to go on a special adventure, but first we have to put our imagination caps on. Ready to put it on, here we go...Today we get to go on a bee and butterfly hunt! First things first, let's see if we can find the bees...

Sit comfortably, with your back tall and long like the trunk of a tree and let your shoulders relax and hang down like branches coming off the trunk. Take a few big breaths in and out, closing your eyes if you want. While you breathe, think in your mind about how you feel or what mood you are in. Maybe you feel excited, nervous or shy. Now try to picture a bee in your mind, take one last breath in. Now keeping your lips sealed, inhale through your nose. While you exhale, hold your tongue to the roof of your mouth and make M sound. Let's try it again and this time leaving your lips sealed makes a buzzing sound. Take a breath and let's try it again. Okay one last time. Now think about if you feel different after breathing. Maybe you feel more calm, relaxed and in control of your body.

Stand up with your feet planted in the ground and let's do a little repeat after me...

**I am amazing** (arms to sky)

**I am amazing** (forward fold)

**Community** (step right foot back)

**Community** (step left foot back)

**Touch the earth** (chaturanga, but kids usually just rest their body on the mat)

**I'm fun!** (upward dog/cobra)

**I'm strong!** (downward dog)

**Peaceful** (step right foot forward)

**Peaceful** (step left foot forward)

**Touch the sun!** (jump up with hands to sky)

**Peaceful** (cross right hand to left shoulder)

**Peaceful**(cross left hand to right shoulder)

**Whisper Peaceful** (mountain pose)

You all did such a great job! You should be proud of yourself and your ability to do yoga!!

It is now time to find our butterflies:

Since we are already standing so nicely in our mountain pose with our feet planted in the ground and our heads up high, let's see if we can become beautiful butterflies. With your arms in a nice rounded position against the body, the fingertips of both hands touching lightly together resting on your legs.

Breathe in slowly as you bring the arms up together in front of the body, fingertips of both hands still touching as you do so. Keep the movements going upward, hands touching, as you continue to **inhale**. You now should have a full breath in, and the hands are stretched out above your head, fingertips touching.

Now, **breathe out** slowly as you separate the hands, bringing them down to the side of the body like a butterfly so that they are level with the shoulders.

Now, **breathing in**, move the arms up above the head, again like a butterfly, until the fingertips touch. Let all your air out and take another big breath in.

**Breathing slowly out**, take your butterfly wings all the way down the side of your body, arms outstretched, until the hands meet at the legs. The arms now are nicely rounded as they were when we began this exercise.

Let's try that one more time now that we have all done it.

Our breathing can help us control our emotions, when we feel uncomfortable, sad, scared or when we feel like we just need to calm down. Taking a breath in can help us feel better and be better. Thank you all for doing yoga

today with Growing Healthy Bodies, Minds and Communities Yoga Time! I hope you feel loved and ready to take on your day!

Garden/Nutrition

Mindful Yoga Script

Teacher notes: Come together in a circle, give each other enough space to move arms.

Good morning everyone and welcome to Growing Healthy Bodies, Minds and Communities Yoga Time! My name is Tess and I'm excited to be here with you today! Let's get started the same way we will every time we are together. We are going to plant our feet in the ground and stand up nice and tall. Let's take a big sun breath by breathing in and raising our arms up to the sky and then letting all the air out as we bring our arms back down to our sides. Okay let's do it all together when I count to three, 1..2..3 Breath in.... Breath out.... Let's do it one more time Breathin.... Breath out...

Each time we are together we get to go on a special adventure, but first we have to put our imagination caps on. Ready to put it on, here we go...Today we get to grow some fruit and vegetables in the garden! Where else do fruits and vegetables grow? That's right, the farm!

Now let's see if we can do it:

Standing tall with our roots planted into the ground, raise your hands high up in the sky and we are going to give our plant fresh air by bending to the left side and taking a breath, Good take another one. Now straighten back up and bend to the right side and take a breath, take another one. Straight back up with all that fresh air in your body.

With our hands so high in the sky go ahead and reach for the sun and grab some sunshine in your hands. Bring that sunshine all the way down to your roots, now bring your hands to your knees with your back straight and say out loud, I'm going to the garden!

Bring your hands back down by your toes and give your roots some water by sprinkling the water around the ground.

Now place your hands on the ground and step your feet behind you, come down like a snake in the garden, leaving your hands on the ground by your chest. Now when I say go push just your chest off the ground and make the best snake noise you can, Go! ...Great Job!

Tuck your toes under, push your chest off the ground and put your bottom into the air like a dog wandering in the garden. Take a big breath in and out.

Bring your knees down to the ground so you are on all fours like a cat. Place your bum on your feet and rest your tummy on your legs with your forehead to the ground as though you are the soil covering a seed in the garden. Great Job!

Tuck your toes under, put your bottom into the air like a shoot starting to grow from our seed in the garden. Take a big breath in and out.

Place your knees down one more time and straighten your back nice and tall. Now take your left leg out to the side as though vines are growing out into our garden. Try to let your left arm side down your leg as your right arm goes high in the sky stretching to reach the sun. Take a big breath in and come back up. Let's do the other side. Now take your right leg out to the side as though vines are growing out into our garden. Try to let your right arm side down your leg as your left arm goes high in the sky stretching to reach the sun. Take a big breath in and come back up.

It is time to grow our baby seedlings. Are you ready? Bring your hands together at your chest and start to grow your legs and your arms up to the sun. Stop when your knees are still bent like you are in a chair. Take a big breath in and let's keep growing all the way up!

With our hands high in the sky and our legs straight and strong I am going to teach you a little trick. I want you to pop your left foot so that your knee is bent like this and your toes are still on the ground. Now turn your foot so your heel touches your ankle, just like mine, there you go. Now bring your arms down like branches on the tree and take a big breath in!

Are you ready to try the other side? I want you to pop your right foot so that your knee is bent like this and your toes are still on the ground. Now turn your foot so your heel touches your ankle, just like mine, there you go. Now bring your arms up like branches on the tree and take a big breath in!

You all did an awesome job growing your garden today and giving your plants all the things they need to grow! Sun, soil, water and air!

Breathing exercise: Standing tall in mountain pose

We grew all over this little garden of ours and now it is time to rest. Place your hands on your legs, close your eyes and breathe in and out when I count to three, 1, 2, 3...breath in, breath out. Let's do that one more time but add a sigh to our exhale. 1, 2, 3.. Breath in, sigh out. Great job! Let's do it one last time 1, 2, 3... breathin and big sigh out.

Thank you all for doing yoga today with Growing Healthy Bodies, Minds and Communities Yoga Time! I hope you feel ready to take on your day!

Anti-Bias/Anti-bullying

Mindful Yoga Script

Teacher notes: Come together in a circle; give each other enough space to move arms.

Good morning everyone and welcome to Growing Healthy Bodies, Minds and Communities Yoga Time! My name is Tess and I'm excited to be here with you today! Let's get started with the same way we do every time we are together. We are going to plant our feet in the ground and stand up nice and tall. Let's take a big sun breath by breathing in and raising our arms up to the sky and then letting all the air out as we bring our arms back down to our sides. Okay let's do it all together when I count to three, 1..2..3 Breath in.... Breath out.... Let's do it one more time Breath in.... Breathout...

Now let's get out our imagination caps, get them on and get ready to go on an adventure! Today we get to be our own unique superhero! So let's get those imagination caps on so we can go!

Before we get going we are going to stand and rub our hands together quickly to warm them up. Once they are warm let's put them on our eyes and wake them up so they can see all the amazing superheros in the room today. Take a big breath in and let it out with a sigh. Let's warm our hands again and place them on our ears so that our ears are ready to listen and hear all our amazing unique friends today, take a big breath in and let it out with a sign. Finally take a big breath in and as we warm our hands for the last time let's think about our emotions and as we breath let out any cranky or upset feeling so we can open our hearts to everyone Now place our hands on our heart and know that we will show all our friends respect and encourage them to be their own superhero. One last big breath in and out.

Now standing with our legs straight and our back straight lets start to reach out our hands to the sun and change into our superhero. Now bend forward and wave our hands by our toes. Now put your hands on your knees and look at someone and say I'm unique! Put your hands back down and bend your knees and bring your hands up to the sun as though your superhero is getting ready to take off! You should be almost ready to sit in a chair. Straight your legs and take a big breath slowly begin to lift your right leg behind you just a bit off the floor with your arms out to the side as your super hero begins to fly. Now put your right leg behind you and your arms out to the side and think about your superhero riding a wave through the water. Let's try that again, but this time on the other side. (repeat on left)

Shake out your legs. You all are the best bunch of yoga superheroes I have ever seen. Since we have been doing yoga together for a while now I thought we would try something special. We are going to move with our breath (go through sun salutation)

From her sit up and bring your legs in front of you and go ahead and lay back. As we begin to close our eyes and listen to the sound of my breath I want you to think about what your superhero looks like, what shape they are and if they look like a human. Breathe now what's their super power, can they fly, or surf the big waves like we did, are they kind and helpful? Breath. Now start to wiggle your toes, fingers, nose... Take a big breath in and let it out with a sign. Sit up

Appendix B

Weekly GHMBC Unit Sequence

Week	Date	Mindful Yoga Video at least 3x	Lesson	Lesson Feedback Due Date
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1	Sept. 2nd	Gardening and Nutrition Unit	What Do We Need to Grow?	Sept. 11th
2	Sept. 9th	Gardening and Nutrition Unit	How Do We Grow?	Sept. 18th
3	Sept. 16th	Gardening and Nutrition Unit	It Takes a Community for Everything to GROW!	Sept 25th
4	Sept. 23rd	Gardening and Nutrition Unit	Hard-Working Hands Happily Harvesting	Oct. 2nd
5	Sept. 30th	Social/Emotional Unit	What Makes Me Human?	Oct. 9th
6	Oct. 7th	Social/Emotional Unit	I Feel... Social Emotional Lesson	Oct. 16th
7	Oct. 14th	Social/Emotional Unit	When I Fell Angry...	Oct. 23rd
8	Oct. 21st	Social/Emotional Unit	I feel Peace, I Feel Calm	Oct. 30th
9	Oct. 28th	Anti-Bias/Anti-Bullying Unit	It's Okay to Be Different	Nov. 6th
10	Nov. 4th	Anti-Bias/Anti-Bullying Unit	Shapesville	Nov. 13th
11	Nov. 11th	Anti-Bias/Anti-Bullying Unit	The Many Beautiful Shades of Us	Nov. 20th
12	Nov. 18th	Anti-Bias/Anti-Bullying Unit	Sharing Bread	Nov. 27th

Appendix C

GHMBC Observation Form

Date of Observation:

Name of Teacher:

Name of Observer:

Number of Students:

What lesson is being taught?

Time lesson started:      How long did the lesson take:

Was this lesson age appropriate and what evidence showed the children were understanding the content or meeting the learning standards and objectives. Observations:

Are the students engaged in the lesson? What evidence do you see of this?

Observations:

Does the lesson seem to flow well? (Distinct intro, closing, etc.)

If a book was used, were the students engaged in the book?

Observations:

Are the materials being used and are they helpful for the lesson?

Observations:

What differences did you see between the implementation of the lesson and the written lesson plan

What worked?

What needs to be improved?

Observations to be made at Yoga:

Were the students engaged during the video?

Was the teacher participating in the yoga with the class?

Were there any spatial issues in the classroom?

Was the timing of the video appropriate? (Should it have been longer or shorter?)

## Appendix D

### Pre-intervention Focus Group Questions

#### GENERAL

Introduction: I hope the school year is off to a good start.

Today we are here to talk about your experiences with teaching yoga, mindfulness, gardening and other subject areas and to understand your general perceptions around issues that relate to the Healthy Minds Bodies and Communities curriculum.

OK, if there are not any questions, let's begin.

What are some common social emotional challenges you find in your own preschool classroom?

What about this curriculum interested you? (In other words) Why are you here?

What are your hopes for the outcome of the curriculum pilot?

What are your fears about being involved ?involved?

What are your experiences with yoga? (In other words... Have you ever been to a yoga class? What did you like about it? Dislike about it?)

Have any of you ever tried teaching yoga in the classroom? Please share your experiences.

What are your experiences with gardening and children?

What challenges do you anticipate with teaching these lessons?

How pressured for time do you feel in the classroom?

## Appendix E

### Post-intervention Focus Group Questions

#### GENERAL

Introduction: Happy New Year and welcome back. I hope your new year is off to a good start. You probably remember the face but are not sure of the name. My name is Laurel Lambert.

Today we are here to talk about your experiences during the 12 weeks of teaching the Growing Healthy Minds, Bodies, and Communities lessons. I would like to start off with a general discussion of likes, dislikes, benefits, and challenges with each of the units being- Unit 1 – Gardening/Nutrition, Unit 2 – Social-Emotional, and Unit 3 – Anti-Bias and Anti-Bullying. Once we finish there, we would like to ask some more specific questions about the three Units.

Some basic ground rules: OK, if there are not any questions, let's begin.

First we start with Unit 1 Gardening/Nutrition: the benefits and challenges. Let's start with benefits first: What do you believe were some of the benefits of teaching Unit 1

Next: challenges

Let's move on to Unit 2 – Social-Emotional

Benefits

Challenges

Last: Unit 3 – Anti-Bias and Anti-Bullying

Benefits

Challenges

1. Were there any individual materials within the units that you liked or that the students really seemed to be engaged with and why?

2. Were the lesson plans written clearly?

3. This next question is a very broad question and opened to any part of the lessons in the three units. What overall, or specifically, did you wish had been different?

4. I am handing out a short survey for the next question. Once everyone has completed it we will discuss your answers. In general, how pressured for time did you feel when trying to incorporate the lessons into the classroom?

5. What could the research team do better to support you?

6. After teaching the lessons, what about the curriculum was most engaging/interesting to you?

7. What would you say are your overall thoughts of the curriculum pilot? Big picture

#### SPECIFIC

You all taught three units over twelve weeks.

Unit 1 used nutrition and gardening in the lessons.

1. When thinking about experiencing the nutrition and gardening lessons on learning how plants grow, planting microgreens, learning about different healthy foods and My Plate, and taste testing with the children... was there anything or a particular lesson that you found especially helpful for your students?

2. Was there anything that you would like to see added to the lessons?

3. Were there any instances or teachable moments that arose in the classroom after you'd taught these lessons that you were able to use them to refer back to? Can you share this with the group?

Unit 2 covered social emotional development.

1. When thinking about the lessons on feelings, anger management, using the safe space, cranky creme... were there any lessons that you found to be especially helpful for your students? Why?

2. Were there any that were missing that you'd like to add to the curriculum?

3. Were there any instances or teachable moments that arose in the classroom after you'd taught these lessons that you were able to use them to refer back to? Can you share this with the group?

Unit 3 addresses anti-bias and anti-bullying.

1. Was this lesson something you felt comfortable with? For those of you without a lot of racial diversity in the classroom how did the lesson go and did you adapt it?

2. Do you talk about racial diversity in the classroom in other lessons in your classroom? How?

3. Were there any instances or teachable moments that arose in the classroom after you'd taught these lessons that you were able to use them to refer back to?

#### LAST TOPIC:

The lessons incorporated yoga.

Describe your experiences with yoga this semester? (What did you like about it? Dislike about it?)

What are your thoughts about incorporating yoga into your classroom in the future?

#### LAST QUESTION:

Any last comments as we come to the end of our discussions?

#### Appendix F

##### Mindful Schools Guidelines of Secular Teaching

Mindful Schools, an organization that promotes secular mindfulness in schools, published the following guidelines and recommendations to support secular teaching:

1. Mindfulness practices should be articulated in the primary instructional language or languages (in the case of bilingual education).

2. No classroom can be conducted in a completely value-neutral manner and it is reasonable to affirm humanistic values such as kindness, cooperation, empathy or concentration. However, mindfulness is not an attempt to teach a comprehensive ethical system.
3. Teach the practices in a direct, experiential manner whereby practitioners can examine the validity of the claims within their own subjective experience (e.g. when doing seated mindfulness practice, students can directly perceive the attention wandering away from the mindfulness anchor). The spirit is one of encouraging curiosity as if conducting an experiment with one's own mind and body.
4. Do not assert or intimate claims about metaphysics (e.g. 'the nature of the universe is love'). If such questions or comments arise from students, support their curiosity while clarifying the scope of mindfulness practice and redirect the conversation to the subjective or empirical realm.
5. Frame mindfulness as a practice about subjective experiences rather than about overarching truths of the universe.
6. Do not include symbols or artifacts closely linked to a particular religious tradition (e.g. making particular gestures with one's hands, bowing, using religious props, etc.).
7. Do not substantiate the practices on the basis of religious figures or texts. At the same time, take care not to denigrate religious practices or texts.
8. Teach in a manner consistent with current scientific understandings of human biology and behavior.