

TEACHERS, FEELING STRESSED? JUST BREATHE:
MINDFULNESS INTERVENTIONS AND THEIR IMPACT ON TEACHER STRESS AND
BURNOUT

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A THESIS
Submitted to
Xavier University
in partial fulfillment of the requirements
for the degree of M.Ed.

Masters of Education

2019

ABSTRACT

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Educators face increasing pressures from parents, standardized testing, and state and district mandates. Amid these pressures, teacher stress and burnout is a growing concern for American schools. Burnout is most clearly distinguishable by the following three components: emotional exhaustion, depersonalization, and lack of personal accomplishment. Current research reveals that teachers with high levels of burnout also suffer from higher levels of depression. Teachers suffering from burnout also evince lower rates of student achievement and higher rates of discipline issues. Research within the field suggests that mindfulness-based interventions provide a low-cost and low-risk possibility for decreasing teacher burnout and increasing positive emotions that lead to more effective teaching. The subgroup of American public Montessori school teachers face more demands than a typical public school teacher, thus creating more stress which leads to burnout. This has not been currently studied and provides a unique setting to study teacher burnout and a intervention designed to reduce burnout.

This mixed-method study examined factors that lead to teacher burnout within a public Montessori school and the effects of a five-week mindfulness-based intervention on a small sample group of public Montessori school teachers. The study was conducted at a public Montessori school within the Cincinnati area, serving students grades PreK-6. 30 teachers' levels of stress and burnout were assessed pre- and post-intervention, and interventional and control

groups' results were compared. Additionally, 7 teachers within the interventional group were interviewed regarding the main stressors that they perceive in their work life and their experience with the mindfulness intervention.

Data was analyzed to determine the most common factors influencing teacher stress and burnout within the sample group. Among the most frequently described negative experiences, the following can be seen as leading to professional conflict within the role of a teacher: “feeling unsupported by administration,” “parent issues,” and “testing/assessments/district curriculums.” Additionally, the following can be seen as leading to work overload: “not having enough time to complete all tasks,” “paperwork,” “testing/assessments/district curriculums,” and “challenging student behaviors.” The results of this study show that within the intervention group, there were significant drops in levels of perceived stress as well as reductions in the factors of burnout after just a 5-week intervention, with participants only attending three 30-minute sessions per week. Furthermore, the experience was described as positive and worthwhile by all participants.

Looking forward, I recommend to administrators that they work to decrease the amount of emotional exhaustion that their staff is likely to incur, whether by decreasing the number of meetings, streamlining paperwork processes, or supporting their teachers in district decisions or in conflicts with parents. Furthermore, findings from this study suggest that administrators should work to provide opportunities for stress-reduction interventions to their staff to reduce burnout. Finally, for teachers themselves, I would suggest that they join a pre-existing group which practices mindfulness strategies or begin a group within their own school. Significant changes in perceived levels of stress and burnout are possible after only a 5-week intervention, making this a risk and cost-free option for teachers and administrators hoping to improve teacher mental health.

Dedicated to my loving and supportive family.

ACKNOWLEDGMENTS

This dissertation could not have proceeded as successfully as it did without the dedicated staff at Sands Montessori. Their participation throughout this dissertation was invaluable. I have learned more than I ever expected from their wealth of experience. I also would like to acknowledge the Xavier University faculty who have led me through the Master's program in Reading Education. Finally, I would like to acknowledge my loving family. Their patience and support made this entire process possible.

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CHAPTER 1

CURRENT EDUCATIONAL CLIMATE IN THE UNITED STATES

Introduction

At the heart of every classroom, there is a teacher. A teacher is more than an educator for the students in their care. A teacher may be a trusted guide, a shoulder to cry on, a cheerleader, and a child's fiercest defender, all within the same day. Teachers are known for being self-sacrificing, repeatedly putting their students' needs above their own and continually pushing themselves to give more to their students. However, for many teachers this desire to do as well as they can for their students leaves them with little time or emotional resources for themselves.

If teachers do not have the skills and resilience to tackle the daily stresses and pressures of their job, they are vulnerable to the components of burnout which include emotional exhaustion, depersonalization, and a lack of personal accomplishment. Teacher burnout is a well-known phenomenon within American schools. The American Federation of Teachers found in their 2017 Educator Quality of Work Life Survey (p. 2), that 61% of educators and school staff "find their work 'always' or 'often' stressful," and more than 50% of respondents find that they "have less enthusiasm now than at the beginning of their careers". Few would argue that there are many variables as significant to the success of a school as the quality of their teaching staff, yet few programs or initiatives focus on improving teacher well-being as a valid approach to overall school improvement.

The causes of teacher burnout stem from many sources, including but not limited to, discipline problems, time pressure, low student motivation, and value dissonance between the teacher and the school administration, community, or the national educational climate (Skaalvik

&Skaalvik, 2017). A study among Finnish teachers showed that measures of job demands strongly predicted measures of teacher burnout and confirmed a process wherein job demands led to the development of burnout which then led to poor health among teachers, (Hakanen, Bakker, & Schaufeli, 2005). Richards, Levesque-Bristol, Templin & Graber, (2016), investigating the many roles that teachers face daily, also found that teachers face significant role stressors due to the complexity of their job. These role stressors include role conflicts which occur when teachers face varying expectations for their role from different stakeholders, role overload which occurs when teachers are asked to play too many roles simultaneously, and role ambiguity which occurs when the expectations for a teacher's role are too vague to be comprehensible, (Richards, et al., 2016, p. 514-515). When all these stressors are considered, burnout must be considered a significant risk for all teachers.

A possible mediator in preventing teacher burnout is the practice of mindfulness. Mindfulness is commonly defined as deliberately noticing the experiences occurring in the present moment and accepting those experiences without judgment. Mindfulness does not seek to change the surrounding environment, but rather change how the individual reacts to the environment. Lindsay, & Creswell, describe mindfulness as both attention monitoring and acceptance, which can lead to improved cognitive functioning and reduced reactivity to stressful events (2016). In our current political climate, where teachers' autonomy and independence are often stymied by government and administrative demands, mindfulness practices can provide an alternative to burnout and frustration. With awareness and acceptance of both joy and frustration, mindfulness can allow teachers to be more fully present to the needs of their students and the ever-changing demands of their career.

Rationale for this Study

This study examined the factors influencing teacher stress and burnout within public Montessori school teachers, as well as the effects of a mindfulness-based intervention on these teachers' levels of stress and burnout. Occupational stress is a growing concern for all individuals in education, as teachers are asked to continually provide faster and more easily verified proof of student learning, often with less time, resources, and community support. According to the Alliance for Excellent Education, "teachers leaving teaching after five years ranges from 40 percent to 50 percent...." With states spending between "\$1 billion and \$2.2 billion a year on teacher attrition turnover," (2014, p. 3). Additionally, high-poverty schools are disproportionately affected by teacher turnover, further compounding the difficulties in these schools. According to the Gallup State of America's Schools 2014 Report, 69% of U.S. teachers are "not engaged" or "actively disengaged" in their jobs, meaning that they may feel disconnected to and dissatisfied with their workplace, (2014, p. 26). This level of teacher non-engagement must be addressed, and this study will approach the topic through an inquiry into the experience of one subgroup of teachers, public Montessori school teachers.

Teacher stress and burnout can also have measurable effects on student behavior, achievement, and even levels of student stress. Teachers who experience high levels of stress and burnout, while also judging themselves to have low coping skills, were consistently associated with inferior student outcomes compared to teachers with lower levels of stress and burnout and higher levels of coping, (Herman, Hickmon-Rosa, Reinke, 2018). A study investigating the effect that teacher burnout has on student cortisol levels found significant variations between cortisol levels among classrooms within the same school. Significantly, teacher burnout

significantly predicted higher levels of morning cortisol within the students, (Oberle, & Schonert-Reichl, 2016). To further compound the problem, researchers have found that burnout can be contagious within schools, particularly when teachers are easily affected by the emotions of others and frequently exposed to colleagues experiencing student and work difficulties, (Bakker, & Schaufeli, 2006).

Additionally, if we look beyond the immediate impact on students which teacher burnout causes, we can find the significant psychological damage it causes for the teachers themselves. A study examining the overlap between burnout and depression found a strong correlation between burnout and depressive symptoms within a group of 1,386 teachers. The study found that 86% of teachers that met the criteria for burnout also met the criteria for a diagnosis of depression. The researchers concluded that it is likely burnout is often a form of depression, (Schonfeld, & Bianchi, 2016). A past study conducted with over 5,000 schoolteachers examined the connection between burnout and depression as well and found that 90% of teachers identified as burned out met clinical criteria for depression, with 92% of those individuals scoring highly enough to meet the recommendations for pharmaceutical or psychotherapy interventions. Additionally, the strongest correlation was found between emotional exhaustion, one of the three major elements of burnout, and depression, (Bianchi, Laurent, & Schonfeld, 2014). The authors of both studies ended with the suggestion that the overlap between burnout and depression has heretofore been largely underestimated. Burnout is often seen as an individual's problem or concern, but with stakes as high as they are for teachers and students, it must be addressed as a concern for all.

Public Montessori schools, though few in number, offer a unique educational experience for the students they serve. There are more than 400 public schools offering Montessori programs within the United States, yet few studies have examined the experiences of teachers

within these schools, (American Montessori Society, 2019). Montessori education offers a child-centered education based on the philosophy that children are innate and eager learners who flourish in an environment specially designed to meet their educational needs. The Montessori teacher is a “guide”, carefully preparing the environment with developmentally appropriate materials for children to use and leading them to discover their own learning. Children work independently or in small groups, and each child progresses through the Montessori curriculum at their own pace.

Public Montessori school teachers may struggle to balance the Montessori philosophy which they were trained in, and the traditional demands and expectations of a public-school district. This group of teachers seek to provide children independence and autonomy within the classroom and follow the traditional scope and sequence of the Montessori curriculum, while also adhering to district policies, expectations, or even conflicting curriculums. Public Montessori schools also must administer the same state and district assessments. This is expected to cause value dissonance and feelings of role conflict within public Montessori school teachers. Finally, public Montessori school teachers must address the state standards for all three grade levels of the students within their classroom, while also providing experiences for cooperative learning between students of different ages and differentiating for individual instruction. These demands place public Montessori school teachers in a particularly vulnerable situation to incur higher levels of stress and the components of burnout including emotional exhaustion, depersonalization, and lack of personal accomplishment.

To date, there has not been a study designed to specifically investigate the factors relating to high levels of stress and burnout within the community of public Montessori school teachers. There has also not been a study to date which investigated the effects of a mindfulness-based

intervention within this community of teachers. In an era of education where demands for innovative and progressive education is continually heard, non-traditional public schools should be closely examined. The teachers within these schools can provide a unique viewpoint regarding stress and burnout, considering the multiple demands and roles they must fulfill. This study will benefit not only public Montessori school teachers and the stakeholders of these schools, but all educational professionals who hope to gain a better understanding of teacher burnout and interventions that can address it.

Assumptions of the Study

This study assumes that workplace stressors within the school environment lead to teacher burnout in direct and indirect ways. The correlation between burnout and potential stressors in the school environment, such as time pressure, discipline issues, struggles with student motivation, and value dissonance between teachers and other stakeholders, has been found to be substantial (Skaalvik, & Skaalvik, 2017). Furthermore, role stressors which exist within the responsibilities of many teachers, such as role conflict, role overload, and role ambiguity, have also been found to contribute to feelings of burnout (Richards, Levesque-Bristol, Templin, & Graber, 2015.)

This study also assumes that investigating the factors influencing burnout within public Montessori school teachers and the effects of a mindfulness-based intervention on teacher stress and burnout is a worthwhile endeavor. This assumption rests on the belief that teacher burnout is a significant problem within America, as well as the belief that teacher well-being is a significant factor in the success of students and schools. In a study examining the levels of stress, burnout, and coping skills within elementary teachers, it was found that 93% reported high levels of

stress, and 33% of teachers reported high levels of stress as well as moderate or high levels of burnout. Furthermore, it was found that teachers with low coping skills experiencing high levels of stress and burnout, were associated with poorer student outcomes. The psychological well-being of teachers is assumed to be important within this study not only for the benefit of teachers themselves, but also for the students which they serve. Without these assumptions, the purpose and importance of this study will not be self-evident.

Problem Statement

Considering the state of public education and the widely acknowledged phenomenon of teacher burnout, studies analyzing interventions aimed at reducing teacher stress and burnout are critical. Within the niche community of public Montessori schools, the demands placed on teachers to fulfill both the traditional roles of a Montessori ‘directress’ and the very concrete demands given by state or district mandates as a public-school teacher may make this particular community of teachers even more highly susceptible to stress and burnout. This research will concentrate on two fundamental inquiries regarding teacher burnout within public Montessori schools and whether mindfulness-based practices will have a mediating effect on teacher burnout. These inquiries include:

Q1: What factors lead to teacher burnout within public Montessori schools and do those factors differ in any notable ways from the most commonly cited factors in the current research?

Q2: Will a 6-week mindfulness-based intervention have a mediating effect on reducing stress and the components of burnout in public Montessori school teachers?

It is predicted that public Montessori teachers will have higher levels of the role stressors of role conflict and role overload, given the two educational philosophies, Montessori and

traditional, which they seek to balance in their classrooms and the additional effort required to do so. Role conflict occurs when a teacher takes on two or more different role sets simultaneously, where expectations for behavior for each role are incompatible with each other. Role overload occurs when the responsibilities of a role are too numerous for one individual to complete effectively or an individual takes on too many roles at one time. In a study conducted among elementary and secondary teachers, links were found between role conflict and role overload and the components of burnout which include emotional exhaustion, depersonalization, and lack of personal accomplishment. Role conflict was found to correlate with high levels of depersonalization and role overload was found to correlate with high levels of emotional exhaustion (Richards & Bristol, 2015).

Time pressure was also found to be a strong predictor of emotional exhaustion in a study examining dimensions of teacher burnout within elementary school teachers (Skaalvik, & Skaalvik, 2017). Multiple grade levels are taught within a single Montessori classroom. For example, a “6-9” classroom, would include children ages 6-9 and grade levels first, second, and third. With these multiple grade levels comes multiple learning standards and assessments which must be addressed for all grade levels within a classroom, and time pressure is a major concern for public Montessori school teachers.

The following Hypotheses will be tested within this study:

Hypothesis 1: Public Montessori teachers will display high levels of role conflict and role overload, given the highly demanding and conflicting nature of their position within a public school.

Hypothesis 2: Given the research linking role conflict to higher levels of depersonalization and role overload to emotional exhaustion, as well as the correlation between

time pressure and emotional exhaustion, it is predicted that public Montessori teachers will display higher levels of depersonalization and emotional exhaustion.

Mindfulness based training practices have been evaluated within school settings in various studies, using diverse forms of mindfulness practices. Teachers participating in a yoga breathing meditation intervention reported lower levels of stress and felt more in control of their emotions (Hepburn, & McMahon, 2017). Student teachers involved in a 12-week loving kindness meditation intervention focused on increasing empathy also reported lower levels of stress and higher levels of empathy (Csaszar, Curry, & Lastrapes, 2018). An interventional study involving teachers in an inquiry-based stress reduction meditation intervention aimed at investigating nonjudgmentally the thoughts that cause stress found marked improvements in their ability to accept reality as it is and to feel more focused in the present moment (Schneider-Levi, Mitnik, Zafrani, Goldman, & Lev-Ari, (2017). A meta-analysis of 29 mindfulness-based interventions used with teachers showed that “MBIs had fairly consistent, medium effects on the primary outcomes of psychological well-being, psychological distress, and physiological indicators,” (Klingbeil, & Renshaw, 2018, p. 508). Given the body of information on the subject, it is reasonable to predict that a mindfulness-based intervention will reduce stress and components of burnout within public Montessori teachers.

The following hypothesis will be tested within this study:

Hypothesis 3: Given the research on mindfulness-based interventions, it is predicted that public Montessori school teachers in the experimental group will have lower levels of stress and lower levels of the components of burnout after participating in the study than the control group.

Definitions

Montessori teachers typically have three age groups contained within a single classroom. The age groupings are as follows:

3-6 classroom: Children aged 3-6 years old. Preschool and kindergarten.

6-9 classroom: Children aged 6-9 years old. First grade, second grade, and third grade.

9-12 classroom: Children aged 9-12 years old. Fourth grade, fifth grade, and sixth grade.

Mindfulness-Based Stress Reduction Interventions will be abbreviated to MBSR interventions within this paper.

Preview of Chapters

In the following chapters, I will present the current research on stress and burnout within education, as well as mindfulness as a possible intervention in reducing stress and increasing resilience. I will then detail the methodology used within the study and the results of the mindfulness-based intervention with public Montessori school teachers. Finally, I will summarize the effectiveness of the intervention in reducing stress and burnout and make recommendations based on the findings of this study.

Conclusion

Teacher stress and burnout is a significant concern for education within the U.S. Teacher stress negatively affects not only students' behavior and achievement, but also teachers' psychological well-being and teacher retention rates. Within the current research on teacher burnout, there has not yet been a study which focused exclusively on the experience of Montessori teachers within public schools. This study will investigate the factors that lead to

burnout within public Montessori schools and whether those factors vary in any meaningful ways from the factors found in previous studies. Mindfulness based interventions provide one possible strategy to reduce teacher stress and prevent burnout. This studies' secondary aim is to determine whether a 5-week mindfulness-based intervention will have a mediating effect on reducing stress and the components of burnout in public Montessori school teachers and discuss the validity of this intervention within schools.

CHAPTER 2

CURRENT LITERATURE ON TEACHER BURNOUT AND MINDFULNESS-BASED INTERVENTIONS

Introduction

Many educators and laypeople within the United States agree that our country is experiencing a decline in academic excellence when compared to other developed nations. The PISA, (Programme for International Student Assessment) is administered every three years and placed the U.S. as 38th out of 71 countries in math and science achievement in 2015. When ranked within only those countries included in the OECD (Organization for Economic Cooperation and Development), the United States ranked even lower, as 30th out of 35 in math and 19th out of 35 in science, (Pew Research Center, 2019). Meanwhile, the U.S. spends significantly more money per student than the average among countries included in the OECD. In 2014, U.S. schools spent an average of \$12,300 per student, with the OECD average at only \$9,600 per student, (National Center for Education Statistics, 2018).

Where does this discrepancy arise? Perhaps, the condition of American teachers is one contributing factor. A review of teacher turnover found a higher rate of turnover for teachers working within Title I schools, with a turnover rate nearly 50% greater than in Non-Title I schools, with that figure rising to nearly 70% greater for math and science teachers. Additionally, the overall attrition rate of 8% within American public schools is far higher than the 3-4% attrition rates seen in the high-achieving countries of Finland, Singapore, and Canada, (Learning Policy Institute, Carver-Thomas, & Darling-Hammond, 2017).

The 2017 Educator Quality of Work Life Survey's results by the American Federation of Teachers indicate that teacher turnover may be precipitated by high levels of teacher stress. The survey found that 61% of teachers describe their work as "always" or "often" stressful, and that teachers and school staff are significantly more stressed than other U.S. workers. This stress was evidenced through teachers sleeping fewer hours than other U.S. workers, reporting more frequently that their mental health was not good in the past month, and even experiencing higher levels of perceived bullying and harassment at work. Furthermore, 40% of teachers reported that they had "no influence" or "minor influence" in establishing curriculum at their school. These conditions set the stage for the three components of burnout: emotional exhaustion, depersonalization, and feeling a lack of personal accomplishment.

This literature review examines the current research on teacher burnout. The contributing factors of teacher burnout: emotional exhaustion, depersonalization, and a lack of personal accomplishment are examined, as well as school stressors and role stressors that teachers face. The effects of teacher burnout on both teachers and students will then be discussed. Finally, the efficacy of mindfulness as a tool to reduce stress and increase positive emotions is detailed.

Study Context

Montessori education is traditionally reserved for private and parochial schools. Within the United States, there are over 5,000 Montessori schools, yet only about 500, or 10% of those schools, are public programs, (The National Center for Montessori in the Public Sector, 2019). Montessori education values student collaboration and peer-learning, hands-on learning with carefully designed learning manipulatives, and the development of independence and concentration within each child. The teacher designs their plans carefully for each child in their

classroom and guides each child to continually expand their learning, while always being conscious of the child's own independence and natural desire to learn.

Each Montessori classroom includes three age levels, such as first grade through third grade, and the children are encouraged to learn from each other. The older students often lead the younger ones and become second teachers within the classroom. Children are assessed through both teacher observation as well as informally during discussions and interactions with the teacher. Internal motivation to learn is valued highly, and less emphasis is put on grades and test scores. The Montessori teacher is trained to respect the unique development of each child, while guiding and scaffolding his learning to help him reach his greatest potential.

Within the context of modern public school, this can cause many personal and professional conflicts for public Montessori school teachers. Standardized assessments and rigid, constant data collection to ensure accountability of student learning are facts of life for the modern teacher. Data is the new buzzword within schools, and every step to help students requires a data and paper trail to follow. The modern emphasis on standardized assessments and standardized levels of achievement for all students can be at odds with the Montessori philosophy which encourages each child to learn and grow at their own pace. The Montessori curriculum itself shows this dichotomy between a one-size-fits all curriculum typically seen in most public schools. In the Montessori curriculum, children are encouraged to follow their interests and passions, and to design their own learning under the guidance of a thoughtful teacher. However, pressures to perform well on a standardized assessment measuring a small fraction of possible learning can create serious dissonance between teachers who have been trained in the Montessori philosophy and the public-school districts and administrators they work for.

As of yet, research has not delved into the subject of burnout and stress within this sub-population of teachers. This study will seek to shed light on the unique challenges that public Montessori school teachers face. However, there has been a wealth of research done in the field of burnout and burnout within teachers, specifically. This research shows that there are many contributing factors to burnout within teachers and that burnout can have a variety of negative effects on teachers and students. However, mindfulness is one possible intervention which is shown to be beneficial in the reduction of stress and burnout. Research within the field of mindfulness demonstrates that mindfulness-based interventions have the capacity to increase teacher resiliency, coping skills, and overall joy, (Klingbeil, & Renshaw, 2018).

Factors Contributing to Teacher Burnout

Burnout is researched extensively within school environments, as well as in many other fields of work. Burnout is described as a syndrome with the dominant precipitating factors including: emotional exhaustion, depersonalization (which is a cynical outlook towards students, coworkers, and the workplace in general), and the feeling of a lack of personal accomplishment. Emotional exhaustion is the main component of burnout and the largest contributing factor, (Skaalvik, & Skaalvik, 2017). Burnout is described as “the stress of not having control over one’s environment,” and can be observed particularly when individuals view the challenges and demands of their working life as being greater than their ability to cope with those challenges and demands, (Schonfeld, & Bianchi, 2016, p. 23).

Emotional exhaustion contributes to a feeling that the work environment is a place where the individual lacks control and sufficient resources to complete all tasks. Depersonalization can lead to a feeling that the individual must constantly face danger and hostility. Finally, feeling a

lack of personal accomplishment can cause an individual to feel continual disappointment with little hope for improvement, (Schonfeld, & Bianchi, 2016).

Burnout is not a temporary state or an occasional feeling of frustration during a particularly stressful time or event. Rather, burnout is described by Schaufelli & Buunk, as “an end stage of a process of resource depletion at which the sufferer, drained, experiences an adaptive breakdown,” (as cited in Schonfeld, & Bianchi, 2016). The teacher suffering from burnout is drained of their emotional and coping reserves and is no longer able to adapt to the regular stresses of classroom life.

Four stressors common within schools have been analyzed in relation to their effects on emotional exhaustion, depersonalization, and lack of personal accomplishment. These four stressors include: discipline problems, time pressure, low student motivation, and value dissonance between the teacher and administrators, parents, students, or the school community. After analyzing data from 1,145 teachers, all stressors were found to relate significantly to emotional exhaustion, though time pressure was the greatest factor. Discipline problems, low student motivation, and value dissonance were found to relate significantly to depersonalization and personal accomplishment as well, (Skaalvik, & Skaalvik, 2017). Considering that these stressors are largely out of the teacher’s control, it is critical that teachers are given the tools to increase their coping skills and resiliency in the face of these workplace stressors.

Additionally, given the complexity of their job and the many roles they are often expected to fill in society today, teachers also face many role stressors. Role stressors arise when a teacher’s perception of their role within a school is inconsistent with expectations held by others. Three types of role stressors have been identified in the current literature on the subject: role conflict, which occurs when roles that a teacher must simultaneously take on have differing

expectations for behavior, role overload, which occurs when teachers must take on more roles than their time or energy allows, and role ambiguity which occurs when the expectations or behaviors for a role are not clear or are incomplete, (Richards, et. al., 2016).

When researching the effects of role stressors on the three components of burnout, Richards, et. al., found clear links in their 2016 study. High levels of role conflict were strongly correlated with depersonalization, and all role stressors were linked to at least one of the three components of burnout. However, resilience was found to have a strong effect on reducing feelings of a lack of personal accomplishment, mediated by its effects on role ambiguity. Resilience also had significant protective effects on depersonalization and emotional exhaustion, mediated by its effects on the three role stressors.

In today's current society, teachers are asked to take on more roles than ever before. A teacher is not solely a teacher, but also mentor, coach, parent, team leader, committee member, data analyzer, researcher, and advocate for the children in their care. Role stressors may not decrease with time, but rather increase as teaching continually becomes a more complex and demanding profession. Interventions aimed at reducing teacher stress and increasing resilience are essential to empower teachers to take on these role stressors without developing burnout.

Effects of Teacher Burnout on Students and Teachers

While the factors influencing burnout range from daily stressors inherent in school life to role stressors which may be a newly developing phenomenon in our modern culture, the effects of teacher burnout are clearly documented within the research and lead to predictable negative results for both teachers and students. Although burnout is a syndrome associated with work and an individual's inability to cope effectively with the stresses of a work environment, the effects

of burnout extend beyond the individual suffering. Hakanene, et. al. found a negative and self-energizing process occurring within teachers where job demands lead to burnout and then to ill health. These job demands are a combination of work overload and time pressure, coupled with low job control. When the job demands require continually high levels of effort to sustain, the job demands are transformed from challenges to potential stressors, (Hakanen, et. al., 2005).

Some current researchers have even proposed that burnout and depression are related syndromes and a large study of French schoolteachers found that 90% of teachers who met criteria for burnout also met diagnostic criteria for depression, with 85% meeting criteria for major depression, and 63% of all individuals meeting criteria for depression showing symptoms of atypical depression, (Bianchi, et. al., 2014). Furthermore, all burned-out teachers had at least some symptoms of depression, with 60% of the teachers with burnout who met the criteria for depression expressing suicidal ideation. The authors concluded that burnout and atypical depression are the same disorder, based on the similarities in symptoms including: mood reactivity, sensitivity to rejection, and physiological changes in their responses to stress, (Bianchi, et. al., 2014).

A later study found similar results when examining a large sample of U.S. school teachers. Schonfeld, & Bianchi, found that 83% of teachers meeting criteria for burnout also met criteria for a diagnosis of major depression, with 74% indicating that depressive symptoms made their lives “very or extremely difficult,” and 40% experiencing suicidal ideation,” (2016, p. 28). The researchers concluded by estimating that the overlap between burnout and depression has largely been underestimated and that considering them as two distinct disorders leads to a misconception that burnout is a less serious disorder and may prevent those suffering from burnout from seeking professional help, (Schonfeld, & Bianchi, 2016).

Since both studies found that high numbers of those teachers with burnout also had a history of depression or were currently taking antidepressant or anti-anxiety medication, depression could make teachers more susceptible to burnout. However, whether depression and burnout are related disorders or depression precipitates burnout for many individuals, the gravity of the situation should not be underestimated. Depression is characterized by a loss of interest in previously enjoyable activities and a depressed mood, while burnout is similarly characterized by Maslach & Leiter, leaders in the field of burnout research, as the presence of negative emotions and the absence of positive emotions, (as cited in Schonfeld, & Bianchi, 2016). Teachers with burnout are suffering from a serious syndrome which negatively impacts their work life and overall psychological well-being, although it is not clear whether burnout leads to depression or depression causes susceptibility to burnout.

Teacher burnout also significantly impacts students, both in their achievement and behaviors, as well as stress levels. Oberle, & Schonert-Reichl, 2016, found in a thought-provoking study of Canadian middle school teachers and their students that the morning cortisol levels of children within different classrooms varied significantly. This study involved 406 middle school students and their teachers. Researchers first assessed the classroom teachers' levels of burnout using the Maslach Burnout Inventory and then measured children's levels of salivary cortisol. Higher levels of teacher burnout in these classrooms significantly predicted this variation in morning cortisol levels. The researchers of this study cite the connection of their findings with the stress-contagion theory. The stress-contagion theory states that stressful experiences lived by one individual can spillover to others who share the same environment with them. The researchers theorize that this could lead to a “burnout cascade” in which teachers’

and students' stressful experiences are connected in a cyclic manner," (Oberle, & Schonert-Reichl, 2016, p. 31).

Burnout, as a syndrome which mimics depression in many ways, creates a stressful situation for the teacher themselves, as well as the students in their classroom. The pathway for how teacher burnout causes stress for children may be two-fold. It can be a psychologically exhausting task to interact with a burned-out teacher, in and of itself. Burned-out teachers also have less emotional reserves to manage their classroom in a calm and effective manner, (Oberle, & Schonert-Reichl, 2016). These two factors, coupled with the stress-contagion theory, create a perfect storm for students to suffer with a burned-out teacher.

A recent study examining the effect of teacher burnout on student achievement determined that teachers who experienced high levels of stress and burnout, while also perceiving themselves to have low coping skills, were associated with the poorest rates of student achievement and the poorest student behavior. Furthermore, 93% of teachers surveyed reported high levels of stress, with 30% reporting high levels of stress and moderate levels of burnout, and 30% reporting high levels of stress and high levels of burnout. Only 7% of teachers reported low levels of stress, low levels of burnout, and high levels of coping, (Herman, et. al., 2018).

Well-adjusted teachers are in the minority within public U.S. schools, and these figures paint a dire picture of education and teacher well-being. Teachers who experienced high levels of stress and burnout and low levels of coping had students who had more difficulty concentrating and exhibited more disruptive behavior and less prosocial behavior. Students of teachers who were well-adjusted showed the highest levels of concentration and prosocial behaviors and the lowest levels of disruptive behavior. Additionally, there was a step-wise increase in

concentration and prosocial behavior and a step-wise decrease in disruptive behavior as one moves through the classes of teachers from a highly stressed low coping teacher, to a moderately stressed and moderately coping teacher, to a moderately stressed and highly coping teacher, to the small percentage of well-adjusted teachers, (Herman, et. al., 2018). Interventions to reduce stress and burnout and increase coping and resilience with even marginal increases in coping and decreases in stress and burnout yield positive results for students. Improving teacher well-being provides an often-under-utilized path towards increasing positive student engagement and concentration.

Mindfulness as a Tool to Reduce Stress

Mindfulness, stemming from the practice of meditation, is a recognized form of emotional regulation and mental strengthening, practiced for thousands of years. However, only recently has science begun to delve into how mindfulness affects brain functioning and through what mechanisms it achieves this. Meditation is typically described in two ways: as a way to regulate the self through enhanced emotional control or as a path towards gaining wisdom and transforming the self, (Sedlmeier, Eberth, Schwarz, Zimmerman, Haarig, Jaeger, & Kunze, 2012). A meta-analysis by Sedlmeier, et. al., seeking to develop a theory for what effects meditation can be expected to have found that meditation led to improvements in personal relationships and emotionality. Meditation seems to improve interpersonal dealings and to decrease emotional states such as anxiety and neuroticism, as well as other negative emotions, (2012).

One theory posited by Lindsay & Creswell, (2017), regarding the mechanisms of how mindfulness works to relieve stress and improve emotional control, is that of Monitor and

Acceptance Theory (MAT). This theory suggests that mindfulness works by first enhancing the ability to monitor physical experiences within the world. This is also alternatively viewed as a development of awareness. Secondly, mindfulness is effective in changing how one reacts to what is observed. This is achieved through accepting experiences in an open and non-judgmental way, rather than seeking to modify or change them. The development of awareness, the monitoring portion of mindfulness, is connected to improvements in cognitive functioning. Acceptance, a critical second element of mindfulness, reduces reactivity and is connected to increased emotional control and lower levels of stress and anxiety.

These two components of mindfulness should ideally be taught and practiced in tandem, as it has been theorized that enhancing monitoring skills alone may enhance both positive and negative emotions. However, even the development of monitoring skills in isolation is shown to increase creativity, attention, and perceptual accuracy. Furthermore, when coupled with nonjudgmental acceptance, monitoring and acceptance practice correlated with less rumination and worry, among lower levels of other depressive and anxiety symptoms, (Lindsay, & Creswell, 2017). The correlation between mindfulness and reducing anxiety and depression was analyzed in a meta-analysis of 39 studies involving mindfulness-based therapies. Mindfulness-based therapy was found to be moderately effective in reducing anxiety and negative mood symptoms and was particularly effective in patients with anxiety and mood disorders, (Hofmann, Sawyer, Witt, & Oh, 2010). These findings are promising for the current study, in that a mindfulness-based therapy should prove effective for all participants, and particularly for those participants who may be suffering from mild to moderate burnout. With the tentative comorbidity between burnout and depression discussed earlier, mindfulness-based therapy may be a promising treatment for teachers suffering from depression.

The link between mindfulness-based interventions and burnout specifically, has been well-documented within the current research. A study examining the effects of mindfulness and acceptance on burnout within employees of various occupations found that 47.4% of participants found large reductions in burnout symptoms and large increases in mindfulness skills. 31.1% of participants had smaller reductions in burnout symptoms with large increases in mindfulness skills, (Kinnunen, Puolakanaho, Tolvanen, Makikangas, & Lappalaieinen, 2018). Additionally, a study conducted by Fisher, Kerr, & Cunningham, (2017) examining the effect of mindfulness on the relationship between job stressors and the eventual manifestations of chronic job stressors, found that mindfulness had a statistically significant moderating effect on the relationship between workload and the consequent mental and physical symptoms of being overburdened at work. These findings are significant to the current study, as emotional exhaustion is the most critical component of burnout and provides a basis to predict that a mindfulness-based stress reduction intervention will be effective in reducing stress incurred in the workplace as well as the negative results of that stress.

Mindfulness Based Stress Reduction interventions are one branch of meditational practices which focuses on developing awareness and acceptance using body-scan exercises, breathing exercises, and yogic exercises. MBSR interventions are typically 8-week long interventions, with participants being led through various mindfulness exercises for 2 ½ hours per week, with one intensive day of practice towards the end of the intervention. The core components of mindfulness are taught explicitly as skills that can be practiced and learned. MBSR interventions are particularly designed to create desirable real-life outcomes for participants, including sustained attention, acceptance and increased flexibility, lower levels of

stress reactions to unexpected events, increased empathy for others, and increased emotional regulation.

A theory seeking to explain how MBSR interventions improve teacher well-being as well as the classroom climate proposes that interacting components of the intervention work simultaneously. First, the teacher develops mindful traits through the formal mindfulness training. Second, these mindfulness traits lead to improvements in social-emotional functioning and overall well-being within the teacher. Third, this improvement in teacher well-being leads to positive changes in the culture of the classroom and instruction practices, (Klingbeil, & Renshaw, 2018).

A meta-analysis of MBSR interventions for teachers conducted by Klingbeil, & Renshaw, (2018) reflected a trickle-down effect of the intervention which mirrored the theory described previously. MBSR interventions were found to have the strongest effect on teachers' self-reported mindfulness. Consistent medium effects were found for improvements in teacher psychological well-being. Small positive effects were found for changes that extended from the teacher to the classroom climate. An earlier study focused on examining an MBSR intervention for primary school teachers found similar moderate findings for improvements in anxiety, depression, and stress, and significant improvements on teachers' self-reported mindfulness skills, (Gold, E., et. al., 2009). Although these findings are not definitive, they do show a positive relationship between mindfulness intervention and teacher well-being which is the primary focus of the current study.

The effects of other mindfulness-based interventions which use components of an 8-week mindfulness-based stress reduction intervention have also shown to be promising in reducing stress symptoms of burnout. A mixed-methods study examining the effects of a meditation

intervention focused on yoga breathing on stress relief for Australian school teachers, found that the five-week program led to decreases in perceived stress levels as reported on the Perceived Stress Scale. Interviews with participants also showed that the teachers felt that they benefited from the intervention through increased awareness of their stress and emotions, as well as increased focus and an increased ability to relax during stressful times, (Hepburn, & McMahon, 2017). Yoga breathing is a key skill practiced within mindfulness-based stress reduction interventions, and this research points to a possible link between this meditation style and the monitoring portion of the Monitoring and Acceptance Theory described previously.

A qualitative study investigating an inquiry-based stress reduction meditation intervention led by Schnaider-Levi, et. al., (2017) also showed promising results for reducing the symptoms of burnout in teachers. This type of meditation focuses on exploring the automatic assumptions and reactions we have in our daily lives, and through nonjudgmental awareness, accepting experiences without jumping to conclusions or having emotional reactions. Inquiry-based meditation is closely related to the acceptance skills taught within an MBSR intervention and the acceptance portion of the Monitoring and Acceptance Theory described previously. Following the intervention, teachers described a greater ability to accept reality as well as improvements in flexibility, self-awareness, and an overall feeling of centeredness during their work and personal life.

Mindfulness as a Tool to Increase Positive Emotions

The effects of mindfulness beyond stress and burnout prevention are evident in the research. Several studies examined the effects of a Mindfulness Based Stress Reduction intervention or a similar mindfulness meditation intervention and an increase in positive

emotions and overall well-being is often evident along with decreases in negative emotions. Mindfulness-based programs are growing in popularity within the education field and may provide much needed tools to reduce teacher burnout and turnover. A 2015 study of a six-week mindfulness-based program for pre-service teachers in Hong Kong found that participants had significant increases in mindfulness and well-being. Participants also reported that they felt their stress was reduced, they felt more compassionate towards others, and were more aware of their bodies and minds, as well as their stress and the reasons for their stress, (Hue & Ngar-sze). Although this study was conducted with pre-service teachers, these qualitative results are promising for reducing emotional exhaustion and depersonalization, two key factors in teacher burnout.

An interventional study by Hulsheger, Alberts, Feinholdt, & Lang, (2012) examined the benefits of mindfulness for working adults, specifically within the context of the stress that many employees face when required to engage in “surface acting.” Surface acting is acting in a way that contradicts one’s true feelings or emotions to remain professional. Surface acting depletes mental resources and often leads to increased emotional exhaustion. While teachers continue to take on more roles within schools and society, the role conflicts and role dissonance that they may face could certainly be related to their need to engage in surface acting. The study found that participants in the mindfulness training had significantly less emotional exhaustion and more job satisfaction. Considering that the training lasted only two weeks, these findings are promising to the current study, which also has a shortened time-frame of five weeks compared to the typical 8-week MBSR intervention length.

These positive results were found to be consistent in a meta-analysis by Eberth & Sedlmeier,(2012) which focused on mindfulness meditation used in non-clinical settings. Their

research revealed interesting differences in the effects of MBSR interventions and classic ‘pure’ meditation. MBSR interventions were most effective at improving psychological well-being while pure meditation interventions were more associated with improvements in participants’ concepts of mindfulness. Improvements in psychological well-being was observed through stress reduction, less anxiety and fewer negative emotions, and a greater sense of well-being. The authors speculate that this may occur because MBSR interventions are specifically designed to reduce stress with mindfulness training as a means to that end. This research is useful as we examine the effects of MBSR interventions in consideration of their focused aim at reducing stress and negative emotions.

Interesting research on neural changes associated with mindfulness meditation has also been conducted. A study by Chiesa and Serretti (2010), found that long-term meditators have thicker cerebral areas related to attention, as well as less decrease in gray matter during old age, (as cited in Hatchard, Mioduszewski, O’Farrell, Poulin, Zambrana, Caluyong, & Smith, 2017). However, what effect would a short-term intervention have on neural structures? An analysis of neuroimaging research on the components of mindfulness by Holzel, Lazar, Gard, Schuman-OlivierVago, & Ott, 2011) found that mindfulness training was associated with changes in several areas of the brain. These changes in the brain could be linked to attention regulation, body awareness, emotion regulation, and change in self-perspective.

Through the use of neuroimaging, a 2017 study by Hatchard, T., et. al. examined specifically the effects of an MBSR intervention on neural changes. Their investigation found that an 8-week MBSR intervention affected areas of the brain related to attention, introspection, and emotional processing, with increased connectivity between areas of the brain for sensory input and attentional processes. These regions are involved in emotional regulation and memory,

as well as self-referential processing which is the ability to relate information from the world to the self. Although neural imaging in mindfulness research is still scarce, it provides an invaluable perspective into how mindfulness improves emotional regulation and well-being.

Following the Monitoring and Acceptance Theory of how mindfulness is effective at reducing stress and improving well-being, a randomized controlled trial experiment was conducted to evaluate the accuracy of this theory, specifically within how mindfulness promotes positive emotions. The researchers hypothesized that the acceptance component of mindfulness training was particularly important, and that removing acceptance training from an intervention would eliminate positive intervention-related effects. The study compared three experimental groups: a group receiving a full mindfulness intervention with both monitoring and acceptance training, a group receiving just monitoring training, and a control group.

Acceptance is described by the authors as a “middle way between suppression and identification with sensory experiences,” (Hatchard, T., et. al., 2017, p. 946). With acceptance, rather than reaction, negative experiences are not dwelled on or ruminated over, but acknowledged nonjudgmentally and released. Rather than being lost in thought, or engaged in fighting against or opposing reality, monitoring and acceptance work together to create both awareness and peace within life, regardless of specific events. As predicted by the researchers, the intervention group which received both monitoring and awareness training showed significantly greater increases in positive affect for positive states such as happiness, vigor, and calm, compared to the monitoring only group and the control group. Furthermore, those who received both components also showed significant decreases in depression and hostility

compared to the monitoring only group and the control group. All groups showed decreases in anxiety, (Hatchard, T., et. al., 2017).

This research may provide a critical insight into how mindfulness-based interventions produce positive results for participants. The goal of increased monitoring and awareness of experiences is acceptance of all reality without judgment or attempting to change negative experiences and cling to positive experiences. This allows the individual to instead fully experience a range of emotions and react with less volatility to negative events, (Lindsay, et. al., 2018). MBSR interventions incorporate both aspects of mindfulness within the training exercises and skills that are taught, and similar findings are expected in the current study.

Summary

Many factors contribute to the phenomenon of teacher burnout. Environmental stressors within the classroom include: time stress, discipline issues, low student motivation, and value dissonance between the teacher and other stakeholders in the school. Teachers may also face role stressors which include: role conflict, role overload, and role ambiguity. These factors can lead to burnout, particularly in individuals who may be predisposed to, or have a history of, depression. The effects of burnout mimic depression in many ways and lead to a deterioration of psychological well-being within the teacher, while also negatively impacting the students in their care. A mindfulness-based intervention may help to reduce the symptoms of burnout through reducing stress and changing the teacher's reactions to negative emotions and experiences. There is sufficient research to predict that an MBSR intervention will reduce stress, anxiety, and symptoms of burnout within teachers, while increasing coping skills, emotional control, and resilience to the daily challenges of teaching.

CHAPTER 3

METHODOLOGY

Research Design

This research project was designed to assess the levels of stress and burnout within public Montessori school teachers and determine whether the stressors affecting this subgroup of teachers are similar to the stressors largely cited in the current literature on teacher burnout. After establishing the baseline levels of stress and burnout within the sample population using burnout and stress inventories, participants were invited to participate voluntarily in a five-week mindfulness-based stress reduction (MBSR) intervention. At the end of the MBSR intervention, all participants were given the same post-test surveys and the changes in stress and burnout were compared between the control and experimental groups. Members of the experimental group were also interviewed regarding their experiences of stress as a public Montessori school teacher and their experience during the MBSR intervention. This chapter will begin with a description of the population used within this study and the participants selected, as well as the surveys and interview questions used to collect data. This chapter will then describe limitations of this study and researcher positionality present in the study.

The Maslach Burnout Inventory was used to assess pre- and post- levels of burnout within the control and experimental groups. Licensing was purchased to administer this inventory. This inventory uses a likert scale to assess the risk factors of burnout within educators including: emotional exhaustion, depersonalization, and feeling a lack of personal achievement. The inventory measures how often an individual experiences different emotions or reactions with

statements such as, “I feel emotionally drained from my work.”¹ The Perceived Stress Scale was used to assess pre- and post- levels of stress within the control and experimental groups. This scale uses a likert scale to assess overall levels of stress within the past month. For example, one question asks, “In the last month, how often have you found that you could not cope with all the things that you had to do?”

The pre- and post- assessments were compared within the control and experimental group and changes were analyzed. Results are provided in Chapter 4. Differences in change between the control and experimental group were then compared. Interviews were also analyzed to determine common themes and frequency of the identified common themes. The common themes were used to draw conclusions regarding possible causes of teacher stress and burnout within this subgroup of teachers as well as the effects of the MBSR intervention on participants. Finally, these conclusions were compared to the current research on teacher stress and burnout.

The population for my study was all public Montessori school teachers within the United States. My sample was drawn from the teachers at a public Montessori school in the Cincinnati area. The population of teachers at the school studied is 38 (N=38), and the sample size for teachers completing the survey is 19. The sample also included teachers from multiple grade levels as well as an intervention specialist. The sample size for the surveys will be sufficient to draw tentative conclusions regarding Q. The sample size for this survey is not sufficient to draw conclusions regarding the larger population size of all public Montessori school teachers, but may provide a starting point for later studies involving larger sample sizes.

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Research Approval

This research project was conducted through a course at Xavier University. This course received IRB approval. This material will not be published outside of this course. The professor presiding over the course approved the research design and instruments used within this study. Written permission from all participants was received, using a consent for release form.

Data Collection

Participants

The population for my sample intervention group was drawn from the teachers at a public Montessori school within the Cincinnati area. The school studied is a public Montessori magnet school which enrolls students through a lottery system. It is an urban school and part of a larger urban district which contains many traditional and Montessori schools. The larger population for this study are all public Montessori school teachers within the U.S. All teachers are Montessori teachers at a public school and teach grades from preschool to sixth grade. All teachers within the population and sample are female and the ages of participants range from mid-20's to late 60's.

Surveys

The surveys completed by participants address research question one specifically:

Q1: What factors lead to teacher burnout within public Montessori schools and do those factors differ in any notable ways from the most commonly cited factors in the current research?

The population of teachers at the school studied is 38 (N=38), and the sample size for teachers completing the survey is 19. The sample size for the surveys will be sufficient to draw tentative conclusions regarding Q1 within this population due to the fact that the demographics of the sample are largely reflective of the demographics of the population. The sample also

included teachers from multiple grade levels as well as an intervention specialist. The sample size for this survey is not sufficient to draw conclusions regarding the larger population size of all public Montessori school teachers, but may provide a starting point for later studies involving larger sample sizes.

Individual interviews, as well as a quantitative analysis of the effects of the mindfulness-based stress reduction (MBSR) intervention will be conducted for the subgroup of sample participants participating in the intervention. The intervention, interviews, and analysis of pre- and post-intervention surveys will lead to the discussion of research question two:

Q2: Will a 6-week mindfulness-based intervention have a mediating effect on reducing stress and the components of burnout in public Montessori school teachers?

The population of teachers at Sands Montessori is 38 (N=38), and the sample size for teachers completing the mindfulness-based stress reduction intervention is 6. The sample size for the intervention is not sufficient to draw conclusions regarding Q2 within this population due to the fact that the sample size is quite small. However, although the conclusions formed by this investigation cannot be generalized, they offer valuable information regarding possible effects an intervention could have on the population. Furthermore, through the use of individual interviews, a qualitative look at the experience of participants can expand the discussion of teacher stress and burnout, as well as the effects of an MBSR intervention as seen through the eyes of participants. . The current study also provides qualitative information regarding the experience of the participants within the study which may be considered in future studies on the subject of MBSR interventions for public Montessori school teachers.

Participant Selection

Participants were selected through volunteer sampling. The opportunity to participate in the research study was presented to the entire population and participants self-selected to participate. Due to the small population size of teachers at the school studied, as well as the time commitment required for the intervention sample group, this sampling method was most efficacious for this study. This method of sampling does introduce bias into this study and must be considered when results are analyzed. This sampling method may have also led to underrepresentation of teachers whose schedules conflicted with the intervention or who were unable to participate for personal reasons.

Interviews

Interviews were conducted with the six participants who completed the mindfulness-based stress-reduction intervention with full attendance (three 30-minute sessions per week for 5 weeks). Interviews were conducted at the school being studied. The participants were informed before they agreed to participate in the study that they may be selected for an interview. The interviews were conducted as the intervention was ending and were scheduled for convenience to the participants. The interviews were recorded and then transcribed.

During the interviews, participants were asked to reflect on their experience of teaching as a public Montessori school teacher. They were asked to describe what they find most fulfilling about their job as well as what they find most stressful or difficult. They were then asked to reflect on common stressors within the school environment, such as lack of time, discipline issues, and dissonance between themselves and their administration, and whether these stressors have affected their teaching and outlook on teaching. Teachers were then asked to consider

whether balancing the expectations of the Montessori teaching philosophy with the demands of a public-school district have affected their experience of teaching. Finally, participants were asked to reflect on their experiences during the intervention and the effects it had on their experience of the daily stressors of teaching.

Study Limitations

The limitations of the study include the small sample size, the peculiarities of the school studied as a public Montessori school, and the shortened time frame of the mindfulness-based stress reduction intervention. The sample size was small due to participant drop-out and difficulties in participant commitment to the intervention schedule. The small sample size ($n=6$) for the intervention unavoidably limits the generalizability of this study to broader contexts or other settings. The school studied is also a magnet school within a larger urban district. This creates a unique environment for teachers and students and can impact the findings of this study. Since many public Montessori schools are not magnet schools, this may limit the viability of this study's results regarding other public Montessori schools.

A shortened time frame for the intervention, five weeks as opposed to the typical eight-week mindfulness-based interventions, was chosen to simplify the process for participants and encourage a larger sample group. The time frame for the intervention also coincided with the weeks preceding spring holiday at the school. A longer study would have been interrupted by a week-long holiday, and data may have been skewed as a result. However, this shortened time frame certainly limits the results of the study when viewed within the larger body of research on mindfulness-based stress reduction interventions.

Researcher Positionality

As a teacher within the school where I conducted my research, and a public Montessori school teacher myself, I inherently brought my own thoughts and background into this study. I have experienced the stresses of working to balance the Montessori philosophy which I was trained in with the district and state demands of a public-school system. I have also witnessed the stress of fellow colleagues and this created a deep interest in this topic within me. Although my background increased my passion and interest in the topic, it creates bias within my study as fellow colleagues may have interacted differently with me as a fellow teacher, than they would have a researcher who they had no relationship to. Although the participants may have opened up more to me as a colleague and this may have provided greater insight into their thoughts and experiences, it is also possible that they may have wanted to provide answers that they felt I would view as desirable or which would be helpful to my study. These possibilities were considered when interpreting intervention results.

Who I am, as a young, female Montessori teacher within a public school, conducting research about stress and burnout within public Montessori schools, necessarily affected my relationship with the participants as well as my hopes for the data results of the study. Power dynamics between myself and the participants were largely insignificant, though older and more experienced teachers may have been more skeptical to accept the ideas of a relatively new and less experienced teacher such as myself. However, I worked to remain unbiased while interpreting results and to meet any findings with open acceptance. I strove to find ways to reduce my limitations by relating to the participants as a researcher, rather than a colleague. During interviews and intervention sessions, I worked to remain professional and impartial, while still relating to participants non-judgmentally and openly.

Summary

This study was conducted within a public Montessori school, serving students grades PreK-6, in the Cincinnati, Ohio area. The study sought to evaluate the levels and sources of teacher stress and burnout within public Montessori school teachers and discern the effects of a five-week mindfulness-based intervention on levels of stress and burnout. Quantitative data used to determine levels of teacher stress and burnout and the efficacy of the mindfulness-based intervention was collected using the Perceived Stress Scale and the Maslach Burnout Inventory. Qualitative data used to determine the factors leading to teacher stress and burnout, as well as the efficacy of the mindfulness-based intervention was collected using interviews. Although the results of this study are limited both by the small sample size and the bias of myself as the researcher, this study provides a starting point for further study on this topic.

CHAPTER 4

RESULTS

Introduction

The following are excerpts from interviews conducted with the participants in the MBSR intervention:

Teacher: “And sometimes you can’t figure out everything (causing a disruptive behavior) and you try to figure out, why, why are you doing that?”

Interviewer: “How does that usually affect you?”

Teacher: “I have high blood pressure anyway and I feel myself just clenching. My whole body just clinches up. Yeah.”

Interviewer: “What do you find most stressful about your job?”

Teacher: “I find the most stressful dealing with extremely challenging behavior of the students. It just...it sucks me emotionally.”

Interviewer: “What do you find most stressful about your job?”

Teacher: “I would say, um, I would say the time factor. Not enough time and feeling overwhelmed. Because I work really hard during the day when I’m here, like, I use all the breaks. And then when I go home, I’ve been trying really hard. Of course, I still do some work. But I’ve been trying hard to help with that and find a balance of just, you know, taking a break or not staying up until 10:00 at night cutting.

And even though I feel like I've worked really hard to make time and I feel that I am organized and I do have good time management skills, in my mind that's lingering. I'm like, I wish I had time to address that or fix this or make this better or whatever.....And that being said, I would say even if I did have enough time in the day, I think it would take too much energy."

Interviewer: "Do you feel that you have enough time to do what you need to do for your job?"

Teacher: "No. I definitely do not have enough time to lesson plan so that I feel like it's engaging and also fun for both us, the students and the teachers. I just feel like I don't have enough time for that specifically so it's all done on the weekend and I limited over the years how much time I give up on the weekend to do the job. And also just checking work, I'm always here for an hour or two after school, usually every day, because I'm checking work."

These concerns and stresses exemplify the major common themes found within the interviews. Challenging student behaviors and not having enough time to complete all tasks were the two most commonly expressed negative experiences within the interviews. A sense of exhaustion and overwhelm was common throughout the interviews. Even teachers who felt they were coping well or doing their best to balance the demands of their job, still expressed a feeling of inadequacy or a wish that they could fit more into their day. I believe that this experience is more common within the teaching community than one might expect and illustrates the importance of teacher mental health.

Within this study, the following questions were addressed:

Q1: What factors lead to teacher burnout within public Montessori schools and do those

factors differ in any notable ways from the most commonly cited factors in the current research?

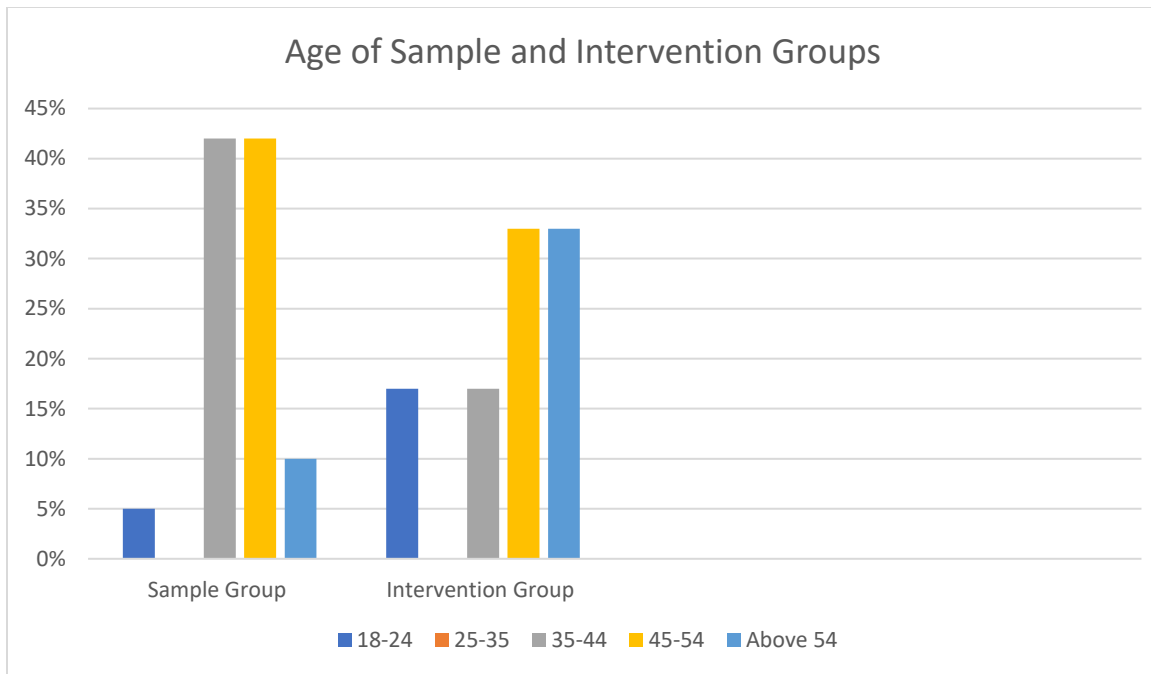
Q2: Will a 6-week mindfulness-based intervention have a mediating effect on reducing stress and the components of burnout in public Montessori school teachers?

The Perceived Stress Scale and Maslach Burnout Inventory were two quantitative measures used to draw conclusions regarding these two questions. Personal interviews were also conducted with participants in the interventional group and analyzed.

This chapter begins with the demographic information of participants. The pre-intervention results of the Perceived Stress Scale and Maslach Burnout Inventory within the entire sample group, the intervention group, and the control group are then presented. The post-intervention results of the Perceived Stress Scale and Maslach Burnout Inventory follow. Data from interviews conducted with participants in the interventional group are then presented. Finally, the data is summarized.

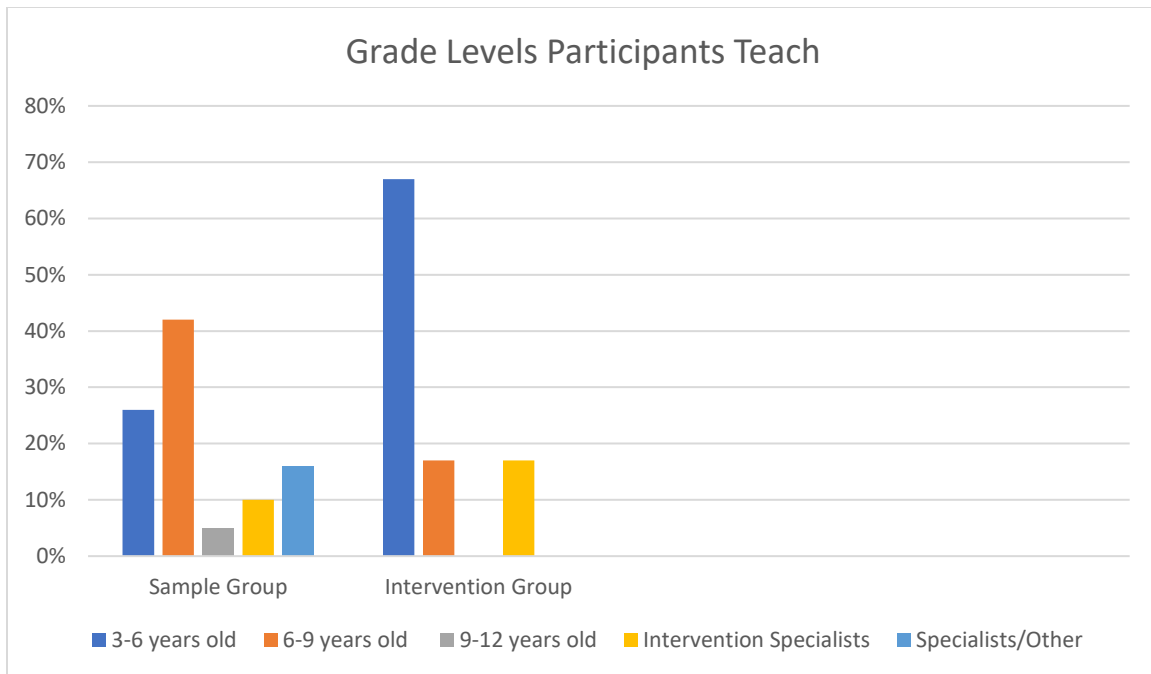
Demographic Information

When examining the demographic information, commonalities within a majority of the group are evident. When looking at the sample group (n=19), including both the control group and interventional group, 5% of participants were ages 18-24, 42% were ages 35-44, 42% were ages 45-54, and 10% were above the age of 54. Therefore, 84% of participants were between the ages of 35-54. 90% of participants identified themselves as white, with 5% identifying as Hispanic and 5% identifying as Other. All participants within the sample group were female.



90% of the sample group had obtained a master’s degree within their field and 10% had obtained a bachelor’s degree. 26% of participants teach students at the 3-6 level (preschool and kindergarten). 42% of participants teach students at the 6-9 level (1st grade – 3rd grade). 5% of participants teach students at the 9-12 level (4th grade – 6th grade). 10% of participants are intervention specialists. 16% of participants classified themselves as specialists or “other.”

Noticeable differences between the sample group and the intervention group include average age and teaching position within the school. The intervention group is slightly older than the sample group, with 66% of the intervention group older than age 45, compared to 52% older than age 45 in the sample. The intervention group is somewhat less diverse in the grades that the participants teach. Within the intervention group 67% teach at the 3-6 level, with 17% teaching students at the 6-9 level, and 17% teaching as intervention specialists. This difference could be impactful in the results of this study since the needs of students and demands put on teachers can vary between grade levels.



Data Analysis: Pre-Intervention Scores

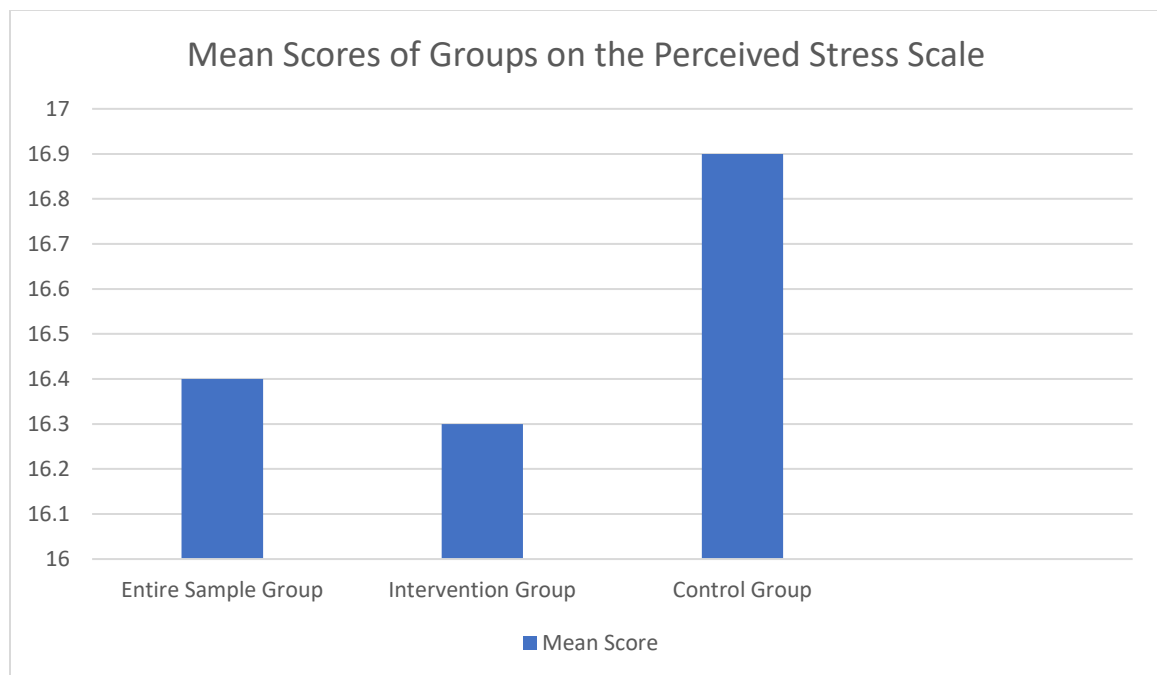
Perceived Stress Scale

The Perceived Stress Scale measures levels of perceived stress within the last month, particularly measuring the levels of unpredictable stress that respondents feel as well as their response to stress. The scale uses a likert scale and includes 10 questions which inquire into the respondents feelings over the past month. For example, one question asks, “In the last month, how often have you found that you could not cope with all the things that you had to do?” A poll of 2,387 U.S. respondents found that the mean score for females was 13.7 with a standard deviation of 6.6, (Cohen, 1994, p. 4). Therefore, for the purposes of this study, a “high” score on the Perceived Stress Scale will be a score above 20.3.

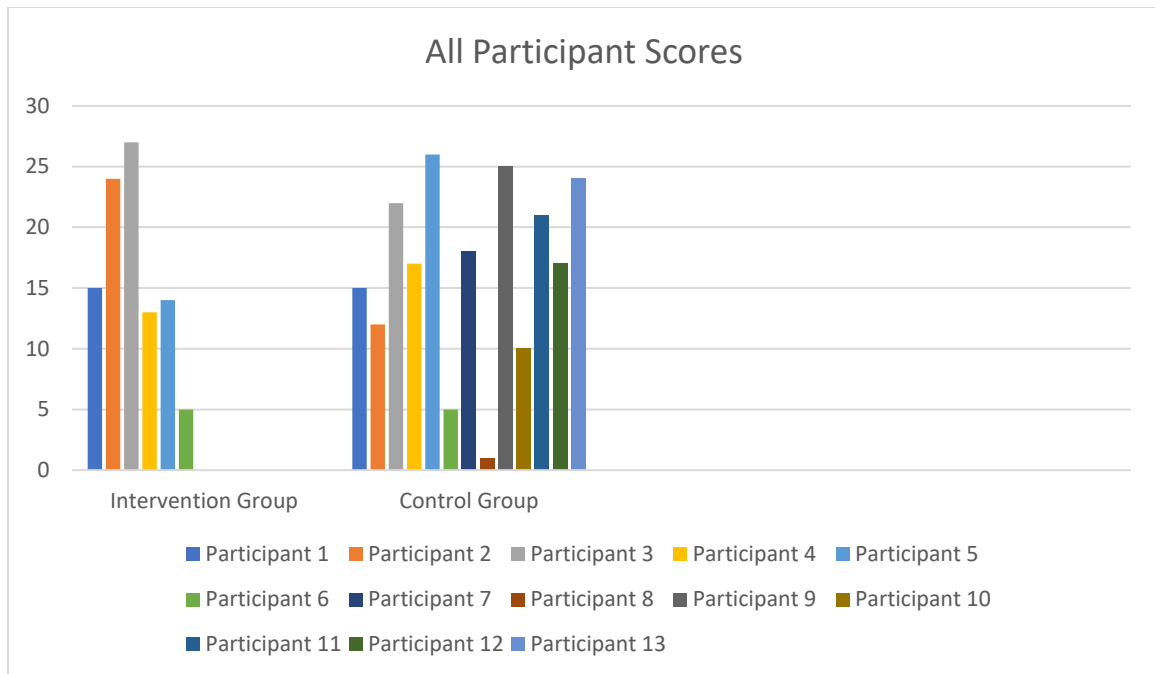
The mean score for the entire sample group was 16.4, showing that this group on average scored higher than the average mean, but not qualifying for a “high” score. However, there was a

wide range of scores within the respondents, with a low score of 1 and a high score of 27. Within the entire sample group, 7 participants scored “high” with a score above 20.3. The mean score for these “high” scorers was 24.1.

The intervention group and control group differed slightly in their average scores. The intervention group had a mean score of 16.3 which was slightly lower than the control group’s mean score of 16.9. Within the intervention group, two participants scored “high scores”, 24 and 27 respectively. Three participants scored average scores of 13, 14, and 15. One participant had a particularly low score of 5. The mean scores for each group are shown in the graph below.



All participant scores are shown in the graph below.



Maslach Burnout Inventory

The Maslach Burnout Inventory examines individuals' perceptions of their workplace and coworkers and measures their levels of burnout during the past month. The inventory uses a likert scale measuring how often an individual experiences different emotions or reactions with statements such as, "I feel emotionally drained from my work."²

According to the National Academy of Medicine, an individual is considered to have "...at least one symptom of burnout if they have high scores in either the EE (score of 27 or higher) or DP (score of 10 or higher) subscales," (2018). Furthermore, an individual can be considered to have burnout "...if they have a high EE score along with either a high DP score or a low PA score (score less than 33)," (2018). These subscales correlate to an average score of 3

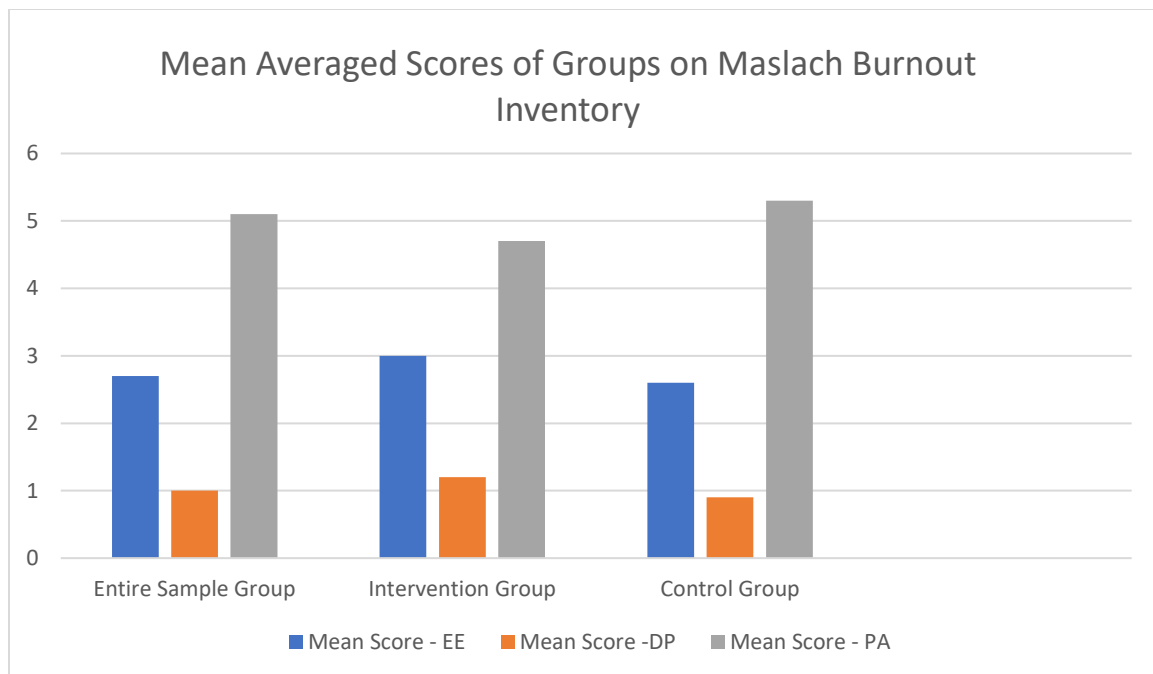
² Copyright ©1986 Christina Maslach, Susan E. Jackson & Richard L. Schwab. All rights reserved in all media. Published by Mind Garden, Inc., www.mindgarden.com

or higher in EE, 2 or higher in DP, or a 4.1 or lower in PA. These cutoff scores are described in the table below.

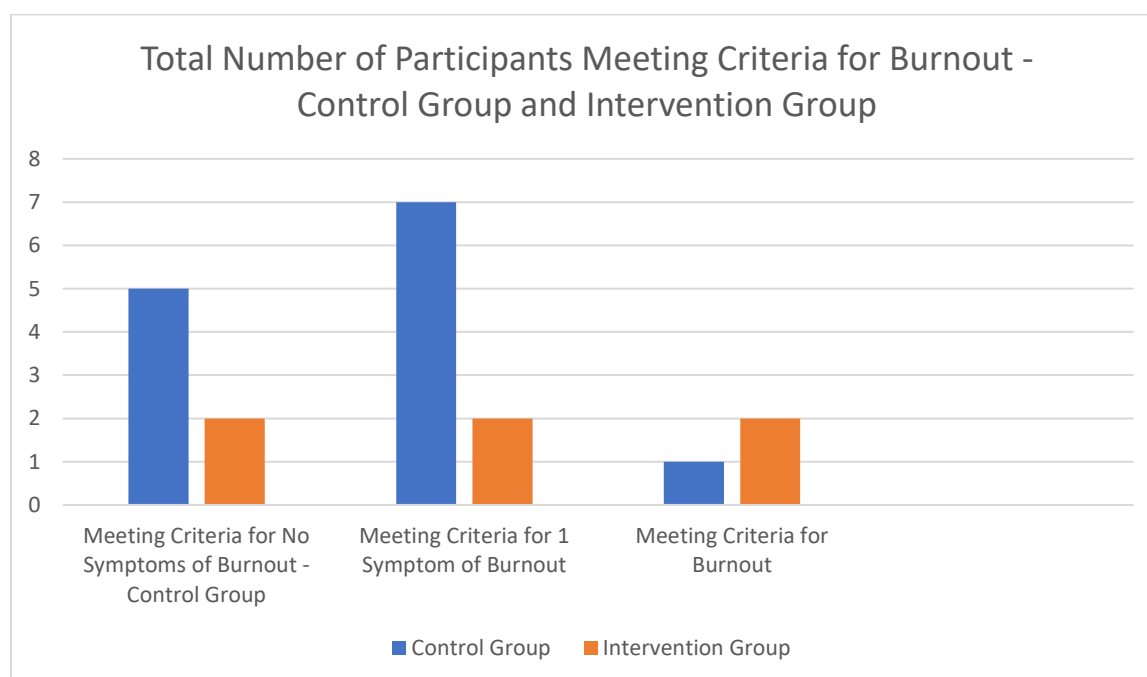
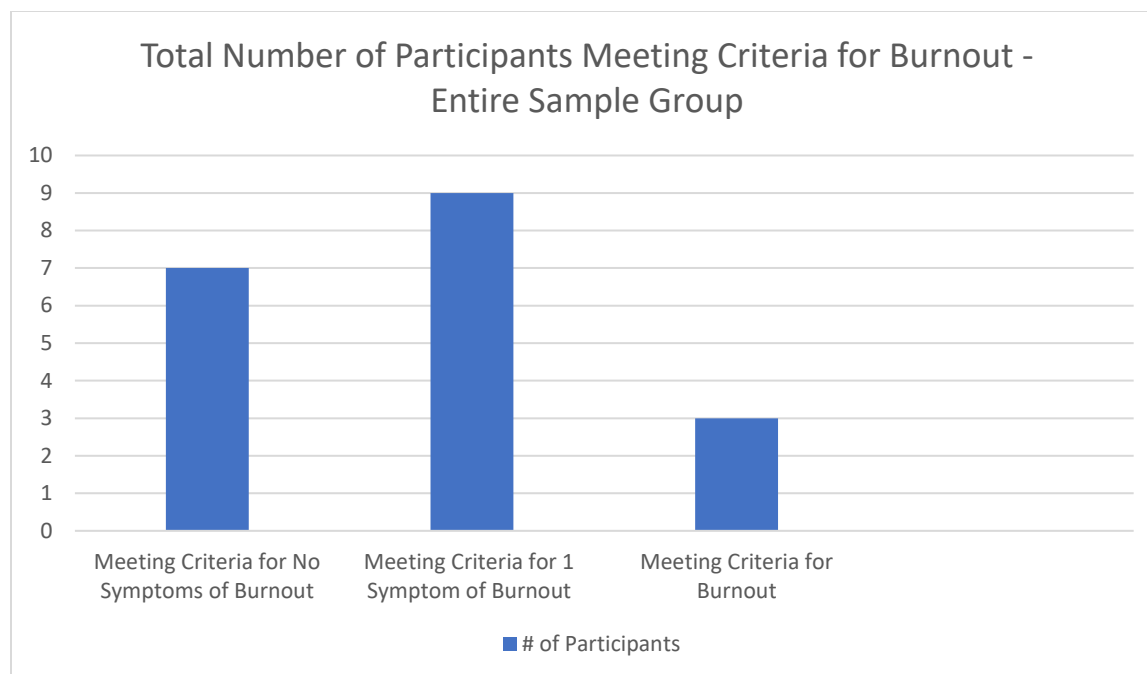
Subscale and Average Cutoff Scores Indicating Symptoms of Burnout		
	Subscale	Average Score
Emotional Exhaustion (EE)	Greater than 27	Greater than 3
Depersonalization (DP)	Greater than 10	Greater than 2
Personal Accomplishment (PA)	Less than 33	Less than 4.1

For the purposes of this paper, Emotional Exhaustion will be abbreviated to EE, Depersonalization will be abbreviated to DP and Personal Accomplishment will be abbreviated to PA.

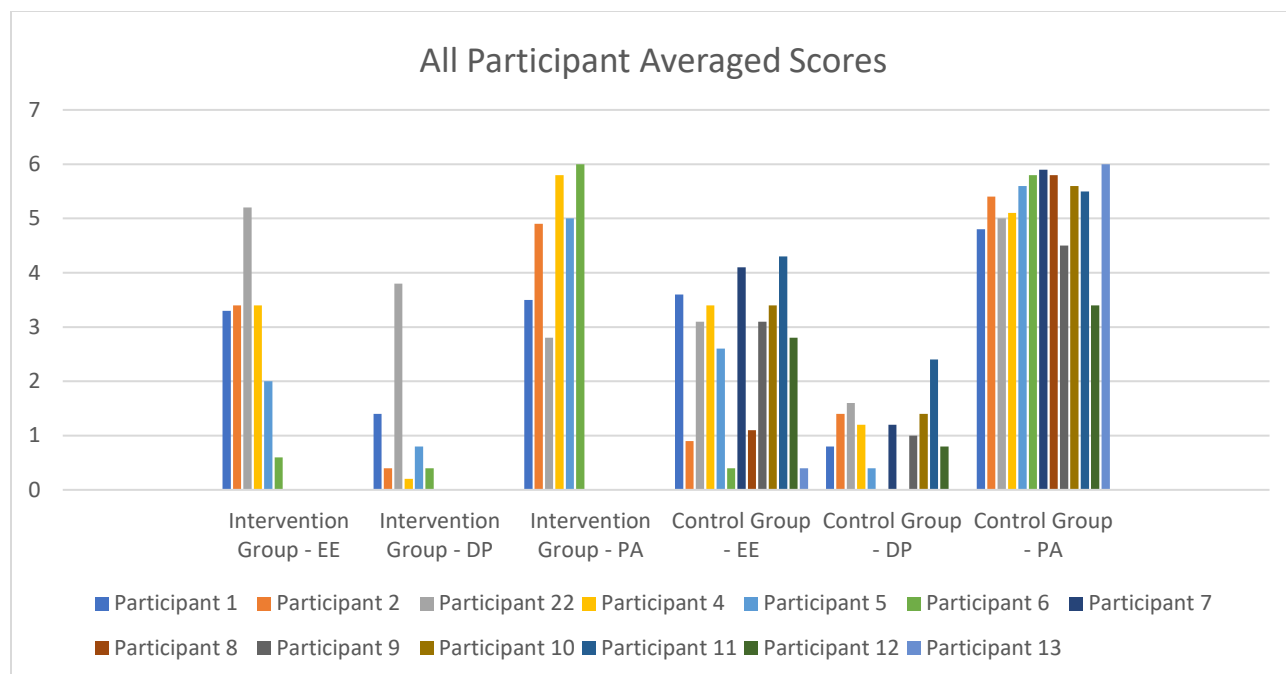
Within the mean scores of each group on the three components, emotional exhaustion, depersonalization, and personal accomplishment, there are slight variations between the three groups. The intervention group scored slightly higher than the control group on all measures of burnout, with slightly higher scores in EE and DP and slightly lower scores in PA. No group had average scores which qualified for symptoms of burnout, however, individuals within groups did meet the criteria for burnout.



Within the sample group (n=19), 9 teachers met criteria for 1 symptom of burnout. 3 teachers met criteria for burnout based on the criteria from the National Academy of Medicine that an individual can be considered to have burnout “...if they have a high EE score along with either a high DP score or a low PA score (score less than 33),” (2018). There were 7 teachers who did not meet criteria for burnout in any of the areas. Within the group of 9 teachers who met the criteria for 1 symptom of burnout, 8 of those teachers met the criteria in emotional exhaustion, with 1 teacher meeting the criteria for personal accomplishment.



Within the sample group, there were a wide range of scores, ranging from low scores of 0 to high scores of 5.2. The following table shows the average scores of participants in each group.



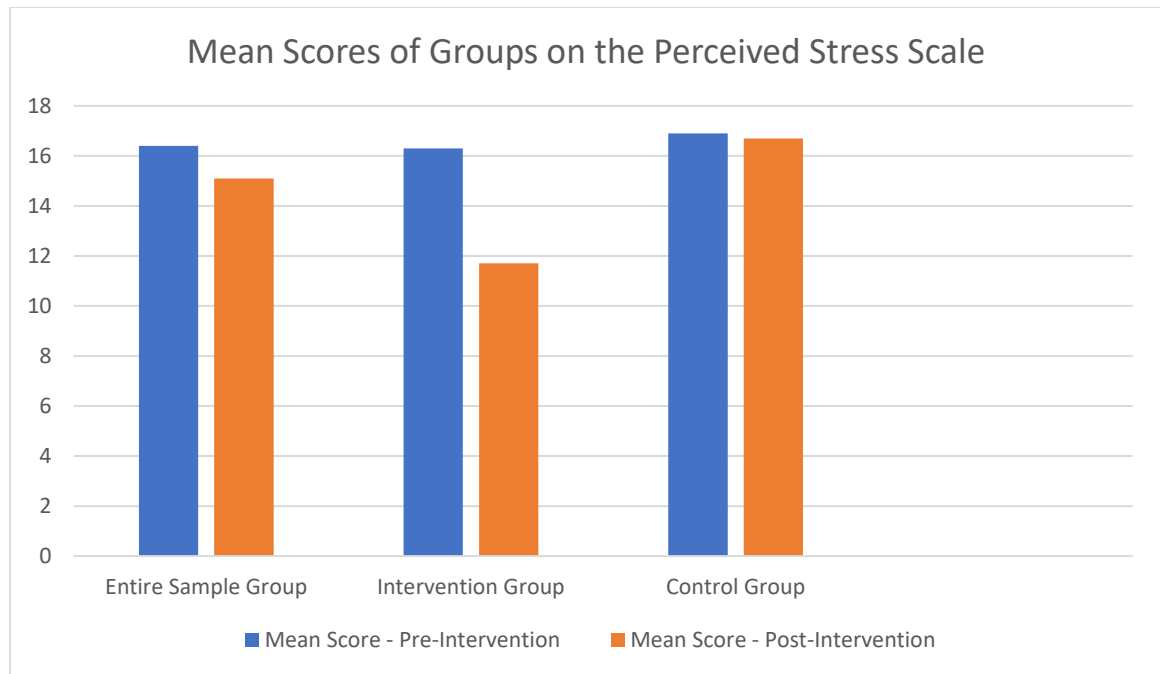
Data Analysis: Post-Intervention Scores

Post-Intervention- Perceived Stress Scale

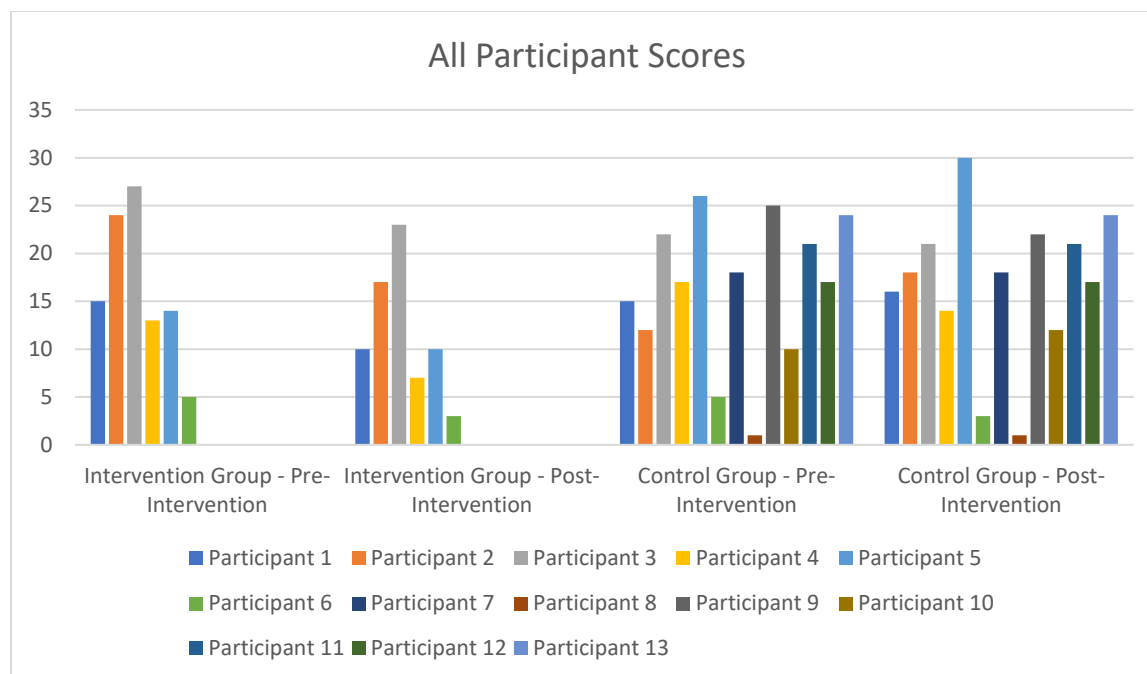
The mean post-intervention score for the entire sample group was 15.1, a 1.3 drop in mean score from the pre-intervention scores. There continued to be a wide range of scores within the respondents, with a low score of 1 and a high score of 30. Within the entire sample group, 6 participants scored “high” with a score above 20.3. The mean score for these “high” scorers was 23.5.

The intervention group and control group differed considerably in their average scores. The intervention group had a mean score of 11.7 which was 5.2 points lower than the control group’s mean score of 16.9. Within the intervention group, one participant scored a “high score” of 23. Three participants scored average scores of 17, 10, and 10. Two participants had particularly low scores of 7 and 3. The mean scores for each group are shown in the graph below.

The entire sample group showed a slight drop in mean score from the pre-intervention to post-intervention assessment, from 16.4 to 15.1. The intervention group showed a significant drop in mean score from the pre-intervention to post-intervention assessment, from 16.3 to 11.7. The control group showed a very slight drop in mean score from the pre-intervention to post-intervention assessment, from 16.9 to 16.7. These results are shown in the graph below.

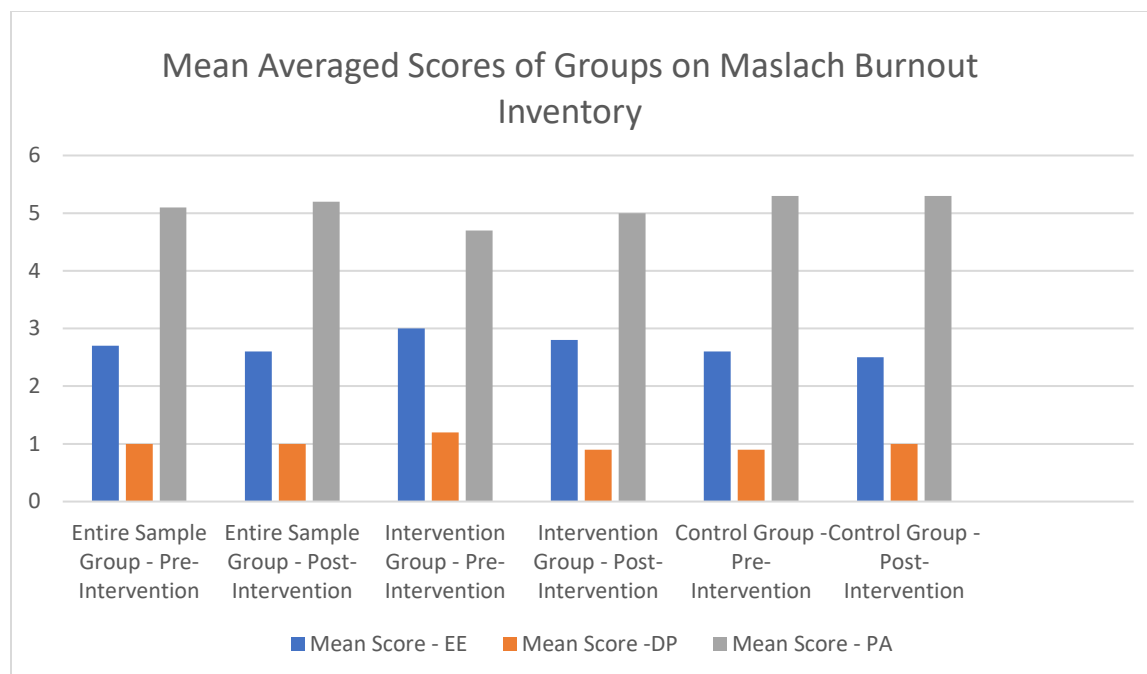


All participant scores, including pre-intervention and post-intervention scores are shown below.

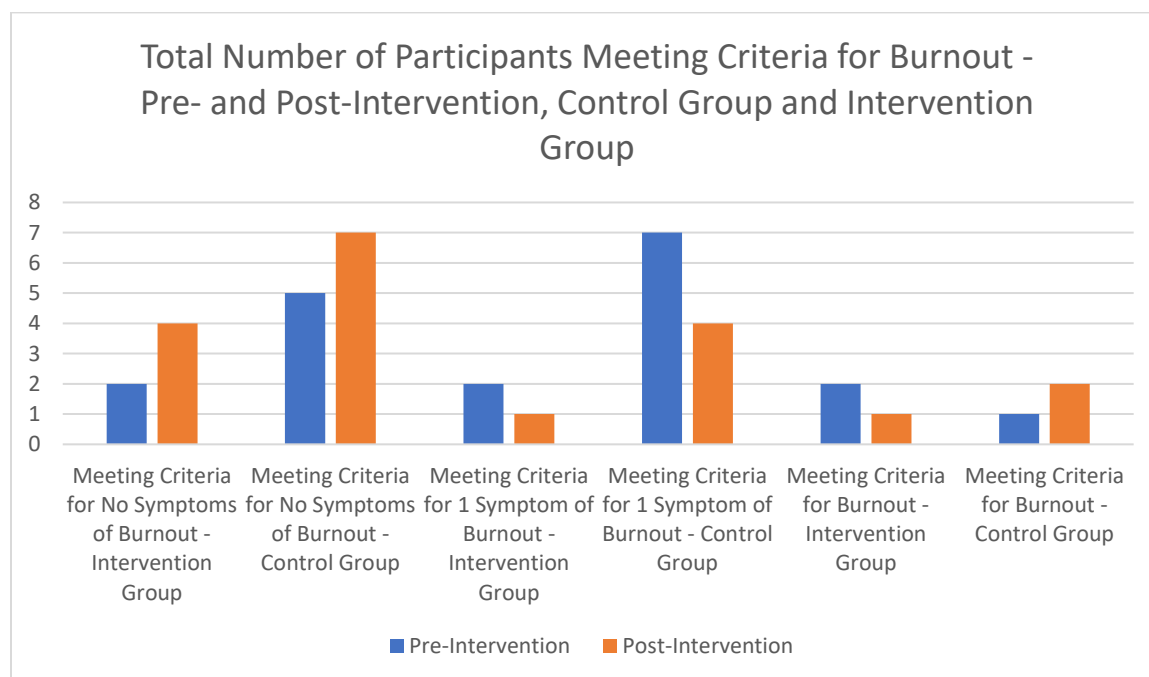
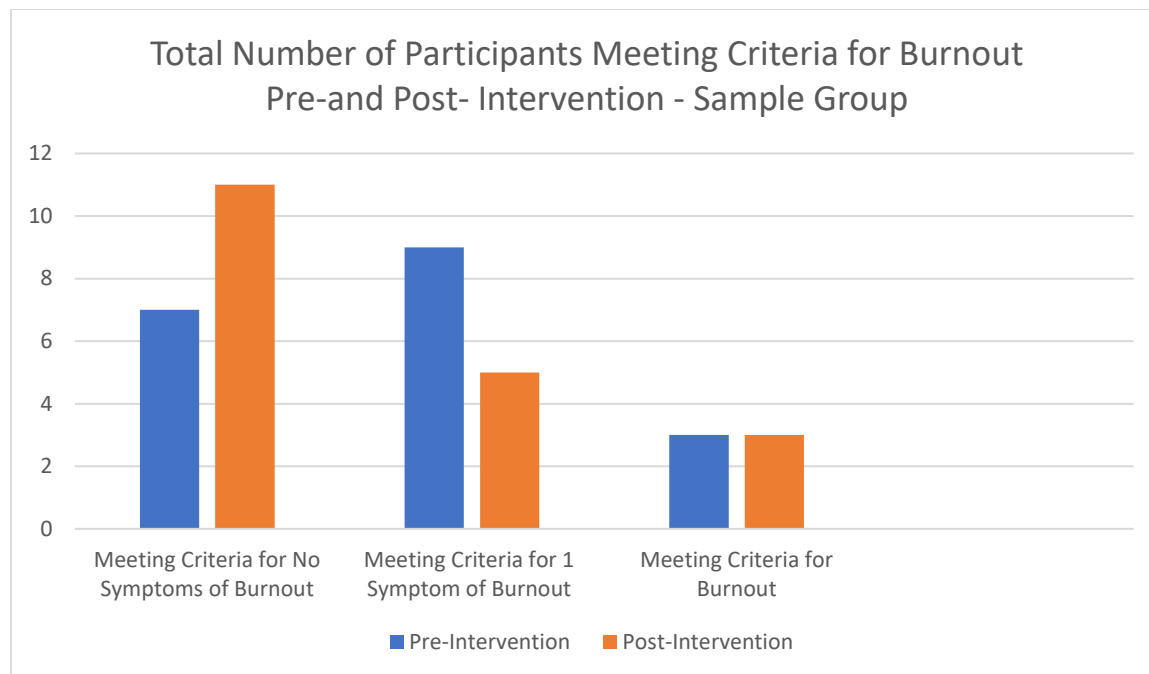


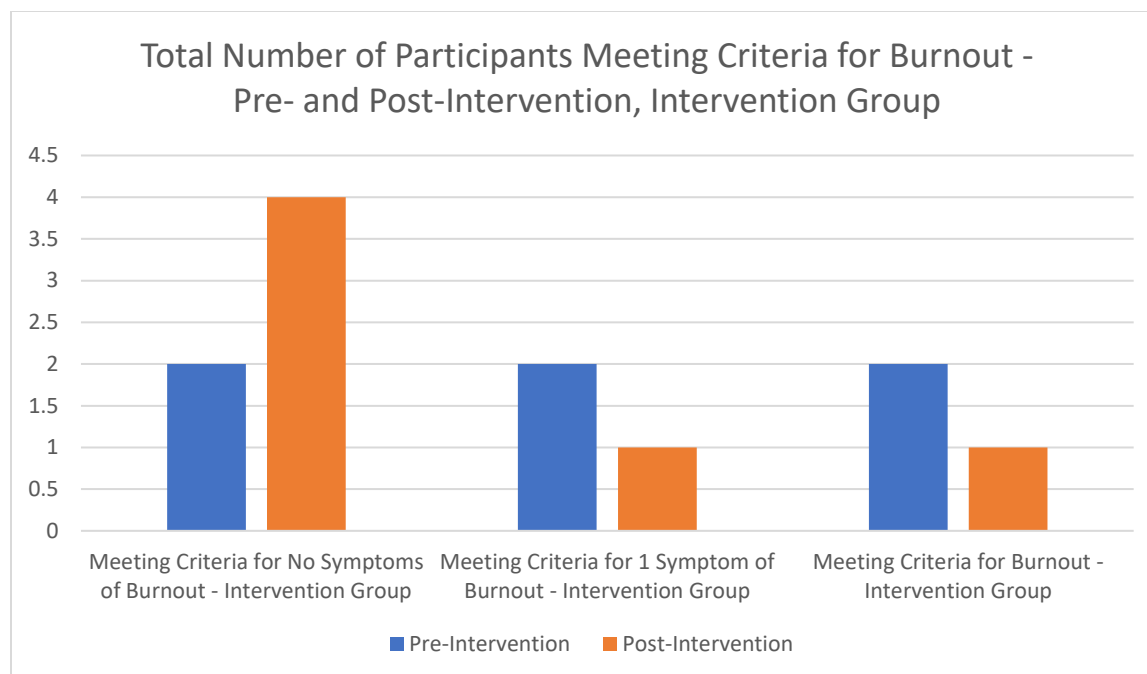
Post-Intervention – Maslach Burnout Inventory

The mean scores of each group on the three components, emotional exhaustion, depersonalization, and personal accomplishment, showed either very slight or no changes in average scores from pre-intervention to post-intervention. The intervention group demonstrated slight decreases in emotional exhaustion, with the mean averaged score dropping from 2.9 to 2.8, and in depersonalization, with the mean averaged score dropping from 1.2 to .9. The intervention group also demonstrated slight increases in personal accomplishment, with the mean averaged score rising from 4.7 to 5. The control group's mean averaged scores did not change significantly from the pre- to post- assessment, with emotional exhaustion dropping slightly from 2.6 to 2.5 and depersonalization rising slightly from .9 to 1.



From the pre-intervention to post-intervention assessment, there was a substantial decrease in the number of teachers suffering from one symptom of burnout. Within the entire sample group (n=19), the number of teachers meeting the criteria of suffering from one symptom of burnout decreased from 9 to 5. The number of teachers meeting the criteria of suffering from burnout remained consistent at 3. The number of teachers who did not meet criteria for burnout in any of the areas increased from 7 to 11. Within the control group (n=6), two teachers moved from meeting criteria for “1 symptom of burnout” to “no symptoms of burnout” and one teacher moved from “meeting criteria for burnout” to “1 symptom of burnout.”





Intervention Group – Interviews

The following are excerpts from interviews conducted with the participants of the MBSR intervention:

Interviewer: “Did you feel like you experienced any immediate benefits after the meditation sessions?”

Teacher: “I could describe it like, so calm and relaxed and at ease. And I just felt like my body was moving slowly. And yeah, just very calm.... And my mind tends to...I’m very much an over-thinker. And I like to think of all the different scenarios that could happen. But in that sense, maybe I was still thinking of twelve scenarios, but it was more like, yeah, it’s fine. It’s fine or calmer. It wasn’t necessarily so dramatic.”

Interviewer: “And did you feel any immediate effects following the morning mindfulness sessions?”

Teacher: “The quietness was a great way to stop the cycle of thinking and feeling like, ‘Oh man, this is going to be a tricky day. I have this really challenging meeting, you know. I’m worried about this particular friend who had this incident yesterday.’ But just to remind myself that it’s all possible. It’s all important, and the kiddos and I together, we can get through it all.

Interviewer: “What were your impressions of the mindfulness session and how have they impacted you?”

Teacher: “I really enjoyed them and I feel like it helped. I just didn’t seem on edge. I think I was more patient with students. You know, walking down the hall afterwards I just remember sensing, okay, uh huh, really feeling relaxed.

Interviewer: “How have you felt the mindfulness sessions have impacted you?”

Teacher: “I can sort of go into my car and I feel better, more relaxed. And I can enjoy music and I just feel happier. Yeah, I just have a greater sense of contentment.”

These excerpts are just a small sample of the experiences shared by participants in the MBSR intervention. As is explained below, feeling more relaxed, thinking more clearly, and approaching stressful situations more calmly were common themes within the interviews.

The six participants in the intervention group were individually interviewed during the final week of the intervention. They were asked general questions about what they enjoy most about their job and what they find most stressful, as well as questions about various issues that

can be stressful within the school environment such as discipline issues, difficulties with administration, and district or state mandates. The participants were also asked to describe their experience of the mindfulness strategies and how they felt it affected their teaching and their outlook during the day.

Several common themes emerged during the analysis of the interviews. These themes were organized into positive and negative experiences. Among positive experiences described, “feeling supported by administration” was described 7 times throughout the interviews. “Building relationships with students and/or parents” was described as a rewarding aspect of teaching 6 times. “Watching students grow and learn” was described as a rewarding aspect of teaching 7 times. “Having autonomy as an educator” was described as a rewarding aspect of teaching 4 times.

Among negative experiences that impact their teaching, their outlook on their job, or their stress levels, feeling unsupported by administration was described 5 times. Paperwork was mentioned specifically 5 times as a major contributor to stress. Challenging parent issues were described 4 times. Testing and/or pressure to implement district-driven curriculums were described 8 times. By a substantial margin, two negative factors were described the most often: not having enough time to complete all tasks and challenging student behaviors. Not having enough time to complete all tasks was described 11 times. Challenging student behaviors were described 15 times.

Positive Experiences	Times Described Within Six Interviews	Negative Experiences	Times Described Within Six Interviews
Feeling Supported by Administration	7	Feeling Unsupported by Administration	5
Building Relationships with Students/Parents	6	Not Having Enough Time to Complete All Tasks (Grading, Lesson planning,	11

		Meetings,	
Watching Students Grow and Learn	7	Paperwork	5
Having Autonomy as an Educator	4	Testing/ Assessments/District Curriculums	8
		Challenging Student Behaviors	15
		Parent Issues	4

The participants were also asked to describe their experiences during the mindfulness intervention. All participants described the intervention positively and remarked that they enjoyed the experience. Two common themes emerged among responses. One reaction described 6 times was the feeling of being lighter, calmer, or more relaxed immediately following the intervention sessions. A second reaction described 5 times was responding to conflict or students more calmly during the weeks of attending the intervention.

Mindfulness Reflections	Times Described Within Six Interviews
Feeling Lighter/Calmer/ More Relaxed	6
Responding to Conflict or Students More Calmly	5

Finally, the participants were asked their favorite mindfulness practice learned during the intervention which they felt they would be most likely to incorporate independently following the intervention. A great variety of responses was found among participants, and no common favorites emerged. The information gathered is presented below.

Participant #	Favorite Meditation Practice
1	Body Scan and Sitting Meditation
2	Mindful Yoga
3	Meditation on Physical Pain
4	Meditation on Physical Pain and Guided Meditations
5	Loving Kindness Meditation, Mindful Yoga
6	Mindful Yoga

Summary

Overall, the teachers within the sample group scored higher on the Perceived Stress Scale than the female national average, though the average mean score was not high enough as a group to qualify as a “high score”. There was little difference in the mean scores between the intervention group and control group pre-intervention. This changed significantly post-intervention as the intervention group showed significant decreases in their total score on the Perceived Stress Scale while the control group largely maintained consistent scores.

The data collected pre-intervention from the Maslach Burnout Inventory showed that a majority of teachers in the sample group met criteria for either burnout or one symptom of burnout. The highest scores were consistently found for the dimension of “emotional exhaustion.” In the post-intervention assessment, slightly fewer teachers met the criteria for one symptom of burnout, but the overall number of teachers meeting the criteria for burnout remaining constant. More positive shifts in scores were found within the interventional group.

During interviews, teachers described several common positive and negative themes related to their work life. The two most common themes described were not having enough time to complete all tasks and challenging student behaviors. All participants in the intervention found the meditation practices to be helpful and a positive experience. The most commonly described effects were feeling calmer and more relaxed and feeling that they responded to students or

conflicts more calmly. A variety of mediation practices were described by participants as their favorite.

CHAPTER 5

CONCLUSIONS

Introduction: Review of Research Questions and Hypotheses

Within this study, the following questions were addressed:

Q1: What factors lead to teacher burnout within public Montessori schools and do those factors differ in any notable ways from the most commonly cited factors in the current research?

Q2: Will a 6-week mindfulness-based intervention have a mediating effect on reducing stress and the components of burnout in public Montessori school teachers?

The following hypotheses were constructed in response to the questions:

Hypothesis 1: Public Montessori teachers will display high levels of role conflict and role overload, given the highly demanding and conflicting nature of their position within a public school.

Hypothesis 2: Given the research linking role conflict to higher levels of depersonalization and role overload to emotional exhaustion, as well as the correlation between time pressure and emotional exhaustion, it is predicted that public Montessori teachers will also display higher levels of depersonalization and emotional exhaustion.

Hypothesis 3: Given the research on mindfulness-based interventions, it is predicted that public Montessori school teachers in the experimental group will have lower levels of stress and lower levels of the components of burnout after participating in the study than the control group.

Summary of Research Findings

Pre-Intervention Scores

This research was designed to assess the levels of stress and burnout within public Montessori school teachers. Baseline levels of stress and burnout were assessed within the sample group (n=19) using the Perceived Stress Scale and the Maslach Burnout Inventory. A small group of participants participated in a five-week mindfulness-based stress reduction (MBSR) intervention. At the end of the MBSR intervention, all participants in the intervention group and control group were given the Perceived Stress Scale and Maslach Burnout Inventory again. Members of the interventional group were also interviewed regarding their experiences as a public Montessori school teacher and their thoughts on the MBSR intervention.

The Perceived Stress Scale measures stress, resulting in a score ranging from a possible high score of 40 to a possible low score of 0. A poll of 2,387 U.S. respondents found that the mean score for females was 13.7 with a standard deviation of 6.6, (Cohen, 1994, p. 4). Therefore, for the purposes of this study, a “high” score on the Perceived Stress Scale was a score above 20.3. The mean scores for each group (the entire sample group, the intervention group, and the control group) were calculated. The mean scores for the groups did not differ significantly on the pre-intervention assessment with mean scores of 16.4, 16.3, and 16.9 respectively. The scores of all mean groups were below the cutoff for a “high” score of 20.3, but notably higher than the average U.S. score for females of 13.7. This information may point to higher levels of stress within teachers as a subgroup of females within the United States.

Furthermore, several individuals within each group scored significantly higher and lower than the mean score. Within the intervention group, two participants had scores of 24 and 27 which are significantly higher than the mean score. Although demographic information was

similar for most participants, levels of stress varied greatly among participants. This could be related to differences in how individuals react to the stresses of their workplace.

The Maslach Burnout Inventory is a survey that measures the three factors of burnout: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). A high score in emotional exhaustion or depersonalization or a low score in personal accomplishment are indicators that an individual may be suffering from one or more symptoms of burnout. The interventional group scored slightly higher in measures of burnout than the control group and this should be considered when interpreting results of the intervention as those with the most room for improvement may show greater change than those who have fewer symptoms of burnout.

Within the sample group (n=19), 9 teachers met the criteria for 1 symptom of burnout and 3 teachers met the criteria for burnout based on the criteria from the National Academy of Medicine that an individual can be considered to have burnout if "...if they have a high EE score along with either a high DP score or a low PA score (score less than 33)," (2018). There were 7 teachers who did not meet criteria for burnout in any of the areas. Within the group of teachers who met the criteria for 1 symptom of burnout, 8 of those teachers met the criteria for emotional exhaustion, with one teacher meeting the criteria for personal accomplishment.

This data reveals that most teachers within the sample are experiencing symptoms of burnout, although this phenomenon has not been addressed as a concern within the school. This data was anticipated, due to the well-known stressors within schools. However, considering the effects of burnout on teachers and students, this information is important for all stakeholders within the school community. This data also partially confirmed Hypothesis #2, as 8 out of 9 teachers meeting criteria for one symptom of burnout met the criteria for emotional exhaustion.

This data was anticipated due to the high number of responsibilities and conflicting roles associated with public Montessori school teachers.

Post-Intervention Scores

Post-intervention scores on the Perceived Stress Scale showed significant changes between the intervention group and the control group. The intervention group had a mean score of 11.7 which was a 4.7-point drop from the pre-intervention mean score, while the control group had a slight drop in mean score from 16.9 to 16.7. These results are a promising confirmation of Hypothesis #3, as perceived stress levels significantly dropped after participating in the MBSR intervention.

When comparing pre- and post-intervention scores on the Maslach Burnout Inventory however, slight changes were found. The intervention group showed slight decreases in emotional exhaustion and depersonalization, and slight increases in personal accomplishment. The control group's mean averaged scores did not show any significant change from the pre- to post-assessments. However, although the mean averaged scores did not show much change, there was a substantial decrease in the number of teachers suffering from one symptom of burnout from 9 pre-intervention to 5 post-intervention. Within the intervention group, one teacher moved from meeting criteria for one symptom of burnout to meeting no criteria for burnout and one teacher moved from meeting criteria for burnout to only meeting criteria for one symptom of burnout. These results are another promising confirmation of Hypothesis #3, as levels of burnout reduced after the MBSR intervention the most among individuals who had the highest levels of burnout to begin with.

Several common themes emerged within the data collected from the interviews with participants in the intervention group. The most common positive experiences described regarding their profession as a teacher was “feeling supported by administration”, “building relationships with students and/or parents”, “watching students learn and grow”, and “having autonomy as an educator.” Three out of four of these positive experiences involve interpersonal relationships and this data corresponds well with the information collected from the Maslach Burnout Inventory. Within the entire sample group, only three teachers met the qualifying score for suffering from the symptom of depersonalization and all three of those teachers also met qualifications for suffering from burnout in general. This data suggests that fostering interpersonal relationships with students, parents, coworkers, and administration may be an important protective factor from burnout.

The most common negative experiences described during the interviews included, “feeling unsupported by administration”, “not having enough time to complete all tasks”, “paperwork”, “testing/district curriculums”, “challenging student behaviors”, and “parent issues.” Among these common themes, “not having enough time to complete all tasks” and “challenging student behaviors” stood out as particularly frequently described. This data relates well to the information collected from the Maslach Burnout Inventory, as Emotional Exhaustion was the key factor affecting all the teachers meeting criteria for a symptom of burnout other than one teacher who met the criteria for a lack of personal accomplishment. Feeling an inability to keep up with all required tasks is a critical component of emotional exhaustion and relates to the experience of “Not having enough time to complete all tasks.” “Challenging student behaviors” corresponds with emotional exhaustion and a lowered sense of personal accomplishment as teachers may feel inadequate when faced with student behaviors they cannot manage.

Two common themes emerged when interview participants were asked to reflect on the MBSR intervention. These themes were “feeling lighter/calmer/more relaxed” immediately following the meditation sessions and “responding to conflict or students more calmly.” These themes confirm the quantitative data collected from the Perceived Stress Scale. The scores of the interventional group decreased significantly from the pre- to post-intervention assessment, while the scores did not change significantly in the control group. The experiences the participants described may have directly contributed to an overall lower sense of stress or in more productive reactions to stressful situations. These results were anticipated and suggest confirmation of Hypothesis #3 that the MBSR intervention would have a stress-reducing effect on participants.

Finally, the participants were asked their favorite mindfulness practice learned during the intervention which they felt they would be most likely to incorporate independently following the intervention. A great variety of responses was found among participants, and no common favorites emerged. This illustrates the need for a systematic approach to intervention that incorporates a variety of methods in order to increase the likelihood that participants will continue the practice independently.

Conclusions

Possible Causes of Stress and Burnout Within Public Montessori School Teachers

Through data obtained from the Perceived Stress Scale and Maslach Burnout Inventory this study sought to answer the following question:

Q1: What factors lead to teacher burnout within public Montessori schools and do those factors differ in any notable ways from the most commonly cited factors in the current research?

Following this question, the following hypotheses were made:

Hypothesis 1: Public Montessori teachers will display high levels of role conflict and role

overload, given the highly demanding and conflicting nature of their position within a public school.

Hypothesis 2: Given the research linking role conflict to higher levels of depersonalization and role overload to emotional exhaustion, as well as the correlation between time pressure and emotional exhaustion, it is predicted that public Montessori teachers will also display higher levels of depersonalization and emotional exhaustion.

Participant interviews were designed to probe into the factors influencing teacher stress within a public Montessori school. Although teachers remarked within several interviews that they did not feel that they suffered from role conflict or role overload, the negative experiences most often cited point to experiences that indicate role conflict and role overload. Among the most often described negative experiences, “feeling unsupported by administration,” “parent issues”, and “testing/assessments/district curriculums,” can be seen as leading to role conflict. Needing to balance the priorities and desires of conflicting parties such as administrators, parents, and district supervisors could force teachers to act against their own beliefs.

Additionally, among the most often described negative experiences, “not having enough time to complete all tasks”, “paperwork”, “testing/assessments/district curriculums”, and “challenging student behaviors” lead to role overload. An amount of tasks or challenges that exceeds an individual’s perceived ability to complete the tasks can lead to role overload. Experienced together, high levels of role conflict and role overload can lead to depersonalization and emotional exhaustion. In particular, “not having enough time to complete all tasks”, and “challenging student behaviors” were by far the most frequently described negative experiences. This is an indicator that role overload is more prevalent within the sample group than role conflict. As role overload leads to emotional exhaustion, this conclusion is confirmed with the

quantitative data collected from the Maslach Burnout Inventory which is discussed below. This interview data tentatively confirms the Hypothesis 1, as role conflict and role overload were prevalent themes within the interviews.

The data obtained from the Perceived Stress Scale showed that teachers within the sample group (n=19), on average scored above the mean score for women in the U.S. 13 out of 19 participants scored above the U.S. female mean score of 13.7, with 7 participants scoring above 20. This shows that the sample group at the pre-intervention assessment were experiencing higher levels of stress than the typical American women.

The data obtained from the Maslach Burnout Inventory allows more specific dimensions of stress and burnout to be determined. The data clearly demonstrates that a majority of the sample group suffered from Emotional Exhaustion, the strongest contributing factor in burnout. 12 out of 19 teachers met criteria for burnout or met criteria for one symptom of burnout and 11 out of those 12 teachers met the criteria for suffering from emotional exhaustion. Depersonalization was a much less relevant factor, with only 2 teachers meeting the criteria to be suffering from depersonalization. Perceiving a lack of personal accomplishment was also a less relevant factor, with only 3 teachers meeting the criteria to be suffering from a lack of personal accomplishment.

The strong prevalence of emotional exhaustion among the sample group partially confirms Hypothesis 2, as the teachers within the sample group did display high levels of emotional exhaustion. However, the much smaller prevalence of depersonalization partially disproves Hypothesis 2 as depersonalization does not appear to be a major concern for this sample of teachers.

Changes in Stress and Burnout from Pre- to Post-Intervention

Through comparison of data obtained from the Perceived Stress Scale and Maslach Burnout Inventory, as well as interviews with intervention participants, this study sought to answer the following question:

Q2: Will a 6-week mindfulness-based intervention have a mediating effect on reducing stress and the components of burnout in public Montessori school teachers?

Following this question, the following hypothesis was made:

Hypothesis 3: Given the research on mindfulness-based interventions, it is predicted that public Montessori school teachers in the experimental group will have lower levels of stress and lower levels of the components of burnout after participating in the study than the control group.

When looking at the pre- and post-intervention scores on the Perceived Stress Scale, the MBSR intervention points to a positive decline in stress levels among the intervention group. The entire sample group showed a slight drop in mean score from the pre-intervention to post-intervention assessment, from 16.4 to 15.1. However, the intervention group showed a significant drop in mean score from the pre-intervention to post-intervention assessment, from 16.3 to 11.7. The control group showed a very slight drop in mean score from the pre-intervention to post-intervention assessment, from 16.9 to 16.7. This quantitative data supports the hypothesis that the mindfulness-based intervention reduced stress levels within the intervention group, while the stress levels within the control group stayed essentially constant.

When looking at the pre- and post-intervention mean average scores on the Maslach Burnout Inventory, little change was observed within the intervention and control groups. The intervention group demonstrated slight decreases in emotional exhaustion, with the mean

averaged score dropping from 2.9 to 2.8, and in depersonalization, with the mean averaged score dropping from 1.2 to .9. The intervention group also demonstrated slight increases in personal accomplishment, with the mean averaged score rising from 4.7 to 5. The control group's mean averaged scores did not change significantly from the pre- to post- assessment, with emotional exhaustion dropping slightly from 2.6 to 2.5 and depersonalization rising slightly from .9 to 1. This quantitative data does not effectively support the hypothesis. This data may indicate that stress levels are a more malleable factor which can be influenced within a short-term intervention, while burnout symptoms may be more long-lasting and less easily influenced during a short-term intervention.

However, from the pre-intervention to post-intervention assessment, there was a substantial decrease in the number of teachers suffering from one symptom of burnout. Within the sample group (n=19), the number of teachers meeting the criteria of suffering from one symptom of burnout decreased from 9 to 5. The number of teachers meeting the criteria of suffering from burnout remained consistent at 3. The number of teachers who did not meet criteria for burnout in any of the areas increased from 7 to 11. This data may indicate that individuals who have the highest levels of burnout may have the most room to grow and may respond to interventions more readily than an individual with lower levels of burnout. Although this data is not sufficient to confirm the Hypothesis #3, it does provide a rationale for further research to determine whether levels of burnout can be reduced within a short 5-week MBSR intervention.

Perceived Effects of Mindfulness Intervention

Individual interviews were conducted with all participants of the MBSR intervention during the final week of the intervention. The goal of these interviews was to determine the possible factors impacting their stress levels as well as the perceived effects of the mindfulness intervention. All participants described the intervention positively and remarked that they enjoyed the experience. Two common themes emerged among responses. One reaction described 6 times was the feeling of being lighter, calmer, or more relaxed immediately following the intervention sessions. A second reaction described 5 times was responding to conflict or students more calmly during the weeks of attending the intervention. Looking at stress and burnout, the feeling of being lighter, calmer, or more relaxed could lead to lower stress levels during the intervention as well as throughout the day.

The feeling of responding to conflict or students more calmly may be seen as relating to the factors of burnout: emotional exhaustion, depersonalization, and personal accomplishment. Responding more calmly to conflict may lower levels of perceived emotional exhaustion when facing challenging situations. A study by Skaalvik, E.M. & Skaalvik, S. found that discipline problems, low student motivation, and value dissonance were found to relate significantly to depersonalization and personal accomplishment (2017). Considering the prevalence of these negative experiences throughout the interviews, the need for a preventive measure against depersonalization is even greater.

Responding more calmly to students may protect against depersonalization, as students are viewed in a more positive and rational light. Finally, feeling that they are more able to respond to stressful situations calmly may increase feelings of personal accomplishment. These positive experiences may confirm Hypothesis #3 as participants perceived their levels of stress to

be lowered by the mindfulness intervention. However, further studies are necessary to confirm these conclusions.

Future Research and Recommendations

Given the limitations of the current study, I would suggest that more studies must take place examining the stress factors and impact of a mindfulness-based intervention on public Montessori school teachers. The current study collected data from only a small sample size, so a much larger study involving several public Montessori schools is necessary to come to any generalizable conclusions concerning this subpopulation of American teachers. This study also used a shortened 5-week time frame for the MBSR intervention as opposed to the typical 8-week long intervention cycle used in most research studies. Due to time constraints and volunteer preference the length of the intervention was shortened, but an 8-week intervention may have been more efficacious. Further research should ideally implement an 8-week intervention in order to provide more reliable and more easily replicated results.

Further research should also be done to cross-examine the experiences of traditional teachers in public schools, public Montessori school teachers, and private Montessori school teachers. This research could provide a fuller picture of the unique challenges of each group and lead to individualized recommendations to protect against burnout. Additional research could also be done in diverse areas of the country, comparing the experiences of teachers in different geographic areas.

For administrators and policy-makers, I suggest that the issue of teacher burnout be considered a serious concern in American schools. The findings that a majority of teachers within the school studied exhibited at least one symptom of burnout should be alarming given the many negative effects that result from teacher burnout. Although teacher burnout may make

headlines, or even be acknowledged as an inevitability, few initiatives or programs are in place that attempt to address the issue.

I recommend to administrators that they first acknowledge that many teachers in their school may be suffering from burnout even though they are functioning well and juggling the many demands of their role. I also recommend that they work to decrease the amount of emotional exhaustion that their staff is likely to incur, whether by decreasing the number of meetings, streamlining paperwork processes, or supporting their teachers in district decisions or in conflicts with parents. Finally, I urge administrators to remember that feeling supported by administration can be a positive experience for teachers that may protect against burnout, as was shown by the interview data in this study.

Finally, based on the positive results found in this interventional study, I suggest to administrators that they step forward to provide or find opportunities for stress-reduction interventions. Although a formal practice would be most beneficial, building in opportunities for stress release during staff meetings or other times during the school day may be a good place to start. Particularly for teachers who are at high-risk for burnout or already suffering from burnout, I suggest that administrators or district policy makers have programs in place which address the psychological impact of burnout and work to relieve burnout, rather than punitively punish teachers who may be suffering from burnout. A program designed specifically for these teachers could teach practical mindfulness strategies which the teachers can use to relieve stress before, during, and following crises during school. Considering the positive results obtained from a short 5-week intervention, I recommend an 8-week MBSR intervention which covers all the basic mindfulness techniques. By covering many different techniques, it is more likely that the participants will find a technique that they enjoy or which they find beneficial.

For public Montessori school teachers themselves, I encourage them to consider whether they are suffering from any symptoms of burnout. If they find that they are, I recommend that they consider what is specifically making them feel overwhelmed or emotionally exhausted and what they can do to find more balance within their lives. Bearing in mind the proposed comorbidity of depression and burnout from many researchers, teachers should be taking their own burnout symptoms seriously. A 2016 study found that 83% of teachers meeting criteria for burnout also met criteria for a diagnosis of major depression, with 74% indicating that depressive symptoms made their lives “very or extremely difficult,” and 40% experiencing suicidal ideation,” (Schonfeld, I.S. & Bianchi, R., p. 28).

Considering the positive effects found within this study, I also suggest that teachers join a pre-existing group which practices mindfulness strategies or begin a group within their own school. I encourage individuals beginning a practice of meditation to try many different strategies and to make it a consistent part of their daily routine. The interview data from the intervention group participants showed that strategy preferences among individuals varied greatly and any mindfulness intervention should incorporate diverse techniques. The results of this study show that within the intervention group, there were significant drops in levels of perceived stress as well as reductions in the factors of burnout after just a 5-week intervention, with participants only attending three 30-minute sessions per week. Furthermore, the experience was described as positive and worthwhile by all participants. Significant changes in perceived levels of stress and burnout are possible after only a 5-week intervention, making this a risk and cost-free option for teachers and administrators hoping to improve teacher mental health.

APPENDICES

APPENDIX A

Surveys

The Maslach Burnout Inventory and the Perceived Stress Scale are included on the following pages.

MBI for Educators Survey

How often:

0 1 2 3 4 5 6

Never A few times a year or less Once a month or less A few times a month Once a week A few times a week Every day

How often? 0-6

Statements:

1. _____ I feel emotionally drained from my work.
2. _____ I feel used up at the end of the workday.
3. _____ I feel fatigued when I get up in the morning and have to face another day on the job.
4. _____ I can easily understand how my students feel about things.
5. _____ I feel I treat some students as if they were impersonal objects.
6. _____ Working with people all day is really a strain for me.
7. _____ I deal very effectively with the problems of my students.
8. _____ I feel burned out from my work.
9. _____ I feel I'm positively influencing other people's lives through my work.
10. _____ I've become more callous toward people since I took this job.
11. _____ I worry that this job is hardening me emotionally.
12. _____ I feel very energetic.
13. _____ I feel frustrated by my job.
14. _____ I feel I'm working too hard on my job.
15. _____ I don't really care what happens to some students.

16. _____ Working with people directly puts too much stress on me.
17. _____ I can easily create a relaxed atmosphere with my students.
18. _____ I feel exhilarated after working closely with my students.
19. _____ I have accomplished many worthwhile things in this job.
20. _____ I feel like I'm at the end of my rope.
21. _____ In my work, I deal with emotional problems very calmly.
22. _____ I feel students blame me for some of their problems.

(Administrative use only)

EE Total score: _____ DP Total score: _____ PA Total score: _____

EE Average score: _____ DP Average score: _____ PA Average score: _____

For

PERCEIVED STRESS SCALE

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

Name _____ Date _____
_____ Age _____ Gender (Circle): M F Other _____

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

1. In the last month, how often have you been upset because of something that happened unexpectedly? 0 1 2 3 4

2. In the last month, how often have you felt that you were unable to control the important things in your life? 0 1 2 3 4

3. In the last month, how often have you felt nervous and “stressed”? 0 1 2 3 4

4. In the last month, how often have you felt confident about your ability to handle your personal problems? 0 1 2 3 4

5. In the last month, how often have you felt that things were going your way? 0 1 2 3 4

6. In the last month, how often have you found that you could not cope with all the things that you had to do? 0 1 2 3 4

7. In the last month, how often have you been able to control irritations in your life? 0 1 2 3 4

8. In the last month, how often have you felt that you were on top of things? 0 1 2 3 4

9. In the last month, how often have you been angered because of things that were outside of your control? 0 1 2 3 4

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 0 1 2 3 4

info@mindgarden.com www.mindgarden.com References The PSS Scale is reprinted with permission of the American Sociological Association, from Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 386-396. Cohen, S. and Williamson, G. Perceived Stress in a Probability Sample of the United States. Spacapan, S. and Oskamp, S. (Eds.) *The Social Psychology of Health*. Newbury Park, CA: Sage, 1988.

APPENDIX B

Demographic Questions and Interview Questions

Demographic Questions:

1. What is your age?
 - a. 18-24
 - b. 25-34
 - c. 35-44
 - d. 45-54
 - e. Above 54
2. What would best describe you?
 - a. African American
 - b. Asian
 - c. Native American
 - d. White
 - e. Hispanic
 - f. Other
3. Gender
 - a. Male
 - b. Female
4. What is your highest level of education obtained?
 - a. High school diploma or equivalent degree
 - b. Bachelor's degree
 - c. Master's degree
 - d. Doctorate
5. What level do you teach?
 - a. 3-6
 - b. 6-9
 - c. 9-12
 - d. Intervention
 - e. Specialist/Other

Individual Interview Questions:

1. What do you enjoy most about your job?
2. What do you find most fulfilling about your job?
3. What do you find most difficult about your job?
4. What do you find most stressful about your job?
5. Do you feel you have enough time to do what you need to do? Can you give an example?
How does that impact your work?
6. Do you find that discipline issues make your job more stressful?
7. Do you feel that you and your administrators agree on most things? Why or why not?
How does that affect your attitude towards your job?
8. Do you feel that you can adhere to the Montessori philosophy well within your classroom?
9. Do you feel that district mandates impede your work as a Montessorian? Why or why not?
10. Do you feel that you have more demands put upon you than you can fulfill? Why?
11. What roles do you think you need to fulfill as a Montessori teacher within a public school?
12. What were your impressions of the mindfulness activities? How did you feel immediately following the mindfulness sessions?
13. What meditation practice did you find the most useful? Why?

APPENDIX C

Raw Data

Participant #'s	Demographic Questions				
1	5	4	2	3	2
2	3	4	2	3	4
3	4	4	2	3	1
4	1	4	2	2	1
5	4	5	2	3	1
6	5	4	2	3	1
7	3	4	2	3	2
8	4	4	2	2	5
9	3	4	2	3	1
10	4	4	2	3	2
11	4	4	2	3	5
12	3	4	2	3	2
13	3	4	2	3	2
14	4	6	2	3	2
15	3	4	2	3	4
16	3	4	2	3	2
17	3	4	2	3	3
18	4	4	2	3	2
19	4	4	2	3	5

Participant #s	Perceived Stress Scale Pre-Intervention Scores, Questions 1-10									
1	2	0	2	4	2	2	2	1	1	1
2	2	3	4	3	3	4	2	2	2	3
3	4	2	4	2	2	3	2	2	3	3
4	1	0	4	3	2	1	4	3	2	1
5	2	1	2	3	3	2	2	3	2	0
6	1	0	2	4	4	0	4	4	2	0
7	0	1	4	4	3	2	2	2	1	3
8	1	2	1	4	3	1	3	3	2	1
9	2	2	3	3	2	3	2	1	2	2
10	3	3	4	3	3	0	3	3	2	1
11	4	2	3	2	2	2	0	3	4	2
12	1	0	1	4	4	0	3	4	2	0
13	2	1	4	3	3	2	3	3	3	2
14	0	0	0	4	4	0	4	4	1	0
15	2	2	3	1	0	0	2	1	3	3
16	2	0	2	4	3	1	2	2	0	0
17	3	2	3	2	2	1	2	3	3	2
18	2	3	2	3	3	1	3	2	2	2
19	4	2	4	2	1	3	4	2	3	1

Participant
#'s

Maslach Burnout Inventory Pre-Intervention Scores

1	6	6	5	5	4	1	4	3	4	1	1	1	3	3	1	0	5	3	3	3	3
2	5	6	3	5	0	0	5	5	5	0	1	4	3	4	0	1	5	5	5	4	5
3	6	6	6	5	3	4	3	6	1	4	5	1	5	5	3	4	3	3	3	5	3
4	6	5	5	6	0	3	6	4	6	0	1	5	5	0	0	3	6	6	6	0	5
5	2	3	2	6	3	0	5	2	6	0	0	5	3	5	0	0	5	5	5	1	3
6	1	1	0	6	0	0	6	0	6	1	0	6	2	1	0	0	6	6	6	0	6
7	5	5	2	6	0	2	6	4	5	0	0	1	5	6	1	2	5	4	6	1	5
8	2	1	0	5	1	2	5	0	6	2	0	6	2	0	1	1	6	6	6	0	3
9	5	5	5	5	0	0	6	4	6	4	4	3	4	4	0	0	5	4	5	1	6
10	5	5	5	5	0	0	6	3	6	3	3	3	6	6	0	0	5	5	6	1	5
11	3	4	3	6	0	3	6	2	6	1	0	5	3	3	0	1	6	5	6	1	5
12	1	0	0	6	0	0	6	0	5	0	0	6	2	1	0	0	6	6	6	0	5
13	5	6	5	6	1	2	6	5	6	1	1	5	5	5	0	2	6	6	6	2	6
14	3	2	0	6	0	0	6	0	6	0	0	5	1	4	0	0	6	5	6	0	6
15	5	5	4	6	0	2	5	3	4	4	0	5	3	3	0	2	5	5	3	1	3
16	5	6	4	6	0	2	6	2	6	1	1	5	4	6	0	0	6	6	4	2	6
17	5	5	5	6	0	2	6	5	5	3	4	4	6	5	0	3	6	6	3	3	5
18	5	5	4	6	1	1	6	1	5	0	1	1	4	3	1	1	1	2	1	1	5
19	2	2	0	6	0	0	6	0	6	0	0	6	0	0	0	0	6	6	6	0	6

Participant
#

Perceived Stress Scale Raw Scores Post-Intervention, Questions 1-10

1	2	0	2	3	4	2	3	3	1	0
2	2	2	3	3	3	2	3	3	2	2
3	3	2	3	3	2	3	2	2	3	2
4	0	1	3	4	3	0	3	3	0	0
5	1	1	2	3	3	1	3	3	1	0
6	1	0	1	4	4	0	4	4	1	0
7	1	1	3	3	3	2	2	3	2	2
8	2	2	3	3	2	2	2	1	2	1
9	2	2	2	2	2	3	2	1	2	1
10	3	1	4	4	2	0	4	3	3	0
11	4	3	4	2	2	3	2	2	4	4
12	0	1	1	4	4	0	0	0	1	0
13	2	1	3	3	2	1	2	3	2	3
14	0	0	0	4	4	0	4	4	1	0
15	3	3	3	4	4	3	3	2	4	3
16	1	2	2	4	3	1	2	2	0	1
17	3	2	3	2	2	1	2	3	3	2
18	2	3	2	3	3	1	3	2	2	2
19	4	2	4	2	1	3	4	2	3	1

Participant
#s

Maslach Burnout Inventory Post-Intervention Scores

1	6	6	6	6	1	0	5	5	4	0	0	2	3	3	1	0	5	4	3	3	5
2	5	5	2	5	0	1	5	4	5	0	1	5	3	4	0	1	5	6	5	1	5
3	5	6	5	5	3	4	5	5	4	3	4	3	5	5	5	5	4	3	3	4	3
4	5	4	2	6	0	0	6	3	6	0	0	5	5	0	0	1	6	6	6	0	6
5	2	2	2	5	1	4	6	2	6	0	0	5	2	5	0	2	5	3	5	2	4
6	1	1	0	6	0	0	6	0	6	1	0	6	2	1	0	0	6	6	6	0	6
7	5	5	2	6	0	3	6	5	6	1	1	3	5	5	0	1	6	5	6	3	6
8	2	2	0	6	1	1	6	0	6	2	1	6	1	1	1	1	6	6	6	0	5
9	3	5	4	4	0	1	5	4	5	6	2	4	5	5	0	1	6	4	5	1	2
10	5	6	6	6	0	2	5	5	5	3	3	5	6	5	0	0	6	6	6	0	6
11	4	5	3	6	0	3	6	2	5	1	2	4	2	2	0	2	6	6	6	2	6
12	1	1	0	5	0	0	6	1	6	0	0	6	1	1	0	0	5	5	6	0	6
13	5	5	4	6	1	2	6	5	6	1	1	5	5	5	0	1	5	6	6	3	5
14	2	2	0	6	0	0	6	1	6	1	0	5	2	1	0	0	6	6	6	0	6
15	4	4	3	3	4	3	3	1	4	3	2	5	2	2	4	2	6	4	4	1	2
16	5	5	3	6	0	0	6	2	6	0	2	4	3	5	0	0	6	5	5	3	6
17	5	5	5	6	0	2	6	5	5	3	4	4	6	5	0	3	6	6	3	3	5
18	5	5	4	6	1	1	6	1	5	0	1	1	4	3	1	1	1	2	1	1	5
19	2	2	0	6	0	0	6	0	6	0	0	6	0	0	0	0	6	6	6	0	6

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