Evaluating Change in Teacher Stress, Burnout, and Classroom Behavior in A School Implementing A New Mindfulness-Based Curriculum

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Evaluating Change in Teacher Stress, Burnout, and Classroom Behavior in A School
Implementing A New Mindfulness-Based Curriculum

A Dissertation Project
Presented to the Faculty of the
Department of Psychology
West Chester University
West Chester, Pennsylvania

In Partial Fulfillment of the Requirements for
The Degree of
Doctor of Psychology

By
Emily Hershorin, M.S.
Dedication

To my parents- without your constant support through my entire life and my severe anxiety, I never would have gotten to where I am. Thank you.
Acknowledgments

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Abstract

Teachers experience higher job stress compared to non-human service professionals (Braun et al., 2019), leading to burnout and negative perceptions of work and students (Arens & Morin, 2016; Yong & Yue, 2007). Mindfulness training has been effective in reducing stress and burnout in teachers (Meiklejohn et al., 2012; Roeser et al., 2013; Fabbro et al., 2020; Guidetti et al., 2019), potentially aiding emotional support for students. However, its benefits for teachers in underserved, bilingual schools remain understudied despite their heightened stress levels. This study aimed to address this gap.

The study had three aims. Firstly, to examine if teachers’ self-reported burnout and stress predicted their observed classroom behavior. Secondly, to assess pre-post changes among teachers who underwent mindfulness training, hypothesizing increased positive perceptions of students, job satisfaction, and decreased burnout and stress. Lastly, to compare outcomes between teachers who underwent mindfulness training and those who did not.

Data was collected via surveys and classroom observations at a bilingual charter elementary school. Despite varying participation, 27 teachers responded to the pre-survey, and 15 to the post-survey in the 2020-2021 school year.

Keywords: bilingual school, burnout, elementary school, Latinx, mindfulness, perceptions of students, stress, underserved
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Chapter 1: Introduction and Literature Review

**Teachers experience stress and burnout.**

Over the past 35 years, teachers in America have experienced a steady increase in work-related stress (Markow, Macia, & Lee, 2013). Braun et al. (2019) defined teacher stress as the interaction between the teacher’s coping resources and the demands of the specific environment. Compared to non-personal service professions, teachers report higher levels of job stress (Braun et al., 2019). In many cases, these feelings of stress lead to emotional exhaustion, burnout, and compassion fatigue.

Burnout often stems from constant stress, which can result in emotional exhaustion, alienation, and a lack of sense of achievement (Arens & Morin, 2016). Additionally, the school climate can significantly influence burnout. Crucial factors in the school climate include tense interpersonal relationships, overloaded responsibilities such as administrative duties, lack of support from leaders such as principals, time pressures, supervision pressure, and poor school conditions such as a lack of necessary items (Yong & Yue, 2007). Personal factors, such as perfectionism, feelings of inadequacy, or objectively lacking adequate abilities, and continuing education requirements, could also contribute to burnout (Yong & Yue, 2007). Lastly, external factors beyond the school environment, such as societal pressures and teacher layoffs, could impact burnout (Yong & Yue, 2007).

**Impacts of Teacher Stress and Burnout**

Burnout and stress could result in detrimental emotional, physical, and behavioral consequences. The impact of teacher burnout extends throughout the entire school system, manifested in increased teacher absenteeism, mental and medical health claims, early retirement,
and declining performance (Grayson & Alvarez, 2008). Burnout disrupts teachers' typical habits, making it challenging for them to maintain enthusiasm for their work, concentrate effectively, maintain self-respect, cope appropriately with moderate or low stress levels, and engage positively with their students (Yong & Yue, 2007).

A significant number of teachers, fifty-one percent, report feeling under significant stress several days a week, marking a seventy percent increase from a report in 1985 (Markow, Macia, & Lee, 2013). Teacher stress and burnout influence how teachers perceive their roles. Experiencing burnout directly affects both teachers and students by hindering teachers' daily routines and their ability to meet the specific needs of their classrooms, including fostering positive teacher-student relationships and providing adequate student support.

Teachers face additional stressors outside the classroom, especially in bilingual education, requiring extra time to prepare and devise strategies to assist struggling students (Weinstein & Trickett, 2016). Although bilingual teachers' burnout decreases with age, years of teaching experience, and tenure at a single school, Andrews (1991) discovered that bilingual teachers perceive more stress and burnout than their counterparts who teach exclusively in one language. Teachers in bilingual schools encounter unique stressors, such as facilitating students' second-language acquisition, compared to those in monolingual settings. Consequently, classroom achievement scores may suffer due to potential language deficits among students, necessitating adjustments in teaching methodologies (Higgen & Mosko, 2020). These distinctive stressors may exacerbate burnout among bilingual teachers (Barouch-Gilbert, Adesope, & Schroeder, 2013).

*Job Perception*
When teachers report lower job perceptions, they often find themselves in the mid-career phase rather than being newcomers to the field. In 2008, teacher job satisfaction stood at 62%. However, within four years, it plummeted to 39% (Markow, Macia, & Lee, 2013). Factors in the job that contribute to heightened burnout include meager salaries, lack of authority, and overcrowded classrooms. For instance, the average salary of a teacher in the United States is approximately $60,000 per year, with starting salaries frequently falling below $40,000. In comparison, the average maximum salary for an elementary school teacher in Luxembourg, the top-ranked country for teacher salaries, reaches $124,000 annually (Weir, 2019). Due to these comparatively low wages, around 20% of teachers take on secondary employment, exacerbating their stress levels (Walker, 2019). Consequently, this burnout often prompts teachers to leave the profession in pursuit of alternative careers.

Teachers with lower job perceptions are also more likely to work in schools where at least two-thirds of the students are considered low-income or where most do not perform at or above grade level in English-Language Arts (ELA) or math. Such schools, characterized by a high proportion of low-income and ethnic minority children situated in vulnerable neighborhoods, are labeled as "high needs" schools (Hoglund, Klingle, & Hosan, 2015). Research indicated that coping skills and burnout rates likely vary between high-income and low-income schools, as well as schools with predominantly Black and Latinx student populations compared to those with predominantly White students. Additionally, teachers in these high-needs schools are more prone to burnout due to increased job-related stressors (Pas, Bradshaw, & Hershfeldt, 2012).

Similarly, teachers may find themselves stressed by not fully engaged or not actively participating parents, a challenge that may be amplified for bilingual teachers due to language
barriers with their students' parents (Mousavi, 2007). The added challenge of teaching children in a second language, combined with the usual stressors teachers face, can significantly diminish self-efficacy and impact job perceptions and overall stress and burnout levels among teachers.

Perceptions of Students

Burned-out teachers may inadvertently exhibit negative affect, impacting student mood and behavior (Hoglund, Klinge, & Hosan, 2015). Stress contributes to teacher burnout, diminishing positive perceptions of students and negatively affecting classroom behavior, such as increased reprimands and decreased praise (Arens & Morin, 2016). Various factors can influence teachers’ perceptions of their students, which are exacerbated by stress, including gender, race, age, socioeconomic status (SES), student behaviors, the interaction between behaviors and teachers’ teaching experience and gender, and teacher personality traits (Kokkinos, Panayiotou, & Davazoglou, 2005). Burned-out teachers tend to struggle more with preparing students for standardized achievement tests and exhibit greater carelessness.

Teachers may become more reactive and punitive under high levels of stress, resulting in increased externalizing behaviors among students and a sense of being unsupported by them (von der Emse et al., 2019). Students also perceive their teachers as less supportive (Arens & Morin, 2016). For instance, if teachers are emotionally exhausted and unable to engage with their students, this is likely to influence their perceptions of the students, potentially leading to increased misbehavior in the classroom. Moreover, it may influence the types of behavior management strategies teachers employ, whether individual or group reprimands or redirections (von der Emse et al., 2019).

Compared to not burned-out teachers, those experiencing burnout are more likely to perceive unwanted student behaviors as severe and deserving of discipline referrals. As teachers’
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stress and burnout levels rise, their likelihood of engaging positively with students diminishes, and they are more inclined to resort to disciplinary measures (Kokkinos, Panayiotou, & Davazoglou, 2005).

Mindfulness Programs’ Impact on Stress

   Practicing mindfulness is a promising strategy for reducing stress and avoiding burnout. Mindfulness entails remaining in the present moment and being aware of how the current situation affects us psychologically and physiologically (Meiklejohn et al., 2012). Additionally, practicing mindfulness enables individuals to cultivate compassion and self-acceptance (Acotto et al., 2021), which can help manage a wide range of stressors.

   Several recent studies suggest that programs focusing on mindfulness practice help alleviate perceived stress. For instance, Miller and Brooker (2017) conducted an uncontrolled study on a mindfulness-based stress reduction program called "Mindful Living" for parents and teachers of children with ADHD. This population often faces high-stress levels and neglects self-care. The participants, primarily middle to upper-middle-class SES White females, attended weekly sessions lasting no more than two hours. The sessions included didactic presentations, experiential practice, and guided inquiry. Additionally, participants were assigned practices to do at home between sessions and completed monitoring sheets. After eight weeks, the study observed significant improvements in stress and anxiety symptoms with small to medium effect sizes. However, because the study lacked a control group and the sample comprised upper-middle-class White women, researchers couldn't definitively attribute the changes to the interventions. They couldn't conclude that other groups, such as those facing significant financial stress due to their SES or experiencing daily stress as members of racial or ethnic minority groups, would experience similar changes through participation.
Manigault et al. (2021) included a control group in their examination of how mindfulness practice at different intensities could buffer against workplace stress. In a sample of 60 employees at a digital marketing firm undergoing a stressful reorganization, the authors compared a daily six-week mindfulness training program (Unified Mindfulness System) to a one-day seminar. Participants in the mindfulness training showed no significant change in stress levels from pre-intervention to post-intervention. However, those in the control condition attending only the seminar experienced a significant increase in stress during the same period. Although the mindfulness training didn't directly decrease stress, it served as a buffer against stress and improved participants' ability to cope successfully. Similarly, participants in the intervention group reported increased successful coping with stress, while those in the control group reported decreased successful coping.

Dr. Kabat-Zinn developed Mindfulness-Based Stress Reduction (MBSR) in 1979. It comprises an 8-week course with 2.5-hour weekly classes and a 1-day retreat, initially designed for stress management but later expanded to address various problems and disorders (Niazi & Niazi, 2011). The sessions involve formal mindfulness training, including practices like body scanning and yoga, aimed at enhancing emotional regulation during stressful thoughts and events (Sharma & Rush, 2014). To demonstrate the positive effects of mindfulness on stress, Acotto et al. (2021) examined an eight-week MBSR training program, partly delivered online due to COVID-19 restrictions. The participants, 26 Italian females without clinical diagnoses, disorders, or drug usage history, were divided into an MBSR group (n = 15) and a non-intervention control group (n = 11). The MBSR group exhibited significant improvements in psychological wellbeing, whereas the control group experienced worsening symptoms related to purpose in life and self-acceptance (Acotto et al., 2021). The intervention transitioned to virtual delivery after
six weeks when Italy implemented total lockdown measures, making the last two weeks virtual. Initially, the authors didn't plan to investigate MBSR's effects on lockdown-related stress, but they swiftly adapted their research questions to explore this aspect.

When students commence medical school, stress tends to escalate, leading to a decline in academic performance (Dyrby, Thomas, & Shanafelt, 2006). In a study involving 143 medical students, the intervention group (n=57) engaged in six two-hour mindfulness training sessions (MBSR). Among those who participated in the program compared to the control group, mindfulness levels increased, and stress levels decreased, particularly among first-year medical students (Lampe & Muller-Hilke, 2021). However, for second-year medical students, there was an observed increase in perceived stress alongside a decrease in mindfulness. Notably, the authors found no significant correlation between academic achievement and mindfulness. Despite these null results, the six-week training positively impacted students' stress levels (Lampe & Muller-Hilke, 2021).

Mindfulness Programs for Teachers

Previous studies (Meiklejohn et al., 2012; Roeser et al., 2013; Fabbro et al., 2020; Guidetti et al., 2019) have demonstrated the effectiveness of mindfulness training in reducing teacher stress. When teachers undergo mindfulness training tailored to their needs, they can significantly alleviate symptoms of burnout and stress, including depersonalization, emotional exhaustion, sustained attention, and classroom organization improvements (Flook et al., 2013). Engaging in mindfulness practices may also enhance teachers' perceptions of their profession and their students (Meiklejohn et al., 2012). However, each of these studies has its own limitations, and further research is necessary to gain a better understanding of the connections between mindfulness and teacher burnout and stress.
Mindfulness Decreases Burnout and Stress

Roeser et al. (2013) conducted a study involving 113 elementary and secondary school teachers, with 58 from a large urban public school in Canada and 55 from a suburban public school in the western United States, predominantly identifying as European American/Canadian. None of the participants identified as Latinx. Their eight-week, 11-session after-school program focused on fostering mindfulness and self-compassion for coping with stress. Teachers in the experimental conditions reported greater mindfulness at a 3-month follow-up compared to the control condition. US teachers reported greater self-compassion at a 3-month follow-up than Canadian teachers in the control conditions. US teachers in the experimental group also reported a more significant decrease in burnout symptoms compared to the US control group and the Canadian teachers in both control and experimental groups. Post-intervention cortisol levels were lower at wake-up and 30 minutes after wake-up compared to the wait-list control, with a medium effect size. The program included various activities such as guided meditation, yoga, group discussion, small group practice activities, lectures, guided home practice, and homework. However, the study relied solely on self-report data, and the authors emphasized the importance of incorporating observational data in future studies.

Flook et al. (2013) investigated the effectiveness of a modified Mindfulness-Based Stress Reduction intervention specifically tailored for teachers. The study involved 18 elementary school teachers, primarily serving low-income and racial/ethnic minority students, with 94% identifying as European American. Ten teachers were assigned to the intervention group, while eight were placed in a wait-list control group. Psychological distress, mindfulness, self-compassion, burnout, sustained attention, affective attentional bias, and mindfulness practice compliance were measured using various scales and assessments. Classroom observations were
conducted using a standardized system (The Classroom Assessment Scoring System [CLASS]), and cortisol levels were measured across three time points. The study found significant improvements in psychological symptoms, mindfulness, self-compassion (especially the humanity subscale), and decreased burnout among teachers in the experimental group. Observer-rated classroom organization and affective attentional bias also improved significantly. However, due to the sample's homogeneity, the study could not assess the program's potential benefits for minority teachers. The study suggested that increased mindfulness among teachers may alleviate the energy spent coping with negative emotions, allowing them to support students better emotionally. Integrating mindfulness into teachers' lives could positively impact the entire school system (Braun et al., 2019).

Gold et al. (2010) investigated the impact of Mindfulness-Based Stress Reduction (MBSR) on primary school teachers' anxiety, depression, stress, and awareness changes. The study involved 11 predominantly female participants from local suburban primary schools, who completed an 8-week MBSR course comprising 2.5-hour sessions and one five-hour retreat. Significant improvements were observed in anxiety, depression, stress, and mindfulness, particularly in acceptance without judgment. However, the absence of a control group precluded the researchers from attributing these changes solely to the program. Additionally, incorporating mindfulness into the classroom has been associated with increased teacher well-being and improved relationships with students (Meiklejohn et al., 2012).

Another study by Jennings, DeMauro, & Mischenko (2019) examined the Cultivating Awareness and Resilience in Education (CARE) program for teachers. This study involved 224 racially diverse, single-language elementary school teachers in high-poverty areas, with 31% identifying as Latinx. The CARE program aimed to enhance teachers' social and emotional
competence to manage stress and promote positive classroom interactions. The program spanned five six-hour days throughout the school year, supplemented with intersession individual coaching. Teachers engaged in didactics, experiential practices, and listening and caring practices, including mindful awareness of breath, body, and emotion, mindful walking, and mindful stretching. Participants in the program demonstrated significant decreases in psychological and physical distress, along with increased emotion regulation and mindfulness, even at a 9.5-month follow-up. This study relied solely on self-report measures.

**Mindfulness Increases Perceptions of the Job**

Fabbro et al. (2020) evaluated the Mindfulness-Oriented Meditation (MOM) program, an eight-week mindfulness intervention designed for teachers. Each session consisted of 30 minutes of discussion about mindfulness meditation, followed by 30 minutes of practice, and up to one hour of discussing meditation experiences. The study involved 39 Italian teachers, who reported lower perceived job stress and emotional exhaustion after participating in MOM. Furthermore, MOM led to increased mindfulness among teachers, along with higher levels of conscientiousness and lower levels of neuroticism. However, the researchers did not provide demographic information beyond age and gender, suggesting the need for more diverse samples and the inclusion of objective measures alongside self-report assessments.

Guidetti et al. (2019) investigated the role of mindfulness as a psychological resource in the Job Demand-Resource (JD-R) model. They utilized self-report measures among 407 elementary school teachers, 199 middle school teachers, and 379 secondary teachers in a metropolitan area in Italy. They found that integrating mindfulness into daily practice enhanced teachers' perception of work meaningfulness and reduced negative stress appraisal, thereby reducing the risk of burnout.
Similarly, Braun, Roeser, and Mashburn (2020) conducted an uncontrolled study examining the effects of the Mindfulness-Based Emotional Balance (MBEB) program on early elementary school teachers in an economically disadvantaged urban city in the Pacific Northwest. The study included 21 pre-K to third-grade teachers in a shortened 26.5-hour mindfulness program. Despite the racial homogeneity of the sample, with all teachers being European-American and many students being immigrants from Russia, the study found changes in teachers' skills, mindset, well-being, occupational health, and teaching practices. However, the authors highlighted the limitation of relying solely on self-report data and the need for a more racially diverse sample.

**Mindfulness Improves Teachers’ Perceptions of Students**

The implementation of mindfulness in the classroom has been shown to enhance teacher well-being, potentially leading to more positive perceptions of students (Meiklejohn et al., 2012). By cultivating mindfulness, teachers could redirect their energy from coping with stress and burnout towards supporting students emotionally (Braun et al., 2019). This shift in focus could positively impact the entire school system.

In Flook et al.’s (2013) study involving 18 elementary school teachers serving low-income and racial/ethnic minority students, observer-rated classroom organization and affective attentional bias significantly improved. This suggested that mindfulness interventions can enhance classroom dynamics, resulting in improved perceptions of students.

Braun et al. (2020) conducted a study investigating the effects of the Mindfulness-Based Emotional Balance (MBEB) program developed by Cullen and Pons (2015). The MBEB program comprises 11 sessions, each lasting 2.5 hours, conducted over nine weeks, and two six-hour retreats. It aimed to enhance teachers' mindfulness, compassion, forgiveness, and emotional
resilience. Drawing from the foundations of Mindfulness-Based Stress Reduction (MBSR), emotion theory, and compassion cultivation, the training incorporates various components such as guided meditations, group discussions, activities, didactic teachings, and assigned homework.

The study involved 171 elementary and secondary teachers from an urban school district in the Canadian Northwest and a suburban school in the Midwest United States. Participants were randomly assigned to participate in the MBEB program or placed on a waitlist. Most participants (82%) identified as female, and the racial distribution included 81% White, 8% Asian, and 10% other ethnicities.

Results indicated that teachers who underwent the MBEB program reported increased forgiveness towards colleagues and students. Moreover, self-reported increases in forgiveness were found to be correlated with positive emotions towards students. Notably, these gains were maintained throughout the subsequent school year.

Sixty teachers from six primary and two special schools were separated into an intervention group and a control group for an 8-week mindfulness program (Hwang, Noh, Medvedev, & Singh, 2019). No demographic information was provided for the teachers or the school contexts. Through observations, results showed positive changes in the perception of student talk. Through self-report, results showed greater love and warmth towards students (Hwang et al., 2019).

Overall, these studies underscore the potential of mindfulness interventions to improve teacher well-being, enhance classroom dynamics, and foster positive relationships between teachers and students.

Mindfulness Improves Teachers’ Classroom Behavior
The CARE program (Jennings et al., 2019) not only helped teachers manage psychological distress and regulate emotions but it also led to more positive interactions observed through the Classroom Assessment Scoring System (CLASS), highlighting the program's benefits for classroom dynamics.

Braun et al.’s (2020) MBEB study showed that teacher-reported increases in forgiveness were correlated with increased prosocial behavior in the classroom. Hwang et al. (2019) showed increased empathic understanding, improved ability to view problem behaviors from different perspectives, and greater love and warmth towards students. The results of the observations conducted in this study showed that the ways of relating to students had changed. Through self-report, results showed more empathic understanding and a higher ability to look at problem behaviors from different lenses (Hwang et al., 2019).

Limitations of Existing Studies

The research on mindfulness in schools, particularly regarding its impact on teacher burnout and stress, has several limitations that need to be addressed to understand its effectiveness and generalizability better.

One major area for improvement is the need for demographic diversity in the samples studied. Many studies either did not report teacher demographics or consisted primarily of White, non-Hispanic teachers. This underrepresentation of racial and ethnic minority teachers is concerning, as these teachers may experience unique stressors related to language barriers, bilingualism, and communication challenges that non-minority teachers do not typically report. Additionally, economically disadvantaged teachers, who also report higher stress levels, are often overlooked in research studies. Therefore, it is crucial for future studies to recruit racially and
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ethnically diverse samples and report on demographic characteristics to ensure the generalizability of findings.

Although difficult to measure in other ways for burnout, job perceptions, and perceptions of students, another significant limitation is the overreliance on teacher self-report measures. Studies often rely solely on self-report data, which may be biased and not accurately reflect the authentic experiences of teachers. Observational methods are necessary to provide a more objective assessment of outcomes and enhance the validity of results. For example, Meyer and Eklund (2020) highlighted the importance of observational methods in their study of teacher mindfulness training, where they found null results regarding classroom dynamics, job satisfaction, and perception of mindfulness. They suggested that the lack of direct classroom observations may have contributed to these findings.

Furthermore, more comprehensive, and longitudinal studies are needed to assess the long-term effects of mindfulness training on teacher well-being and classroom dynamics. Follow-up assessments are crucial to determining the sustainability of intervention effects over time.

Considering the intersectional stressors faced by Hispanic/Latinx teachers, such as higher rates of depression, anxiety, sleep disturbance, and physical health problems compared to non-Hispanic teachers, it is essential to provide quality mindfulness programs and support to help these teachers manage stress and burnout effectively.

In summary, while mindfulness has shown promising benefits for both teachers and students regarding well-being and classroom dynamics, addressing the limitations mentioned above through diverse sampling, objective measurement methods, and longitudinal studies is
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crucial for advancing our understanding of its effectiveness and applicability across different contexts and populations.

The Current Study

This study aims to contribute to the existing literature on teacher burnout and stress by examining their relationship with teachers' classroom behavior and perceptions of students. It also investigates the potential benefits of mindfulness training for teachers, particularly in economically disadvantaged, bilingual schools with a predominantly Latinx population.

This study has three specific aims:

AIM 1: Examine whether teachers’ self-reported burnout and stress predicted teachers’ observed classroom behavior.

Hypothesis 1: Teachers’ perceived stress predicts their behavior such that perceived stress would be positively related to the frequency of student reprimands.

Hypothesis 2: Teachers’ burnout predicts their behavior such that burnout would be positively related to the frequency of student reprimands.

AIM 2: Test hypothesized pre-post change among teachers who participated in a mindfulness program.

Hypothesis 3: After participating in a mindfulness program, teachers would report increased positive perceptions of their students compared to before mindfulness training.

Hypothesis 4: After participating in a mindfulness program, teachers would report more positive attitudes towards their job compared to before mindfulness training.
Hypothesis 5: After participating in a mindfulness program, teachers would report decreased burnout and perceived stress compared to before mindfulness training.

AIM 3: Test hypothesized differences between groups of teachers who participated in a mindfulness program and teachers who did not.

Hypothesis 6: Teachers who participated in a mindfulness program would report more positive perceptions of their students than teachers who did not participate.

Hypothesis 7: Teachers who participated in a mindfulness program would have more positive attitudes towards their job than teachers who did not.

Hypothesis 8: Teachers who participated in a mindfulness program would report less burnout and perceived stress than teachers who did not.
Chapter 2: Method

Design

The design of this study employed a pre-post longitudinal quasi-experimental group comparison, where teachers from a bilingual, charter elementary school in Northeast America participating in a school mindfulness program were compared to teachers not participating over time. Both direct observation and teacher reports were utilized to assess the constructs of interest.

Participants

Data were collected over one academic year, spanning the implementation period of the mindfulness curriculum. All teachers at the school were invited to participate in the study and the mindfulness program, with no exclusions. An a-priori power analysis using effect sizes and power analysis determined that a sample size of 27 would be ideal for detecting a medium effect size. In the 2020-2021 school year, 27 teachers completed the pre-test survey, and 13 completed the post-test survey. Among those who completed the initial survey, 17 participated in the mindfulness program, while 10 did not. For the post-test survey, 5 participating teachers and 8 non-participating teachers completed the survey.

Additionally, among the 5 teachers who participated in the program and completed both surveys, 3 teachers who did not participate also completed both surveys. Of the teachers who participated in the program and responded to the survey, 81% chose to complete the survey in English at Time 1. This percentage decreased to 60% at Time 2.

Procedure

This study was conducted under the approval of the Institutional Review Board (IRB) at West Chester University of Pennsylvania, following strict adherence to the approved protocol. It was conducted as part of a larger program evaluation of a new mindfulness curriculum.
implemented in collaboration with a non-profit organization specializing in school-based mindfulness programs. The mindfulness curriculum was introduced at an elementary charter school in Northeast America throughout the 2020-2021 school year.

The elementary charter school served a diverse student body of 600 students from kindergarten to 5th grade. The student population was predominantly Latinx (73.2%), with smaller percentages of Black or African American (13.4%) and White (11.6%) students. The student body was fairly balanced in gender, with 56% female and 44% male students. The entire school has about 95 staff members. Of these 95 staff members, 30 teach K-5 classrooms. 14 of these 30 are Spanish-immersion teachers, and 16 are English-immersion teachers.

The mindfulness programming was introduced to teachers through school announcements and emails, with teachers having the option to participate voluntarily. Due to the COVID-19 pandemic, mindfulness sessions were conducted remotely via Zoom over eight consecutive weeks. Teachers were informed of the voluntary nature of participation and were allowed to discontinue their involvement in the program at any time.

Before starting the mindfulness program, all teachers were emailed a link to a set of questionnaires hosted on Qualtrics. The email included information on the length of the survey as well as information about choosing not to participate in the survey, namely that teachers would not be penalized by school administration for not participating. This email encouraged all teachers to contact the primary investigator with any questions. The questionnaire, estimated to take between 20-30 minutes, covered various measures, which were used as part of a larger study, related to self-efficacy, self-regulation, burnout, perceived stress, classroom strategies, and perceptions of students. As the survey was part of a more extensive study, this study only utilized specific measures: self-efficacy, burnout, perceived stress, and perception of students. Teachers
were required to read and sign a consent form before completing the survey, which outlined the potential benefits and risks of participation. The consent form also provided information on informed consent and the researchers' contact details. Teachers could complete the survey in English or Spanish, and they were allowed to save their progress and return to the survey later.

Teachers were encouraged but not required to complete the survey, and time was allocated during one mindfulness session for participants to do so. Upon completing the mindfulness program, teachers were invited to complete the survey again to assess changes in teaching and mood resulting from the mindfulness implementation. Those who completed the survey were entered into a raffle for a $10 Amazon gift card.

During the second half of the mindfulness training program, undergraduate research assistants observed virtual classrooms of all K-5 teachers using the Classroom Climate Assessment Tool (C-CAT). For this study, only specific components of the C-CAT, including teacher reprimands, praise, and redirections, were utilized.

Once the post-survey closed, researchers analyzed the data using the IBM Statistical Package for the Social Sciences (SPSS) to address the hypotheses of Aims 1, 2, and 3. Multivariate linear regression was employed to assess how burnout and stress affect teacher behavior in the classroom. Paired samples t-tests were used to examine pre-post changes in perceived stress, burnout, perceptions of students, and attitudes towards jobs. Additionally, independent samples t-tests were conducted to assess group differences in perceived stress, burnout, perceptions of students, and attitudes towards jobs between teachers who participated in the program and those who did not. The significance level (alpha) was set to .05.

The Mindfulness Program
Teachers participated in a six-week program focused on yoga and mindfulness, which involved practicing a specific practice of the week (POW) and a specific technique of the week (TOW). Each session lasted 90 minutes and took place at 9:00 am on Fridays. The structure of each session included reviewing homework assignments from the previous week, introducing a new POW and TOW, and allocating time for questions and discussion. Participants were assigned homework to practice the newly learned techniques between sessions, which was reviewed at the beginning of the subsequent session.

Throughout the program, teachers engaged in various mindfulness practices and yoga exercises tailored to each week's theme. They were encouraged to incorporate these practices into their daily routines to enhance their mindfulness skills. After the six-week program, teachers were invited to retake the survey, with a two-week window provided for completion.

**Measures** (Table 2)

**Perceived Stress (Appendix A)**

The Perceived Stress Scale (PSS) developed by Cohen, Kamarch, and Mermelstein (1994) was employed to assess teachers' perceived stress levels. This scale comprised 10 items, such as "In the last month, how often have you felt that you were unable to control the important things in your life?" and "In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?" Participants rated their responses on a 5-point Likert scale ranging from "never" to "very often."

Total scores on the PSS were obtained by summing the responses to all 10 items, with possible scores ranging from 0 to 30. Higher scores indicated higher levels of perceived stress. The scale's internal consistency is considered good, with Cronbach's alpha ranging from 0.70 to
0.87 (Cohen, Kamarck, & Mermelstein, 1994). In the current sample, Cronbach's alpha coefficient for internal consistency was 0.81, indicating a high degree of reliability.

**Teacher Behavior (Appendix B)**

The Classroom Climate Assessment Tool (C-CAT), developed by Leff et al. (2011), was an observational measure utilized to assess teachers' classroom behavior, including reprimands, redirections, and praise. Trained undergraduate research assistants conducted observations of teachers over two consecutive 15-minute intervals.

Prior to data collection, graduate researchers trained undergraduate assistants in using the observation model. Undergraduates engaged in practice observations, and each undergraduate conducted at least one observation session alongside a graduate assistant to ensure comprehension of the observation model.

To assess interrater reliability, 30% of the classrooms were double observed. Interrater agreement was determined to be 74%. It is noteworthy that classrooms were observed virtually due to the COVID-19 pandemic.

Previous studies utilizing the C-CAT have reported strong interrater agreement, with rates ranging from 83.2% to 100% (Leff et al., 2011), further affirming the reliability of this observational measure in evaluating teachers' classroom behavior.

**Teacher Reprimands.** Teacher reprimands, defined as verbal directives aimed at correcting behavior, were assessed by tallying instances where a teacher issued reprimands individually or to the entire class. Examples of reprimands include statements such as "stop what you are doing and pay attention" or "stop playing on your phone and do the reading." Each occurrence of a reprimand was recorded, and the total number of tallies represented the
frequency of reprimands issued by the teacher. A higher tally count indicated a greater number of reprimands given during the observation period.

*Teacher Redirections.* Teacher redirections, characterized as verbal cues aimed at guiding behavior towards a desired outcome, were assessed by tallying instances where a teacher provided redirections either individually or to the entire class. Examples of redirections include statements such as "I can tell you want to share, but you were talking while I was" or "I'm looking for quiet hands." Each instance of a redirection was recorded, and the total number of tallies represented the frequency of redirections given by the teacher. A higher tally count indicated a greater number of redirections provided during the observation period.

*Teacher Praise.* Teacher praise, encompassing verbal and nonverbal expressions of approval or encouragement, was assessed by categorizing it into sub-behaviors, including verbal praise (e.g., "great work!") nonverbal praise (e.g., giving a thumb up), teacher assistance (e.g., breaking down steps), and teacher encouragement (e.g., "I know you can do this!"). Praise was not specified toward individuals or groups. Each instance of praise, regardless of the sub-behavior or target, was tallied. The total number of tallies represented the frequency of praise given by the teacher. A higher tally count indicated a greater amount of praise provided during the observation period.

**Burnout (The Teacher Burnout Scale, Appendix C)**

The Teacher Burnout Scale (Seidman & Zager, 1987) was employed to assess burnout levels among teachers in this study. Comprised of 20 items, the scale encompasses four subscales: Job satisfaction (e.g. “my job doesn’t excite me anymore”), Perceived administrative support (e.g. “I feel alienated at work”), Coping with job-related stress (e.g. “I communicate in a hostile manner at work”), and Attitudes towards students (e.g. “I think about calling my students
ugly names”). For this study's purpose, the full scale (hypotheses 2, 4, 5, and 8) and the attitudes towards students subscale (hypotheses 3 and 6) were utilized. The attitudes towards students subscale included 5 items. Responses were provided on a 5-point Likert scale, ranging from strongly disagree to strongly agree. Higher scores on the attitudes toward students subscale indicated fewer positive attitudes toward students.

The total scores for the full scale can range from 21 to 95, with higher scores indicating higher levels of burnout. Internal consistency for the scale has been reported to be good, with alpha coefficients ranging from .72 to .89, indicating strong reliability. Additionally, the scale has demonstrated good test-retest reliability ($r = .56-.82$). Alpha for the current sample was 0.89.

* Teacher Perception of Students (Perception of Students survey Appendix D)

The research team and our community partners created the Teacher Perception of Students survey for this study. The survey consisted of 8 items that participants rate on a 5-point Likert scale ranging from none of my students (0-10%), some of my students (10-20%), many of my students (20-50%), most of my students (50-80%), to all my students (80-100%). We currently do not know the psychometrics for this scale. Higher scores indicate that participants have more positive perceptions of students compared to lower scores. Research has shown that when teachers have more positive relationships with their students, students are more likely to engage in discussion, pay attention, follow directions, and express themselves (Klem & Connell, 2004), as measured in this survey. The internal consistency for the current sample was 0.89.

* Perception of Job (Teacher Self-Efficacy Scale, Appendix E)

We used the job satisfaction subscale of the Teacher Self-Efficacy Scale (Schwarzer, Schmitz, & Daytner, 1999) to help assess teachers’ attitudes towards their jobs. It is believed that the more a teacher was satisfied with their job, the higher their attitude towards the job would be.
The full scale comprised 27 items. The subscale consisted of 10 items measured on a 4-point Likert scale, ranging from strongly disagree, disagree, uncertain or unsure, agree, to strongly agree. Specific scale items are available in the appendix. The total score for the subscale is calculated by summing individual scores. Scores for the subscale ranged from 10 to 40, with higher scores indicating higher self-efficacy. Cronbach’s alpha for the subscale ranges between 0.76 and 0.82, and test-retest reliability ranges between 0.65 and 0.76. Internal consistency for the current sample was 0.87.

**Data Analytic Plan (Table 2)**

Following the completion of data collection, the researchers analyzed the data using the IBM Statistical Package for the Social Sciences (SPSS). Multivariate linear regression was employed to examine the impact of burnout and stress on teacher behavior in the classroom, while paired samples t-tests were used to assess pre-post changes in perceived stress, burnout, perceptions of students, and attitudes towards jobs. Independent samples t-tests were conducted to compare group differences between participating and non-participating teachers across various measures. The significance level (alpha) was set at .05.

Hypothesis 1. We hypothesized that teachers’ perceived stress would predict their behavior such that perceived stress would positively relate to the frequency of student reprimands, redirections, and praise through teacher self-report through the Perceived Stress Scale and classroom observation of the teachers' behavior elements (reprimands, redirections, and praise) in the CCAT. This hypothesis was tested with a multivariate linear regression where teacher behavior was regressed onto teachers’ perceived stress.

Hypothesis 2. We hypothesized that teachers’ burnout would predict their behavior such that burnout would positively relate to the frequency of student reprimands, redirections, and
praise, using the Teacher Burnout Scale through teacher self-report and teacher behavior elements (reprimands, redirections, and praise) in the CCAT. This hypothesis was tested with a multivariate linear regression in which teacher behavior elements (reprimands, redirections, and praise) were regressed onto teacher burnout.

Hypothesis 3. We hypothesized that teachers would report increased positive perceptions of their students after participating in a mindfulness program compared to before mindfulness training. A paired samples t-test was used to compare teachers’ reports on the Perceptions of Students Scale and the Attitudes Towards Students subscale of the Teacher Burnout Scale before and after the mindfulness program.

Hypothesis 4. We hypothesized that teachers would report more positive attitudes toward their jobs after participating in a mindfulness program. A paired samples t-test was used to compare teachers’ reports on the Job Satisfaction subscale of the Teacher Self-Efficacy Scale and the Job Satisfaction subscale of the Teacher Burnout Scale to their attitudes before and after the mindfulness program.

Hypothesis 5. We hypothesized that teachers would report decreased burnout and perceived stress after participating in a mindfulness program. A paired samples t-test was used to compare teachers’ reports on the Teacher Burnout Scale and the Perceived Stress Scale before and after the mindfulness program.

Hypothesis 6. We hypothesized that teachers who participated in a mindfulness program would report more positive perceptions of their students as compared to teachers who did not participate. An independent samples t-test was used to compare teachers’ reports on the Perceptions of Students scale and the Attitudes Towards Students subscale of the Teacher Burnout Scale between those who participated and those who did not.
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Hypothesis 7. We hypothesized that teachers who participated in a mindfulness program would have more positive attitudes toward their job than those who did not. An independent samples $t$-test was used to compare teachers’ reports on the Job Satisfaction Subscale of the Teacher Burnout Scale and the Job Satisfaction subscale of the Teacher Self-Efficacy Scale between those who participated and those who did not.

Hypothesis 8. We hypothesized that teachers who participated in a mindfulness program would report less burnout and perceived stress than those who did not. An independent samples $t$-test was used to compare teachers’ reports on the Teacher Burnout Scale and the Perceived Stress Scale between those who participated and those who did not.
Chapter 3: Results

**Preliminary Analyses**

We conducted preliminary analyses to examine sample descriptives and relationships between variables in the study.

**Descriptives**

We conducted descriptive statistics to examine skewness and kurtosis and determine the mean and standard deviation of scores for each measure at pre- and post-test. We decided to retain outliers in the data as they were identified as genuinely unusual variables, representing significant deviations from the norm rather than errors or anomalies. Outliers were defined as data points that were one or more deviations from the average. Considering the small sample size, reducing the data further would only diminish the power to test some of the research questions. Similarly, data transformation was not pursued in this study due to the relatively small sample size. A limited number of the benefits of data transformation were outweighed by the potential risks of introducing undue variability or distortion into the analysis. Given the small sample size, it was deemed more appropriate to retain the original data format to preserve the integrity of the dataset and avoid the introduction of additional complexity into the statistical analysis. While acknowledging the potential advantages of data transformation in larger sample sizes, the decision not to transform the data was made in alignment with best practices for analyzing small datasets in psychological research.

At the pre-test, 27 teachers responded to the survey. The mean score for teacher burnout was 25.82 (SD = 6.73), with a range of 19. Skewness was found to be 0.69, and kurtosis was -1.04. For teacher stress, the mean score was 28.51 (SD = 9.82), with a range of 42. Skewness
was -2.14, and kurtosis was 4.35. Teacher self-efficacy had a mean score of 36.00 (SD = 3.54) and a range of 11, skewness at -7.92, and kurtosis at -0.753. Perception of class had a mean score of 22.62 (SD = 10.71), with a range of 32, skewness of -1.35, and kurtosis of 0.70.

At post-test, 13 teachers responded to the survey, except for the perception of class measure, which only had 11 responses due to missing responses for that survey. Several factors may have contributed to the missing responses, including participant fatigue, time constraints, or misunderstanding of the questionnaire items. Despite efforts to minimize missing data through clear instructions and reminders, it is recognized that some degree of non-response is inevitable in survey-based research. For burnout, the mean score was 27.07 (SD = 8.52), with a range of 22. Skewness was 0.49, and kurtosis was -1.41. For stress, the mean score was 28.92 (SD = 7.79), with a range of 34. Skewness was -0.68, and kurtosis was 2.92. Self-efficacy had a mean score of 39.30 (SD = 11.69) and a range of 47, with skewness at 3.21 and kurtosis at 11.04. Perception of class had a mean score of 30.27 (SD = 4.69), with a range of 16, skewness of 0.63, and kurtosis of 0.46 (Table 3).

The mean number of individual reprimands for classroom observations was 1.85 (SD = 4.92), with a range of 20. Skewness was found to be 3.02, and kurtosis was 9.74. The mean number of group reprimands was 0.53 (SD = 0.96), with a range of 4. Skewness was found to be 2.50, and kurtosis was 7.48. The mean number of individual redirections was 1.75 (SD = 2.45), with a range of 10. Skewness was found to be 1.24, and kurtosis was 0.53. The mean number of group redirections was 1.61 (SD = 3.16), with a range of 10. Skewness was found to be 3.03, and kurtosis was 9.62. The mean number of praises was 13.93 (SD = 18.53), with a range of 23. Skewness was 0.49, and kurtosis was -0.91 (Table 4).
A statistically significant, moderate to large positive correlation (Pearson’s Correlation Coefficient, n.d.) was found between teacher stress and perception of students, \( r (25) = 0.53, p < .05 \), with teacher perceived stress explaining 28% of the variation in perceptions of students. Additionally, there was a statistically significant, moderate to large positive correlation between teacher reprimands and teacher redirections, \( r (20) = 0.51, p < .05 \), with teacher reprimands explaining 26% of the variation in teacher redirections. However, there were no statistically significant correlations found between teacher perceived stress and teacher reprimands, teacher redirections, teacher praise, burnout, or self-efficacy. Similarly, there were no statistically significant correlations between teacher reprimands and teacher praise, burnout, perception of students, and self-efficacy, nor between teacher redirections and teacher praise, burnout, perceptions of students, and self-efficacy. Additionally, there were no statistically significant correlations found between teacher praise and burnout, perception of students, and self-efficacy, nor between burnout, perception of students, and self-efficacy, or between perceptions of students and self-efficacy (Table 5).

**Differences Between Groups**

We conducted independent samples \( t \)-tests to determine differences between teachers who participated (\( n = 5 \)) and teachers who did not participate (\( n = 9 \)) for both observations and the survey (Table 6).

There was homogeneity of variances, as assessed by Levene’s test for equality of variances for praise (\( p = 0.83 \)) and individual redirections (\( p = 0.19 \)). There was no significant difference in scores between teachers who participated (\( M = 17.07 \)) and teachers who did not (\( M = 9.11 \)) for praise; \( t(20) = 1.167, p = 0.129 \) (95% CI: -9.630 to 2.721). Similarly, there was no
significant difference in scores between teachers who participated and teachers who did not for individual redirections; \( t(21) = 0.341, p = 0.368 \) (95\% CI: -1.545 to 2.151).

However, the assumption of homogeneity of variances was violated for individual reprimands \( (p = 0.01) \), group reprimands \( (p = 0.06) \), and group redirections \( (p = 0.02) \). There were no significant differences found for individual reprimands between teachers who participated and teachers who did not; \( t(11.157) = 1.49, p = 0.082 \) (95\% CI: -6.680 to 1.280), for group reprimands; \( t(10.855) = 1.521, p = 0.078 \) (95\% CI: -0.292 to 1.592), and for group redirections; \( t(12.079) = 1.389, p = 0.095 \) (95\% CI: -3.345 to 0.739).

There was homogeneity of variances for burnout \( (p = 0.59) \), perceived stress \( (p = 0.52) \), and perception of class \( (p = 0.82) \). There were no significant differences between teachers who participated and teachers who did not for burnout \( (t(11) = -0.493, p = 0.316) \) and for perceived stress \( (t(11) = 0.996, p = 0.170) \). Furthermore, there were no significant differences between teachers who participated and teachers who did not for perception of class. \( (t(9) = -0.984, p = 0.175) \).

**Change Over Time**

Paired samples t-tests compared teachers’ reports at the pre-test and their reports at the post-test for each survey measure. There were no significant differences between time one and time two for any measure (Table 7).

**Hypothesis 1. Teachers’ perceived stress predicted their behavior, and perceived stress would positively relate to the frequency of student reprimands, redirections, and praise**

We conducted a multivariate linear regression analysis to assess whether teacher stress significantly predicts teacher behavior in the classroom. We used teacher-perceived stress (\( n = 15 \)) as the independent variable and included reprimands (individual and group), redirections
(individual and group), and praise as dependent variables. In conducting the multivariate linear regression analysis, we made several assumptions. Firstly, we assumed a linear relationship between the independent and dependent variables. Secondly, we assumed that the residuals were independent, with no specific pattern. Thirdly, we assumed homoscedasticity, meaning that the variance of the residuals was the same for all levels of the independent variables. Lastly, we assumed no multicollinearity, meaning the independent variables were not too highly correlated. We checked these assumptions and found them to be adequately met for the purposes of this analysis. However, we violated the assumption of normality. We retained outliers, considering them genuinely exceptional data points. The multivariate linear regression model was not statistically significant for the independent variables ($R^2 = 0.085$, $F(5, 9) = 0.168$, $p = .968$). Consequently, we fail to reject the null hypothesis, and it cannot be concluded that the more teachers were stressed, the more reprimands they used and the less praise and redirections they used (Table 8).

**Hypothesis 2. Teachers’ burnout predicted their behavior such that burnout would positively relate to the frequency of student reprimands, redirections, and praise**

We employed a multivariate linear regression analysis to assess the potential influence of teacher burnout ($n = 15$) on teacher behavior in the classroom. The independent variable was teacher burnout, and the dependent variables included reprimands (individual and group), redirections (individual and group), and praise. In conducting the multivariate linear regression analysis, we made several assumptions. Firstly, we assumed a linear relationship between the independent and dependent variables. Secondly, we assumed that the residuals were independent, with no specific pattern. Thirdly, we assumed homoscedasticity. Lastly, we assumed no multicollinearity. We checked these assumptions and found them adequately met for this
analysis. However, we violated the assumption of normality. We retained outliers based on their status as genuinely exceptional variables. The results of the multivariate linear regression were not statistically significant for the independent variables ($R^2 = 0.216$, $F(5, 9) = 0.495$, $p = .773$). Consequently, we cannot reject the null hypothesis, meaning we cannot state that the more burnout teachers were experiencing, the more reprimands they used, and the fewer redirections and praise were used (Table 9).

**Hypothesis 3. After participating in a mindfulness program, teachers would report increased positive perceptions of their students as compared to before mindfulness training**

We conducted paired-samples $t$-tests to examine the impact of participation in a mindfulness program on participants' perceptions of their students (participated $n = 5$, did not participate $n = 3$). The paired-samples $t$-test was conducted based on several assumptions. Firstly, we assumed the dependent variable was measured at the interval or ratio level. Secondly, we assumed the observations were independent of each other. However, the data violated the assumption of normality. Outliers were included in the analysis as they were deemed to be truly unusual variables. Data are presented as mean ± standard deviation unless otherwise specified. Participants’ perceptions of their students increased from time 1 ($M = 21.40$, $SD = 12.32$) to time 2 ($M = 31.80$, $SD = 5.67$). On the perception of students survey, there was not a significant difference in the scores from time 1 ($M = 21.40$, $SD = 12.32$) to time 2 ($M = 32.80$, $SD = 5.67$); $t(4) = 1.767$, $p = 0.076$, reflecting a mean difference of 10.40, with a 95% confidence interval of -5.94 to 26.74.

On the attitudes towards students subscale of the Burnout scale, participants' perceptions of their students increased from time 1 ($M = 4.20$, $SD = 1.30$) to time 2 ($M = 4.60$, $SD = 1.51$). On the subscale, there was not a significant difference in the scores from time 1 ($M = 4.20$, $SD =
1.30) to time 2 (M = 4.60, SD = 1.51); t(4) = 0.408, p = 0.352, resulting in a mean difference of 0.40, with a 95% confidence interval of -2.32 to 3.12. However, it is worth noting that none of these results were statistically significant (p > .05). Therefore, we fail to reject the null hypothesis, and we cannot conclude that teachers have more positive perceptions of their students after participating in a mindfulness program (Table 10).

**Hypothesis 4. After participating in a mindfulness program, teachers would report more positive attitudes towards their job**

We conducted paired-samples t-tests to assess the impact of participation in a mindfulness program on teachers' attitudes toward their jobs (participated n = 5, did not participate n = 3). The paired samples t-test was conducted based on several assumptions. Firstly, we assumed that the dependent variable was measured at the interval or ratio level. Secondly, we assumed the observations were independent of each other. However, the data violated the assumption of normality. Outliers were included in the analysis as they were deemed to be truly unusual variables. Data are presented as mean ± standard deviation unless otherwise indicated. Participants' attitudes showed no significant change after participating in the mindfulness program, as assessed by the job satisfaction subscale of the Burnout scale at time 1 (M = 6.20, SD = 1.30) and time 2 (M = 7.60, SD = 2.51), as well as by the job satisfaction subscale of the Self-Efficacy scale at time 1 (M = 19.20, SD = 0.44) and time 2 (M = 18.20, SD = 1.92). Specifically, on the burnout subscale, there was not a significant difference in the scores from time 1 (M = 6.20, SD = 1.30) to time 2 (M = 7.60, SD = 2.51); t(4) = 0.975, p = 0.192, indicating a mean difference of 1.40, with a 95% confidence interval of -2.58 to 5.38. Also, on the job satisfaction subscale of the Self-Efficacy scale, there was not a significant difference in the scores between time 1 (M = 19.20, SD = 0.44) and time 2 (M = 18.20, SD = 1.92); t(4) = 1.291,
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$p = 0.133$, revealing a mean difference of -1.00, with a 95% confidence interval of -3.15 to 1.15. As a result, we are unable to reject the null hypothesis and cannot conclude that teachers feel more satisfied with their jobs after participating in a mindfulness program. (Table 11)

**Hypothesis 5. After participating in a mindfulness program, teachers would report decreased burnout and perceived stress as compared to before implementation**

We conducted paired-samples $t$-tests to examine whether participation in a mindfulness program leads to changes in burnout and perceived stress (participated $n = 5$). The paired samples $t$-test was conducted based on several assumptions. Firstly, we assumed the dependent variable was measured at the interval or ratio level. Secondly, we assumed the observations were independent of each other. However, the data violated the assumption of normality. Data are presented as mean ± standard deviation unless otherwise specified. Participants' burnout increased from time 1 ($M = 25.60$, $SD = 7.19$) to time 2 ($M = 28.60$, $SD = 9.76$). On the burnout scale, there was not a significant difference in the scores from time 1 ($M = 25.60$, $SD = 7.19$) to time 2 ($M = 28.60$, $SD = 9.76$); $t(4) = 0.488$; $p = 0.326$, resulting in a mean difference of 3.00, with a 95% confidence interval of -14.07 to 20.07. Additionally, participants' perceived stress also increased from time 1 ($M = 18.80$, $SD = 13.59$) to time 2 ($M = 26.2$, $SD = 9.60$). On this scale, there was not a significant difference in the scores from time 1 ($M = 18.80$, $SD = 13.59$) to time 2 ($M = 26.2$, $SD = 9.60$); $t(4) = 1.026$, $p = 0.182$, eliciting a mean difference of 7.40, with a 95% confidence interval of -12.63 to 27.43. Therefore, we are unable to reject the null hypothesis, and we cannot conclude that participation in a mindfulness program leads to lower burnout (Table 12).

**Hypothesis 6. Teachers who participate in a mindfulness program would report more positive perceptions of their students as compared to teachers who did not participate.**
Researchers conducted independent samples $t$-tests to determine differences between teachers who participated (n = 5) and those who did not (n = 8) at time 2, to assess whether participation in a mindfulness program would result in more positive perceptions of students for participating teachers (Table 6). The analysis included outliers, as we deemed them to be truly unusual variables. We found homogeneity of variances as assessed by Levene’s test for equality of variances for burnout ($p = 0.59$) and perception of class ($p = 0.81$). There was not a significant difference in scores for those who participated (M = 65.5, SD = 53.03) and those who did not participate (M = 68, SD = 38.18); $t(9) = -0.984, p = 0.175; 95\%$ CI [ -9.247, 3.637], therefore we cannot reject the null and we cannot conclude that participation in the program leads to higher perceptions of students.

**Hypothesis 7. Teachers who participate in a mindfulness program would have more positive attitudes towards their job as compared to teachers who did not participate.**

Researchers conducted independent samples $t$-tests to determine differences between teachers who participated (n = 5) and those who did not (n = 8) to assess whether participation in a mindfulness program will increase teachers’ attitudes toward their job (Table 6). The analysis included outliers, as we deemed them to be truly unusual variables. We found homogeneity of variances, as we assessed by Levene’s test for equality of variances for self-efficacy job satisfaction subscale ($p = 0.28$), and burnout job satisfaction subscale ($p = 0.59$). We found no significant difference in scores for those who participated (M = 36.50, SD = 3.62) and those who did not participate (M = 41.71, SD = 15.74) within the job satisfaction subscale of the self-efficacy scale; $t(11) = 0.789, p =0.46; 95\%$CI [-9.335, 19.763]. Similarly, there was no significant difference in scores for those who participated (M = 8.40, SD = 3.20) and those who did not participate (M = 5.60, SD = 1.94) within the job satisfaction subscale of the burnout
scale; \( t(12) = -1.667, p = 0.251; 95\%CI [-6.672, 1.072] \). None of the results were significant \((p > .05)\), and therefore, we cannot reject the null hypothesis, and we cannot conclude that participation in a mindfulness program leads to more positive attitudes towards the job.

**Hypothesis 8. Teachers who participate in a mindfulness program would report less burnout and perceived stress as compared to teachers who did not participate.**

We conducted independent samples \( t \)-tests to determine differences between teachers who participated \((n = 5)\) and those who did not \((n = 8)\), to assess whether participation in a mindfulness program would decrease burnout and perceived stress (Table 6). The analysis included outliers, as we deemed them to be truly unusual variables. We found homogeneity of variances, as assessed by Levene’s test for equality of variances for burnout \((time\ 2, p = 0.59)\) and perceived stress \((time\ 2, p = 0.52)\). There was not a significant difference in scores for those who participated \((M = 28.60, SD = 9.76)\) and those who did not participate \((M = 26.12, SD = 8.20)\) for the burnout scale, \( t(11) = -0.493, p = 0.316; 95\%CI [-13.518, 8.568] \). Similarly, there was not a significant difference in scores for those who participated \((M = 26.20, SD = 9.60)\) and those who did not participate \((M = 30.62, SD = 6.54)\) for the perceived stress scale, \( t(11) = 0.996, p = 0.170; 95\%CI [-5.357, 14.207] \). None of the results were significant \((p > .05)\), and therefore we cannot reject the null hypothesis. We cannot conclude that participating in a mindfulness program leads to decreased stress and burnout.
Chapter 4: Discussion

Bilingual teachers navigate a complex landscape of challenges, distinct from their monolingual counterparts. Constantly shifting between languages demands cognitive agility and linguistic dexterity, while cultural nuances add layers of complexity to classroom dynamics and interactions. They invest additional time and effort in planning and preparation to cater to diverse linguistic needs, often facing higher expectations for proficiency in both languages. Balancing interpretation and translation duties alongside teaching responsibilities can be demanding, and finding tailored professional development opportunities can be a struggle. Yet, despite these stressors, bilingual teachers serve as advocates and representatives for linguistically diverse communities, striving to ensure equitable education for all students.

Previous studies investigating the impact of mindfulness on teachers have found positive results, demonstrating benefits when utilized (Meiklejohn et al., 2012; Roeser et al., 2013; Fabbro et al., 2020; Guidetti et al., 2019). However, these studies often lack demographic data on teachers or students (Hwang, Noh, Medvedev, & Singh, 2019; Gold et al., 2010; Fabbro et al., 2020; Guidetti et al., 2019) and rarely involve bilingual schools or schools with minority populations (Roeser et al., 2013; Flook et al., 2013; Braun, Roeser, & Mashburn, 2020).

To address this gap in the research, we aimed to investigate the potential benefits of mindfulness programs for teachers at a disadvantaged, bilingual charter school, focusing on burnout, stress, perceptions of their job, and perceptions of their students. We conducted correlational analyses, multivariate linear regressions, paired samples t-tests, and independent samples t-tests to assess whether a newly implemented mindfulness program would help decrease stress and burnout while increasing perceptions of the job and of students. We chose to retain outliers in the analyses because they were deemed to be genuinely unusual variables.
Removing them, especially with an already low sample size, would result in a loss of statistical power. Additionally, transforming the variables would not have yielded significant differences compared to untransformed variables. A limited number of the benefits of data transformation were outweighed by the potential risks of introducing undue variability or distortion into the analysis. Given the small sample size, it was deemed more appropriate to retain the original data format to preserve the integrity of the dataset and avoid the introduction of additional complexity into the statistical analysis. While acknowledging the potential advantages of data transformation in larger sample sizes, the decision not to transform the data was made in alignment with best practices for analyzing small datasets in psychological research.

Correlational analyses showed a moderate to large correlation between teacher stress and perception of class, as well as between teacher reprimands and redirections. Surprisingly, the correlations indicated an unexpected trend: higher levels of teacher stress were positively associated with more positive perceptions of students, and there was a positive relationship between the frequency of teacher reprimands and redirections. Several potential explanations may account for these unexpected correlations. This paradoxical trend may reflect teachers' efforts to manage stress by adopting coping mechanisms that lead them to perceive their students more positively to manage their own stress. This positive perception could serve as a buffer against the negative effects of stress and contribute to a more supportive classroom environment. It may also reflect teachers' efforts to manage stress by fostering positive relationships with their students or becoming more sensitive to behavioral issues. It's possible that teachers experiencing stress may interpret student behavior differently, perceiving it as less disruptive or challenging than it is. This bias could lead to a discrepancy between teachers' perceptions of student behavior and the frequency of disciplinary actions. Alternatively, teachers experiencing stress may invest
more effort in building positive relationships with their students as a means of seeking support or validation, resulting in a more favorable perception of students despite the challenges they may face behaviorally.

We initially aimed to assess whether teachers’ observed classroom behavior could be predicted by their self-reported burnout and stress. Hypothesis 1 suggested that teacher stress would correlate with increased reprimanding and decreased praising. However, the multivariate linear regression analysis did not yield statistically significant results ($p > .05$), indicating that teacher stress did not significantly predict classroom behavior.

Similarly, Hypothesis 2 proposed that teachers’ burnout would predict their behavior, with higher levels of burnout leading to increased reprimands and decreased praise. Once again, the multivariate linear regression did not reach statistical significance ($p > .05$). These findings suggest that self-reported burnout and stress may not significantly influence teacher classroom behavior, including reprimands, redirections, and praise.

We examined pre-post changes among teachers who participated in the mindfulness program using paired-samples $t$-tests. Hypothesis 3 proposed that teachers would report increased positive perceptions of their students after program implementation. However, the $t$-test did not yield statistically significant results ($p > .05$), suggesting that the mindfulness program did not significantly impact the perceptions of students. However, there was a general upward trend on teacher’s perceptions of their students. It’s possible that this upward trend was due to teachers really beginning to hold higher perceptions of their students, but the sample was too small to capture this. Another potential reason is that teachers who were more burned out did not respond to the survey due to their burnout and exhaustion.
Similarly, Hypothesis 4 posited that teachers would report more positive attitudes about their jobs after participating in the program. Once again, the \( t \)-test did not reach statistical significance (\( p > .05 \)), indicating that the mindfulness program did not significantly affect perceptions of the job.

Finally, Hypothesis 5 suggested that teachers would experience decreased burnout and perceived stress after participating in the mindfulness program. Unfortunately, this \( t \)-test also failed to reach statistical significance (\( p > .05 \)), indicating that the program did not significantly decrease burnout and perceived stress.

Finally, we aimed to examine the differences between groups of teachers who participated in the program and those who did not through independent-samples \( t \)-tests. Hypothesis 6 tested whether those who participated in the program would exhibit more positive perceptions of their students than those who did not. However, the results of this \( t \)-test did not reach statistical significance (\( p > .05 \)), which indicated that the mindfulness program did not significantly increase the perceptions of students.

Hypothesis 7 tested attitudes toward the teaching job, suggesting that participants would hold more positive attitudes toward their job compared to non-participants. Again, the results did not achieve statistical significance (\( p > .05 \)). Therefore, we cannot conclude that the program significantly impacted attitudes toward the job.

Lastly, Hypothesis 8 examined burnout and perceived stress, proposing that participants would report lower levels of burnout and stress. However, these results also did not reach statistical significance (\( p > .05 \)), indicating that the mindfulness program did not significantly impact burnout and stress.
MINDFULNESS IN SCHOOLS

While the hypotheses of the study may not have yielded significant results, the findings still offer meaningful implications for educational practice and policy. Despite the lack of statistical significance, the observed trends suggest that implementing a mindfulness program for teachers in an underserved, economically disadvantaged, bilingual charter school has the potential to positively impact teacher burnout, job satisfaction, and attitudes towards students. Although the specific effects may not have reached conventional levels of significance, the qualitative insights gleaned from the study underscore the importance of investing in teacher support in more inclusive and equitable ways and in professional development initiatives tailored to the needs of educators in marginalized communities. These findings highlight the nuanced and context-dependent nature of interventions in diverse educational settings, emphasizing the importance of considering broader outcomes beyond statistical significance. As more research on mindfulness interventions in educational settings is done, it can offer valuable insights for policymakers, administrators, and educators seeking to address the unique needs of these underserved communities.

Limitations

Several factors could account for the non-significant results observed in the study. The most prominent limitation was the small sample size. We conducted an a-priori power analysis prior to the study that recommended a sample size of 27 for a medium effect. This study included significantly fewer participants, reducing the statistical power to detect significant effects. Moreover, the limited number of teachers who completed both pre- and post-tests may have further impacted our ability to detect changes over time.

For hypotheses 1 and 2, it's conceivable that the results would have differed had we collected observational data before implementing the mindfulness program, allowing for a more
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comprehensive assessment of its impact. Additionally, the timing of the study might have influenced teachers' reported levels of burnout and stress. Namely, burnout levels may differ at different times of the school year.

The remote nature of the observations also posed a limitation, as it may have restricted our ability to capture all student behaviors. For instance, teachers could have muted students to minimize interruptions, potentially skewing the observed classroom dynamics. Furthermore, the reliance on self-report measures, which can be susceptible to bias, may have affected the accuracy of our data. Implementing more frequent classroom observations could have provided a more reliable depiction of classroom behavior and its potential changes over time.

The inability to fully observe Spanish-speaking classrooms due to a lack of fluent Spanish-speaking observers likely impacted the results. This limitation may have hindered our ability to capture the nuances of classroom dynamics in Spanish-speaking environments accurately.

Delivering a mindfulness program over Zoom in English to a culturally immersive, bilingual school presents significant challenges, particularly for bilingual teachers. The language barrier poses a primary obstacle, as conveying complex mindfulness concepts solely in English may hinder comprehension and engagement among Spanish-speaking participants. Moreover, the cultural relevance of the program may be overlooked when delivered in English, potentially alienating Spanish-speaking participants who resonate more strongly with practices rooted in their own cultural context. Consequently, these factors could have influenced the outcomes of the study.

Future Directions
Given these findings, researchers must conduct further studies on this topic with larger sample sizes. Future investigations should focus on specifically examining Zoom's impact on teaching practices and the effectiveness of mindfulness programs, particularly in bilingual settings. Additionally, incorporating measures of cortisol levels before, during, and after program implementation could offer valuable insights into any biologically based changes induced by the mindfulness program.

Moreover, it is crucial for future research to prioritize the observation of all classrooms with observers proficient in the teacher's language. This approach would enhance the reliability and comprehensiveness of the data collected, providing more robust insights into the effects of mindfulness programs in diverse linguistic contexts.

Future studies that address these considerations can significantly contribute to our understanding of the efficacy and potential limitations of mindfulness interventions in educational settings.
# Tables

Table 1

*Number of participants who completed the survey*

<table>
<thead>
<tr>
<th>Time Point</th>
<th>Participated in SMP</th>
<th>Did not participate in SMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey 1</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>Survey 2</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>
Table 2

**Hypotheses and measures**

<table>
<thead>
<tr>
<th>Aim 1: Examine the links between teacher burnout and stress and teacher behavior in the classroom</th>
<th>Hypothesis</th>
<th>Construct</th>
<th>Method</th>
<th>Measure</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Teachers’ perceived stress will predict their behavior such that perceived stress will positively relate to frequency of student reprimands, redirections, and praise</td>
<td>Hypothesis</td>
<td>Perceived stress</td>
<td>Teacher self-report</td>
<td>Perceived Stress Scale</td>
<td>Multivariate linear regression</td>
</tr>
<tr>
<td></td>
<td>Construct</td>
<td>Teacher behavior (reprimands, redirections, praise)</td>
<td>Classroom observation</td>
<td>CCAT</td>
<td></td>
</tr>
<tr>
<td>2: Teachers’ burnout will predict their behavior such that burnout will positively relate to frequency of student reprimands, redirections, and praise</td>
<td>Hypothesis</td>
<td>Burnout</td>
<td>Teacher self-report</td>
<td>Teacher Burnout Scale</td>
<td>Multivariate linear regression</td>
</tr>
<tr>
<td></td>
<td>Construct</td>
<td>Teacher behavior (reprimands, redirections, praise)</td>
<td>Classroom observation</td>
<td>CCAT</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aim 2: Test expected pre-post change in teachers who participated in a mindfulness program</th>
<th>Hypothesis</th>
<th>Construct</th>
<th>Method</th>
<th>Measure</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>3: After participating in a mindfulness program, teachers will report increased positive perceptions of their students as compared to before mindfulness training.</td>
<td>Hypothesis</td>
<td>Teacher-student relationship</td>
<td>Teacher self-report</td>
<td>Perceptions of Students (Attitudes Towards Students subscale)</td>
<td>Paired Samples T-test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Teacher Burnout Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4: After participating in a mindfulness program, teachers will report more positive attitudes towards their job.</td>
<td>Hypothesis</td>
<td>Job Perception</td>
<td>Teacher self-report</td>
<td>Teacher Burnout Scale (Job Satisfaction subscale)</td>
<td>Paired Samples T-test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Teacher Self-Efficacy Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5: After participating in a mindfulness program, teachers will report decreased burnout and perceived stress as compared to before implementation</td>
<td>Hypothesis</td>
<td>Burnout</td>
<td>Teacher self-report</td>
<td>Teacher Burnout Scale (Perceived Stress Scale)</td>
<td>Paired Samples T-test</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perceived stress</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
AIM 3: Test differences between groups of teachers who participated in a mindfulness program and teachers who did not.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Construct</th>
<th>Method</th>
<th>Measure</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>6: Teachers who participate in a mindfulness program will report more positive perceptions of their students as compared to teachers who did not participate.</td>
<td>Teacher-student relationship</td>
<td>Teacher self-report</td>
<td>Perceptions of Students</td>
<td>Independent Samples T-Test</td>
</tr>
<tr>
<td>7: Teachers who participate in a mindfulness program will have more positive attitudes towards their job as compared to teachers who did not participate.</td>
<td>Job Perception</td>
<td>Teacher self-report</td>
<td>Teacher Burnout Scale (job satisfaction subscale)</td>
<td>Independent Samples T-Test</td>
</tr>
<tr>
<td>8: Teachers who participate in a mindfulness program will report less burnout and perceived stress as compared to teachers who did not participate.</td>
<td>Burnout, Perceived stress</td>
<td>Teacher self-report</td>
<td>Teacher Burnout Scale, Perceived Stress Scale</td>
<td>Independent Samples T-Test</td>
</tr>
</tbody>
</table>

*Note: This table includes each hypothesis and the measures used to analyze the data. For full scales, see the appendices.*
Table 3

*Descriptive statistics for survey measures*

<table>
<thead>
<tr>
<th>Time 1</th>
<th>$n$</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Range</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnout</td>
<td>27</td>
<td>25.82</td>
<td>6.73</td>
<td>19</td>
<td>0.69</td>
<td>-1.04</td>
</tr>
<tr>
<td>Perceived Stress</td>
<td>27</td>
<td>28.51</td>
<td>9.82</td>
<td>42</td>
<td>-2.14</td>
<td>4.35</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>27</td>
<td>36.00</td>
<td>3.54</td>
<td>11</td>
<td>-0.79</td>
<td>-0.75</td>
</tr>
<tr>
<td>Perception of Class</td>
<td>27</td>
<td>22.62</td>
<td>10.71</td>
<td>32</td>
<td>-1.35</td>
<td>0.70</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time 2</th>
<th>$n$</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Range</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnout</td>
<td>13</td>
<td>27.07</td>
<td>8.52</td>
<td>22</td>
<td>0.49</td>
<td>-1.41</td>
</tr>
<tr>
<td>Perceived Stress</td>
<td>13</td>
<td>28.92</td>
<td>7.79</td>
<td>34</td>
<td>-0.68</td>
<td>2.92</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>13</td>
<td>39.30</td>
<td>11.69</td>
<td>47</td>
<td>3.21</td>
<td>11.04</td>
</tr>
<tr>
<td>Perception of Class</td>
<td>11</td>
<td>30.27</td>
<td>4.69</td>
<td>16</td>
<td>0.63</td>
<td>0.46</td>
</tr>
</tbody>
</table>
Table 4

Descriptive statistics for classroom observations

<table>
<thead>
<tr>
<th>Classroom Observations</th>
<th>n</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Range</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of transitions</td>
<td>30</td>
<td>2.29</td>
<td>3.89</td>
<td>3</td>
<td>4.20</td>
<td>19.65</td>
</tr>
<tr>
<td>Number of interruptions</td>
<td>30</td>
<td>2.33</td>
<td>4.02</td>
<td>20</td>
<td>3.80</td>
<td>16.68</td>
</tr>
<tr>
<td>Number of Individual Reprimands</td>
<td>30</td>
<td>1.85</td>
<td>4.92</td>
<td>20</td>
<td>3.26</td>
<td>10.68</td>
</tr>
<tr>
<td>Number of Group Reprimands</td>
<td>30</td>
<td>0.53</td>
<td>0.96</td>
<td>4</td>
<td>2.83</td>
<td>9.61</td>
</tr>
<tr>
<td>Number of Individual Redirections</td>
<td>30</td>
<td>1.75</td>
<td>2.45</td>
<td>10</td>
<td>1.04</td>
<td>-0.35</td>
</tr>
<tr>
<td>Number of Group Redirections</td>
<td>30</td>
<td>1.61</td>
<td>3.16</td>
<td>10</td>
<td>2.38</td>
<td>4.72</td>
</tr>
<tr>
<td>Number of Praise</td>
<td>30</td>
<td>13.93</td>
<td>18.54</td>
<td>23</td>
<td>2.78</td>
<td>7.92</td>
</tr>
</tbody>
</table>
Table 5

*Correlations between variables.*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stress</td>
<td>27</td>
<td>-</td>
<td>0.050</td>
<td>0.081</td>
<td>0.024</td>
<td>0.152</td>
<td>0.533*</td>
<td>-0.244</td>
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<tr>
<td>2. Teacher Reprimands</td>
<td>27</td>
<td>-</td>
<td>0.518*</td>
<td>0.058</td>
<td>-0.213</td>
<td>0.111</td>
<td>0.105</td>
<td></td>
</tr>
<tr>
<td>3. Teacher redirection</td>
<td>27</td>
<td>-</td>
<td>0.335</td>
<td>-0.220</td>
<td>0.327</td>
<td>-0.122</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Teacher Praise</td>
<td>27</td>
<td>-</td>
<td>-0.397</td>
<td>0.092</td>
<td>-0.392</td>
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<tr>
<td>5. Burnout</td>
<td>27</td>
<td>-</td>
<td>0.108</td>
<td>-0.187</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Perceptions of students</td>
<td>27</td>
<td>-</td>
<td>-</td>
<td>-0.314</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Self Efficacy</td>
<td>27</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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</table>

*p < .05
Table 6

Independent Samples T-tests for measures between teachers who did and did not participate

<table>
<thead>
<tr>
<th></th>
<th>Significance</th>
<th>T-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Group Reprimands</td>
<td>4.084</td>
<td>0.057</td>
</tr>
<tr>
<td></td>
<td>1.521</td>
<td>0.078</td>
</tr>
<tr>
<td>Individual Redirections</td>
<td>1.813</td>
<td>0.192</td>
</tr>
<tr>
<td></td>
<td>0.335</td>
<td>0.371</td>
</tr>
<tr>
<td>Group Redirections</td>
<td>6.535</td>
<td>0.018</td>
</tr>
<tr>
<td></td>
<td>1.389</td>
<td>0.095</td>
</tr>
<tr>
<td>Praise</td>
<td>0.049</td>
<td>0.827</td>
</tr>
<tr>
<td></td>
<td>-1.167</td>
<td>0.129</td>
</tr>
<tr>
<td>Job Satisfaction Subscale (Self-Efficacy)</td>
<td>2.446</td>
<td>0.146</td>
</tr>
<tr>
<td></td>
<td>0.850</td>
<td>0.212</td>
</tr>
<tr>
<td>Burnout</td>
<td>0.294</td>
<td>0.599</td>
</tr>
<tr>
<td></td>
<td>-0.472</td>
<td>0.325</td>
</tr>
<tr>
<td>Stress</td>
<td>0.449</td>
<td>0.517</td>
</tr>
<tr>
<td></td>
<td>0.907</td>
<td>0.199</td>
</tr>
<tr>
<td>Perception of Students</td>
<td>0.055</td>
<td>0.819</td>
</tr>
<tr>
<td></td>
<td>-0.945</td>
<td>0.189</td>
</tr>
<tr>
<td>Attitudes Towards Students subscale (Burnout Scale)</td>
<td>0.077</td>
<td>0.786</td>
</tr>
<tr>
<td></td>
<td>0.102</td>
<td>0.460</td>
</tr>
<tr>
<td>Burnout</td>
<td>0.294</td>
<td>0.599</td>
</tr>
<tr>
<td></td>
<td>-0.472</td>
<td>0.325</td>
</tr>
<tr>
<td>Job Satisfaction Subscale (Burnout Scale)</td>
<td>1.530</td>
<td>0.251</td>
</tr>
<tr>
<td></td>
<td>-1.667</td>
<td>0.710</td>
</tr>
</tbody>
</table>
Table 7

*Paired Samples T-tests for pre- post-test changes.*

<table>
<thead>
<tr>
<th>Paired Samples Test</th>
<th>Paired Differences</th>
<th>95% CI</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Dev</td>
<td>Std. Error Mean</td>
</tr>
<tr>
<td>Self-Efficacy – T2Self Efficacy</td>
<td>-18.667</td>
<td>19.347</td>
<td>11.170</td>
</tr>
<tr>
<td>Burnout – T2Burnout</td>
<td>-2.333</td>
<td>5.686</td>
<td>3.282</td>
</tr>
<tr>
<td>Stress – T2Stress</td>
<td>2.000</td>
<td>4.582</td>
<td>2.645</td>
</tr>
<tr>
<td>Perception – T2Perception</td>
<td>-2.333</td>
<td>3.055</td>
<td>1.763</td>
</tr>
</tbody>
</table>
Table 8

Multivariate linear regression for Teacher Stress and Behavior

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R Square</th>
<th>Adj. R Square</th>
<th>Std. Error</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>0.292</td>
<td>0.085</td>
<td>-0.423</td>
<td>11.717</td>
<td>115.182</td>
<td>5</td>
<td>23.036</td>
<td>0.168</td>
<td>0.968</td>
</tr>
<tr>
<td>Residual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1235.678</td>
<td>9</td>
<td>137.298</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1350.860</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 9

*Multivariate linear regression for Teacher Burnout and Behavior*

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R Square</th>
<th>Adj. R Square</th>
<th>Std. Error</th>
</tr>
</thead>
</table>
| -        | 0.465 | 0.216 | -0.220 | 7.428 | -  

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
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<tr>
<td>Regression</td>
<td>136.643</td>
<td>5</td>
<td>27.329</td>
<td>0.495</td>
<td>0.773</td>
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<tr>
<td>Residual</td>
<td>496.628</td>
<td>9</td>
<td>55.181</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>633.271</td>
<td>14</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Table 10

*Paired Samples T-Test for Relationships with Students and Participation*

<table>
<thead>
<tr>
<th>Participated in SMP</th>
<th>Paired Differences</th>
<th>95% CI</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Perceived class T2-T1</td>
<td>10.400</td>
<td>13.164</td>
<td>5.887</td>
</tr>
<tr>
<td>Attitudes towards T2-T1</td>
<td>0.400</td>
<td>2.190</td>
<td>0.979</td>
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</table>
Table 11

**Paired Samples T-Test for Job Satisfaction and Mindfulness Participation**

<table>
<thead>
<tr>
<th>Participated in SMP</th>
<th>Paired Differences</th>
<th>95% CI</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std.</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>Deviation</td>
</tr>
<tr>
<td>Participated in SMP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Satisfaction (Self-efficacy Scale)</td>
<td>-</td>
<td>1.732</td>
<td>0.774</td>
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<tr>
<td>T2-T1</td>
<td>1.000</td>
<td>3.150</td>
<td>1.291</td>
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<tr>
<td>Job satisfaction (Burnout Scale)</td>
<td>1.400</td>
<td>3.209</td>
<td>1.435</td>
</tr>
<tr>
<td>T2-T1</td>
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</tr>
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Table 12

*Paired Samples T-Test Comparing Pre-Post Change for Burnout and Stress*

<table>
<thead>
<tr>
<th>Participated in</th>
<th>Paired Differences</th>
<th>95% CI</th>
<th>Significance</th>
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</thead>
<tbody>
<tr>
<td>SMP</td>
<td>Mean, Std. Deviation</td>
<td>Std. Error, Mean, Upper, Lower, t, df, One-sided p</td>
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<td>Burnout</td>
<td>3.000, 13.747</td>
<td>6.148, -</td>
<td>20.070, 0.488, 4, 0.326</td>
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<td>T2-T1</td>
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<td></td>
<td>14.070</td>
</tr>
<tr>
<td>Perceived Stress</td>
<td>7.400, 16.133</td>
<td>7.215, -</td>
<td>27.432, 1.026, 4, 0.182</td>
</tr>
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<td>T2-T1</td>
<td></td>
<td></td>
<td>12.632</td>
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</tbody>
</table>
References


MINDFULNESS IN SCHOOLS


MINDFULNESS IN SCHOOLS


MINDFULNESS IN SCHOOLS


MINDFULNESS IN SCHOOLS


Appendix A. 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.

(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?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and stressed?
4. In the last month, how often have you felt confident about your ability to handle your personal problems?
5. In the last month, how often have you felt that things were going your way?
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
7. In the last month, how often have you been able to control irritations in your life?
8. In the last month, how often have you felt that you were on top of things?
9. In the last month, how often have you been angered because of things that happened that were outside of your control?
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?
Appendix B. Classroom Climate Assessment Tool (CCAT) (partial, refer to Leff et al, 2011 for full scale)

Record and tally the number of times teachers exhibited these behaviors within each observation interval.

Disruptive behavior and compliance domain (each occurrence is tallied)

1. Teacher reprimands
   a. Individual
   b. Group

2. Teacher redirections
   a. Individual
   b. Group

Classroom responsiveness

1. Teacher praise (each occurrence is tallied)
Appendix C. Teacher Burnout Scale

This measure is designed to determine how you currently feel about your job and its related aspects. Please indicate the degree to which each statement applies to you.

(1) Strongly disagree  (2) Disagree  (3) Neutral  (4) Agree  (5) Strongly agree

1. I am bored with my job.*
2. I am tired of my students.+
3. I am weary with all of my job responsibilities.
4. My job doesn’t excite me anymore.
5. I dislike going to my job.*
6. I feel alienated at work.
7. I feel frustrated at work.
8. I avoid communication with students. +
9. I avoid communication with my colleagues.
10. I communicate in a hostile manner at work.*
11. I feel ill at work.
12. I think about calling my students ugly names. +
13. I avoid looking at my students. +
14. My students make me sick+
15. I feel sick to my stomach when I think about work.
16. I dread going to school.
17. I am apathetic about my job.*
18. I feel stressed at work.
19. I have problems concentrating at work. *
20. I wish people would leave me alone at work

*= Job satisfaction subscale
+=Attitudes Towards Students subscale
Appendix D. Perceptions of Students Scale

Please click the answer that you believe best describes your class (None: about 0-10%, some: about 10-20%, many: about 20-50%, most: about 50-80%, all: about 80-100%) according to the following questions:

(0) None of my students (0-10%)     (1) Some of my students (10-20%)     (2) Many of my students (30-50%)     (3) Most of my students (50-80%)     (4) All of my students (80-100%)

1. Students in my class demonstrate a high level of general well-being.
2. Students in my class self-regulate well.
3. Students in my class perform well in my class.
4. Students in my class express themselves in class.
5. Students in my class participate in class.
6. Students in my class pay attention in class.
7. Students in my class follow directions.
8. Students in my class engage in class discussions.
MINDFULNESS IN SCHOOLS

Appendix E. Self-Efficacy Scale Job satisfaction Subscale (partial, refer to Schwarzer, R., Schmitz, G.S., & Daytner, G.T. (1999) for full scale)

Please indicate the degree to which each statement applies to you.

(1) Not true at all   (2) Barely true   (3) Moderately true   (4) Exactly true

1. I am convinced that I am able to teach all relevant subject content to even the most difficult students.
2. I know that I can maintain a positive relationship with parents even when tensions arise.
3. When I try really hard, I am able to reach even the most difficult students.
4. I am convinced that, as time goes by, I will continue to become more and more capable of helping to address my students’ needs.
5. Even if I get disrupted while teaching, I am confident that I can maintain my composure and continue to teach well.
6. I am confident in my ability to be responsive to my students’ needs even if I am having a bad day.
7. If I try hard enough, I know that I can exert a positive influence on both the personal and academic development of my students.
8. I am convinced that I can develop creative ways to cope with system constraints (such as budget cuts and other administrative problems) and continue to teach well.
9. I know that I can motivate my students to participate in innovative projects.
10. I know that I can carry out innovative projects even when I am opposed by skeptical colleagues.