

The Benefit of Mindfulness Professional Development for Elementary Teachers: Considerations for District and School Level Leaders

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ABSTRACT

Using an embedded quasi-experimental mixed method approach, this exploratory study aimed to understand the benefits of mindfulness training for elementary school teachers and leaders in one rural school district. After the delivery of two 90-minute mindfulness professional developments with on-the-job practice of strategies over 2 weeks, quantitative statistical comparisons of the intervention and inactive control groups were made using survey results from the Mindfulness in Teaching Scale (Frank et al., 2016). Qualitative analyses used intervention participant journal entry responses along with one-on-one interviews. After analyses, the results suggest mindfulness training can benefit teachers, specifically in the use of intrapersonal mindfulness practices, reshaping daily interactions with students, and reducing stress.

Keywords: mixed methods, mindfulness, elementary, professional development, training, teachers, qualitative

The educational leader and teacher's roles have been considered strong determinants for increasing student achievement (Chenoweth & Theokas, 2013; Duncan & Stock, 2010; Hitt & Tucker, 2016). However, stress levels negatively influence teacher efficacy and impact teacher burnout (Anwar, 2014; Hue & Lau, 2015; Schwarzer & Hallum, 2008). According to Woolfolk Hoy (2012), the belief that a teacher has in their potential to affect student achievement, known as *academic optimism*, consists of three constructs: self-efficacy, trust, and academic emphasis. Teacher stress, however, negatively impacts *academic optimism* whereby increased stress levels are correlated to decreased self-efficacy which in turn, negatively impacts student achievement (Beltman et al., 2011). Nevertheless, reports of teacher stress and burnout have plagued the profession over time, linking to low retention rates of those within the first 5-years of teaching (Janzen & Phelan, 2015) and intense career burnout of veteran teachers leading to significant decreases in job satisfaction (Rumschlag, 2017; Woolfolk Hoy, 2012).

While bleak in context, there is hope in mindfulness. Mindfulness practices can help teachers reduce emotional distress by improving attention and promoting emotional balance in their work environments (O'Brien, 2013; Hue & Lau, 2015). Mindfulness practices incorporate strategies to decrease stress and anxiety by increasing self-awareness (McGonigal, 2013), cultivating a more satisfying context for teachers and ultimately enhancing student success (Baer, 2003; Burrows, 2011). Understanding mindfulness in teaching and leading schools is a relatively new research topic that could shed light on how stressors are positively managed to support stronger learning environments. Using Korthagen's (2017) conceptual framework, *Professional Development 3.0*, school leaders can shape conditions for positive teacher change when the 'teacher as person' is at the core with varied opportunities to learn and practice are embedded in the work.

To understand the benefits of mindfulness training for elementary school teachers and leaders, an embedded quasi-experimental 2-phase mixed method study design (Creswell & Plano Clark, 2017) was conducted utilizing a survey for intervention-inactive control group statistical comparisons, and journal entry responses with one-on-one interviews for qualitative analyses. Two research questions guided our exploration into the benefits of teacher professional development on mindfulness practices for school leader consideration and school improvement:

- 1) What are the differences in perceptions of mindfulness practices between elementary teachers who participated in professional development on mindfulness versus those who have not?
- 2) In what ways does professional development on mindfulness practices benefit elementary teachers?

LITERATURE REVIEW

Mounting teacher responsibility can inhibit teachers from focusing their attention carefully and differentiating instruction to meet student needs (Roeser et al., 2012). During a single day, teachers face pressures of increasing accountability and making multiple decisions while being forced to multitask which leads to stress. Increased levels of stress decrease *academic optimism* in teachers, specifically reducing feelings of self-efficacy and, thus, affecting student learning outcomes (Beltman et al., 2011). Furthermore, this cycle continues to negatively impact teacher turnover (Janzen & Phelan, 2015; Rumschlag, 2017; Woolfolk Hoy, 2012).

To mitigate these concerns, professional development in mindfulness is offered to help teachers cope with the stresses of the job (e.g., Dorman, 2015, Crain et al., 2017). While not a belief or ideology, mindfulness originated in the teachings of Buddhist traditions (Hwang et al., 2017). As it applies to education, mindfulness can be understood as the nature of mind and emotion, or a combination of the heart and mind in a way to create openness of thinking and a compassionate quality (Achor, 2010; Kabat-Zinn, 2003; McGonigal, 2013; O'Brien, 2013). Baer (2003) and Burrows (2011) explain that mindfulness can only occur in the current state present, which includes paying attention in the moment. Kabat-Zinn's (2003) popular definition of mindfulness is "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment" (p. 145). Through professional development, teachers can grow in classroom mindfulness, working to increase purposeful and intentional attention on students (Achor, 2010; Kabat-Zinn, 1994). When teachers return their focus on how they can positively affect student learning, they are accessing self-efficacy as part of *academic optimism* (Beltman et al., 2011; Woolfolk Hoy, 2012); thus, reversing the harmful teacher stress-turnover cycle (Janzen & Phelan, 2015; Rumschlag, 2017).

School leaders are vital in addressing teacher retention, as their support of teachers through improving school-wide systems and cultivating a community built on shared decision-making is a significant factor for job satisfaction, stress reduction, and self-efficacy (e.g., Caver-Thomas & Darling-Hamond, 2019; Pearce, 2009; Raelin, 2016). While providing professional developments may alone be beneficial (Dorman, 2015), when principals engage in the learning with teachers, a positive school culture and climate can emerge (Printy & Marks, 2006). In addition, this context fosters collective trust with and among staff (Pearce et al., 2009), another key ingredient for increasing positive working relations between teachers and administrators (Baer, 2003). Furthermore, recent research finds a positive correlation between school climate and teacher self-efficacy (Akhavan, 2011; Beltman et al., 2011; Goree, 2019). Thus, to ensure optimal gain as supported by research, teacher professional development should be a shared experience with and supported by the school-site leaders, working to impact teacher retention by developing a positive, trusting culture for enhanced teacher efficacy. This cannot be done, however, without addressing the issues of burnout and stress.

Teacher Burnout and Stress

Teachers in schools today experience stress in their educational careers, with 50% leaving the educational profession within the first five years (e.g., Eslinger, 2014; Rumschlag, 2017; Steinhardt et al., 2011). The demands on teachers can lead to emotional stress, exhaustion, negative attitudes, and burnout (Hue & Lau, 2015; Fiorilli et al., 2017), causing teachers to look for other professions (Rumschlag, 2017). Burnout, specifically, is a burden on school leaders as they work to navigate teacher withdrawal and attrition, as well as declining student-teacher relationships (Cherkowski & Walker, 2019). Furthermore, according to Rumschlag (2017), teacher turnover is 30% higher than other professions: nurses (19%), lawyers (19%), and police (28%). This is of concern for educational leaders as the loss of teacher capacity negatively impacts the school climate (Carver-Thomas & Darling-Hammond, 2019), which, in turn, deepens the challenges leaders face to improve student outcomes (Ronfeldt et al., 2013).

Steinhardt et al. (2011) found that burnout occurs when prolonged exposure to emotional stressors on the job is accompanied by insufficient recovery. Teachers' self-report emotional stress is triggered by difficult working conditions, such as dealing with challenging student behaviors or trying to meet each student's academic needs (Clarà, 2017). Likewise, Hwang et al. (2017) found that feeling lack of support from parents and school members, student bullying behavior, and complex student learning needs are also major contributing factors to increased teacher stress and overall lack of well-being. For those working in high poverty schools, turnover due to burnout is 50% higher (Vanderslice, 2010). Teachers in these settings reportedly become emotionally exhausted from overwork and fatigue (Vanderslice, 2010), which has been strongly associated with job-dissatisfaction connected to feeling unable to make a difference in students' lives (Wiley, 2000). Without strategies to relieve the stress associated with these scenarios, teachers will burnout and more than likely leave the profession (Steinhardt et al., 2011).

Conversely, supportive leadership, collegiality, shared decision-making, and positive school climates can combat these negative stressors and turnover (e.g., Ansley et al., 2019; Carver-Thomas & Darling-Hammond, 2019; Hitt & Tucker, 2016;). Providing support in the form of shared leadership can improve teachers' attitudes, feelings of efficacy, and instructional skills (Hitt & Tucker, 2016). Likewise, schools where administration adopts relational-based leadership models that foster collegiality through shared-responsibility and a sense of autonomy have an increased association with positive feelings about work and job performance (Ansley et al., 2019). Feeling supported and encouraged by administration with a clear vision for the school can also mitigate other turnover factors relating to the challenges of teaching in schools with mostly underserved students in rural environments (Carver-Thomas & Darling-Hammond, 2019). One way that school leaders can support teachers for increased retention is by providing learning opportunities in which teachers practice techniques to reduce stress and thereby increase job satisfaction (e.g., Flook et al., 2013; Roeser et al., 2012;). However, continued research is needed to fully understand which techniques can benefit teachers' reduction of daily stress for a long-term impact.

Since positive emotions broaden thinking and improve attention (Fredrickson et al., 2008), mindfulness offers a potential solution for the effects of stress and thus is an integral part of educational design. Positive emotions can also help to develop mastery over challenging environments teachers may face. When a shift from mindlessness reactions to emotional awareness occurs in the classroom setting, it leads to an overall improved feeling of wellness for the teacher (e.g., Achor, 2010; Burrows, 2011; Crain et al., 2017; Hue & Lau, 2015; Lomas et al., 2017; Schussler et al., 2019).

MINDFULNESS IN TEACHING

In the instructional setting, mindfulness encourages student choice, collaborative discussion opportunities, and elaboration on thinking, where learning is a conversation between students and teacher (Burrows, 2011). Baer (2003) notes, "mindfulness is the nonjudgmental observation of the ongoing stream of internal and external stimuli as they arise" (p.125). Therefore, mindfulness in teaching includes being ready to engage with students *in the moment* which allows for positive and collaborative learning. Applying mindful principles can lead to a shift in classroom culture, and, as a growing body of research on mindfulness suggests, can help mitigate teacher stress (e.g., Flook et al., 2013; Roeser et al., 2012) and increase well-being at work and home (Crain et al., 2017).

To benefit teacher well-being, school leaders should consider opportunities to collectively develop teachers' intra- and interpersonal fields for working through stressful situations. In many mindfulness studies, teachers and school leaders have been provided mindful-based professional development to understand how daily implementation of the practices could impact teachers and student learning (e.g., Gold et al., 2010; Hue & Lau, 2015; Jennings et al., 2017; Lomas et al., 2017; Schussler et al., 2018). Mindfulness interventions have been reported to decrease anxiety, burnout, depression, anger, and stress, while also increasing teacher efficacy and, indirectly, student learning (Hue & Lau, 2015; Lomas et al., 2017). Mindfulness training has also been found to boost moods at work and at home, and increase the quality of nightly sleep and daily productivity for participating educators (Crain et al., 2017).

Professional development has been established to foster mindfulness leading to improved classroom environments for learning (e.g., Dorman, 2015; Taylor et al., 2016). Specific to mindfulness-based training for educators, Schussler et al. (2018) discovered that after a 6-week multi-modal intervention, case-study teachers reported a general increase in efficacy due to more emotional awareness. Teachers also reported more compassion when dealing with challenging student behaviors (Schussler et al., 2018), one of the work environment's daily stressors (Clarà, 2017). In a larger-scale study of teachers with and without access to a similar intervention, Schussler et al. (2019) found, once again, that teachers report daily stress on the job, and those who learned mindful practices reported more ability to handle stressors and increases in teacher efficacy. The relationship between receiving training and teacher demonstration of compassion with students was

noted as requiring further inquiry (Schussler et al., 2019). Similarly, Taylor et al. (2016) looked at self-reports from trained and untrained teachers on mindful classroom behaviors and found that while some teachers naturally draw upon mindfully oriented practices, mindfulness-based professional development can still benefit teachers.

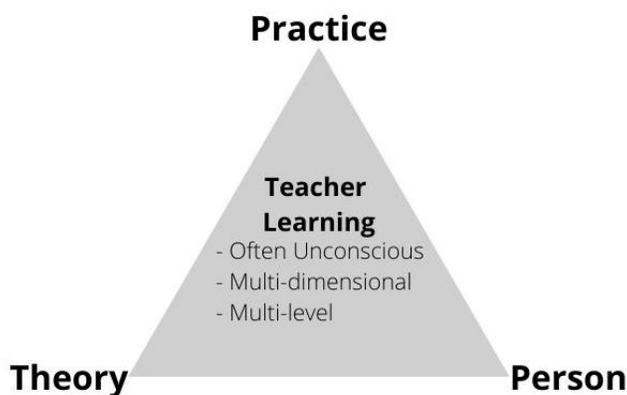
Since supportive administration in positive school climates have large impacts on decreasing teacher turnover, even in the most challenging contexts (e.g., Ansley et al., 2019; Carver-Thomas & Darling-Hammond, 2019; Hitt & Tucker, 2016), district and school leaders need more research-based ways to meet the needs of their teachers, especially when experiencing stress due to the demands of the profession. Overall, teacher well-being and job retention are essential to cultivating the best environments for student learning.

CONCEPTUAL FRAMEWORK

Central to the study's development is an understanding of the role school leaders play in cultivating meaningful and impactful teacher professional development plans. Korthagen's (2017) conceptual frame, *Professional Learning 3.0*, shaped this study's embedded intervention model. Specifically, school leaders developing professional learning should consider how teachers come to their roles both as people and professionals with assets to expand upon, rather than deficits to be fixed (Korthagen, 2017). Furthermore, training requires more than a one-time *one-size-fits-all* approach. *Professional Learning 3.0* honors what the teacher brings to the learning as well as provides multiple opportunities to engage in learning, practice, and reflection in order to tap into the layers of the *teacher as person* (Korthegan, 2017). Korthagen (2017) argues social aspects are critical for meaningful professional learning, such as one-on-one coaching conversations and communities of practice with whom teachers can share learning experiences and glean ideas. *Figure 1* illustrates Korthegan's (2017) conceptualization of *Professional Development 3.0*, which guided decision-making and roll-out of the study intervention and opportunities for qualitative reflection as outlined in the subsequent methods section.

Figure 1

Professional Development 3.0



Note: (Korthegan, 2017, p. 399)

METHODOLOGY

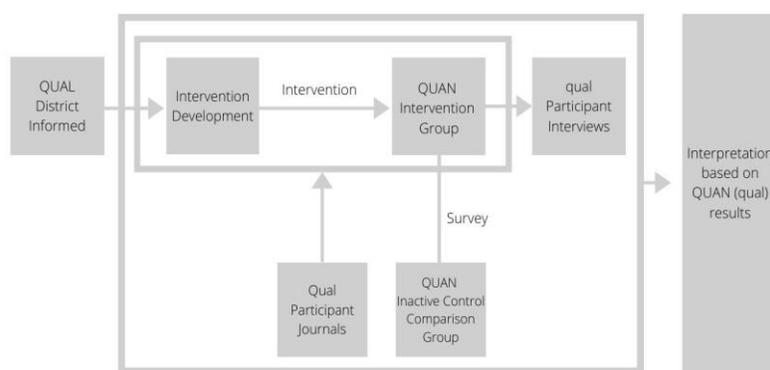
This embedded quasi-experimental (Gopalan et al., 2020), two-phase mixed-method study design (Creswell & Plano Clark, 2017; Hanson et al., 2005) explored the benefits of mindfulness professional development for elementary school teachers and their leaders. The study included an intervention-inactive control comparison (Higgins et al., 2020) quasi-experimental model (Gopalan et al., 2020) using the Mindfulness in Teaching Scale (MTS; Frank et al., 2016) survey. The intervention included two 90-minute researcher created professional development sessions available to all participating teachers at one school site on designated afternoons. School and teacher leadership reported concerns after observing an overall decline in teacher well-being and efficacy related to new environmental stressors (i.e., common core standards, curriculum adoptions, updated state assessments, positive behavior initiatives, and changes in discipline practices and ed code) beginning within a short time frame of one another. School leadership also reported an overall decline in student academic performance and well-being, which seemed to parallel the teachers' challenges with stress (District

Superintendent, Personal Communication, October 30, 2016). Since the intervention sessions were designed in response to this immediate need, random sampling techniques could not be applied to control for the intervention or comparison groups; thus, it was necessary to use a quasi-experimental method to quantitatively explore benefits using direct comparisons (Gopalan et al., 2020).

As framed by *Professional Development 3.0* (Korthegan, 2017), the intervention design and implementation consisted of multiple learning and practice opportunities with social considerations and embedded reflections. Two 90-minute researcher-developed mindfulness training sessions were presented to School A teachers. These participant teachers also completed electronic journal reflections as components of the intervention and were, at the conclusion, interviewed by research assistants for this study. An inactive control group was used to gather comparative data from a set of similar teachers at School B; these teachers did not receive the interventions and were not aware of the training content. Figure 2 provides a visual overview of this embedded mixed-methods two-phase approach to explore the research questions.

Figure 2

Embedded Quasi-experimental Intervention-Inactive Control Comparison 2-Phase Model



Note. Adapted from Hanson et. al. (2005) embedded pre-post model instead using the Intervention-Inactive Control Comparison (Higgins, et al., 2020) design.

Participant Sample

Purposive and convenience sampling were used to obtain participants (Creswell & Plano Clark, 2017) from two K-6 traditional elementary schools in neighboring small rural districts with similar student populations: high rates of Socio-economically Disadvantaged (SD) students with a majority of English Learners (EL). Purposive sampling (Creswell & Plano Clark, 2017) for School A was essential to the overall design to obtain survey, journal, and interview responses from intervention participants for the study aims. School B, the control group selection site for inactive comparison, was identified within a convenience list of rural schools neighboring the intervention site in which the researchers had professional connections to increase participation rates.

From this convenience list of seven schools, student and teacher demographics were reviewed using publicly available data on the state department of education website, DataQuest. The intent was to determine the closest contextual match to recruit participants for the control-inactive group comparison approach to increase the quasi-experimental measure’s validity (Gopalan et al., 2020). To see the comparison of schools by student context, Table 1 presents the publicly reported student demographic data for the respective study year by school.

Of the 26 teachers from the intervention group (School A), 25 voluntarily participated in the surveys, journal entries, and interviews, a 96.2% completion rate. The comparison control group (School B) had a teacher population of 21. All were emailed the survey, and 20 voluntarily responded for a response rate of 95.2%. The participant teacher demographic comparison is reported in Table 2.

Table 1

Student Enrollment, Race/Ethnicity, SD, and EL by School

| Demographics | School A | | School B | |
|----------------------------------|----------|-------|----------|-------|
| Overall Enrollment | 626 | 100% | 506 | 100% |
| <i>Race/Ethnicity</i> | | | | |
| African American | 1 | < 1% | 2 | < 1% |
| American Indian | - | - | 1 | < 1% |
| Asian | 1 | < 1% | 11 | 2.2% |
| Hispanic or Latinx | 610 | 97.4% | 466 | 92.1% |
| White | 14 | 2.2% | 26 | 5.1% |
| Socio-economically Disadvantaged | 600 | 95.8% | 474 | 93.7% |
| English Learners | 314 | 50.2% | 246 | 48.6% |

Table 2

Participant Teacher Gender, Grade Span, Race/Ethnicity, and Years of Experience by School

| Demographics | School A | | School B | |
|----------------------------|----------|------|----------|------|
| <i>Gender</i> | | | | |
| F | 21 | 84% | 17 | 85% |
| M | 4 | 16% | 3 | 15% |
| <i>Grade Span</i> | | | | |
| K-2 | 9 | 36% | 8 | 40% |
| 3-4 | 9 | 36% | 8 | 40% |
| 5-6 | 7 | 28% | 4 | 20% |
| <i>Race/Ethnicity</i> | | | | |
| Asian | 1 | 4% | - | |
| Hispanic/Latinx | 14 | 56% | 10 | 50% |
| White | 10 | 40% | 10 | 50% |
| <i>Years of Experience</i> | | | | |
| 0-3 | 1 | 4% | 3 | 15% |
| 4-7 | 3 | 15% | 5 | 25% |
| 8-11 | 4 | 16% | 3 | 15% |
| 12+ | 17 | 68% | 9 | 45% |
| Total <i>n</i> | 25 | 100% | 20 | 100% |

Intervention Description

Since there was no existing program that could be implemented to meet the specific needs of the school involved in the study, research assistants from the university doctoral program designed and delivered a new intervention professional development based on a literature review aligned to the needs of the participant elementary teachers as provided by information from the school district, site administration, and teacher leaders. Four doctoral students conducted the intervention sessions. All research assistants had previous or current classroom teaching experience, with one currently working as an elementary school principal and two as elementary grade level lead teachers. Additionally, this research assistant team had previous experience working alongside professors from one large private university on a similar intervention model before this study.

The professional development treatment incorporated the concepts and practices of mindfulness (Baer, 2003; Burrows, L., 2011; Fredrickson et al., 2008), to address teacher stress and burnout (Flook et al., 2013), and emotional and

cognitive exhaustion and resilience (Beltman et al., 2011), considering the day-to-day challenges of teaching in rural schools (Akhavan, 2011; Duncan & Stock, 2010). Research assistants presented the two professional development sessions at staff meetings lasting 90 minutes each over two weeks with intentional practice, collegial discussion, and reflective journaling. While the original timeline was to span three trainings over six weeks, the model was revised due to changes in district scheduling of other initiatives, which shortened the timeline. Limitations and implications will be discussed at the close of the study findings. Table 3 provides an overview of the intervention session content and delivery methods.

Table 3

Researcher Developed Mindfulness Practices Intervention Sessions by Curriculum Objectives and Modes of Delivery

| Session | Curriculum Objectives | Modes of Delivery |
|---------------|---|--|
| 1 (90 min) | a) Understand general mindfulness techniques and how these increase teacher efficacy (Schussler, et al., 2019) | a) Presentation |
| | b) Co-construct the definition of <i>Academic Optimism</i> and associate to the work of teachers (Woolfolk Hoy, 2012) | b) Whole group processing activity |
| | c) Understand mindfulness and the three key premises of positivity, being present, and intentionality | c) Video (O'Brien, 2013) |
| | d) Consider ways teachers are already incorporating mindfulness at school and ways to be more mindful | d) Small group discussion |
| | e) Select and commit to at least one mindful practice to implement at school and home (Bernardo, 2010) | e) Personal quick write and partner share |
| | f) Understand reflective journaling process and intentional peer coaching through site grade level meetings | f) Presentation |
| 2 (90 min) | a) Understand how mindfulness impacts teacher stress levels and what that does to self-efficacy. | a) Presentation |
| | b) Reflect on teacher mindfulness practice in classrooms over past 2-weeks | b) Whole group processing activity |
| | c) Review of mindfulness concepts | |
| | d) Understand how positive psychology plays a role in the theoretical framework of mindfulness (Achor, 2010) | d) Presentation |
| | e) Understand how does mindfulness relates to stress | e) Video (McGonigal, 2013) |
| | f) Identify stressful teaching situations then consider ways to combat | f) Whole group processing and small group discussion |

Before presenting the curriculum as noted in Table 3, the research assistants provided the context for the study and obtained voluntary informed consent, careful to note that teachers could opt out of the research at any time without retribution. At respective sessions, they also presented an overview of the professional development learning objectives and supplied norms as working agreements for a positive, safe environment for collective adult learning (Bens, 2017). Modes of delivery for each objective were selected based on the intended outcomes aligned with multi-modal opportunities for collaboration, discussion, and reflection per the *Professional Development 3.0* framework (Korthegan, 2017). The overarching theme of session one established the concept of mindfulness and the developed connections between stress and student-teacher relationships and student achievement. Once participants understood the concepts, in small groups, they committed to setting a goal of how to practice new approaches in their classrooms. This was accomplished through presentation and processing activities as well as the inclusion of a video. The video (O'Brien, 2013) reinforced mindfulness practices of being present in a non-judgmental way to obtain trusting relationships and to positively deal with daily stressors.

At the close of session one, participating teachers were asked to partner and support each other in practicing mindfulness at school and home for the proceeding two weeks. The principal at the school site gave teachers a weekly opportunity to discuss the progress of the implementation of mindfulness practices in their classrooms. Each grade level team shared the group's mindfulness reflection and commitments with the principal. By doing this, the principal was able to support the teachers' needs in the area of mindfulness.

After two weeks, the second intervention was provided, again at a 90-minute staff meeting, which reviewed the fundamental premises and followed up on how teachers had implemented mindfulness practices. Using presentation, discussion, and small group roundtables, this session also provided information on the role of stress in teachers' lives and ways to reduce stress through videos, practice, and reflection. The video (McGonigal, 2013) demonstrated researchers' conclusions about how when participants viewed stress as unfavorable, they were more apt to the maladaptive effects of stress, but when they saw stress as a positive phenomenon, they experienced the same effects of stress as one would get from joy. After the professional development, participants completed the final journal entry and one-on-one interviews were scheduled for the next week.

Survey Instrument

The Mindfulness in Teaching Scale (MTS; Frank et al., 2016) was selected as the quantitative survey measure to explore the potential benefit of the intervention for the teacher participant group compared to the inactive control group. The MTS (Frank et al., 2016) consists of 14 self-report items on a five-point Likert scale (1: never true to 5: always true) divided into two teacher mindfulness factors: *intrapersonal* (nine items) and *interpersonal* (five items). Questions are available within the Frank et al. (2016) validation study; it asks participants to consider the truthfulness of given statements concerning their own teaching experiences. Example items from the Intrapersonal Mindfulness Scale Factor include: *when something painful happens at school, I tend to blow the incident out of proportion* and *when I am in the classroom, I have difficulty staying focused on what is happening in the present*. Examples from the Interpersonal Mindfulness Scale Factor include: *I am aware of how my moods affect the way I treat my students* and *I listen carefully to my student's ideas, even when I disagree with them*.

For robust instrument validation, Frank et al. (2016) completed a three-study model: (1) Item Development and Factor Structure, (2) Confirmatory Factor Analysis (CFA), and (3) Concurrent Validity, Test–Retest Reliability, and Predictive Validity. Each study used separate large and demographically diverse elementary teacher participant pools from across the U.S. Using a standardized alpha, reported findings from study one indicated a definite but small association between the factors (0.351) and high internal consistency within each factor (Teacher Intrapersonal Mindfulness Scale, 0.865; Teacher Interpersonal Mindfulness Scale, 0.711). Study two, using CFA, reported excellent fit using chi-square ($\chi^2(76)=105.36, p < 0.05$) and other comparative models (TLI = 0.969, CFI = 0.974, RMSEA = 0.038). In study three, Frank et al. (2016) reported high scale stability using a six-month test–retest for correlations (Teacher Intrapersonal Mindfulness Scale, $r(278) = 0.419, p < 0.01$; Teacher Interpersonal Mindfulness Scale, $r(278) = 0.491, p < 0.01$), with no significant difference found among respective individual responses from T1 to T2. Furthermore, the MTS was also reported to have strong predictive validity for teacher burnout and areas of efficacy within the Interpersonal Mindfulness Subscale (Frank et al., 2016).

After completing the second professional development session at School A, the survey was emailed to participants using Qualtrics ($n = 25, 96.2\%$). Voluntary informed consent was provided at the onset of clicking the embedded link. Those willing to continue with the survey provided an electronic signature to move forward with the items. The survey was open for one week, and reminder emails sent every two days within the window to increase response rate, although most finished within a day of the session. The survey was also emailed to the selected control group, all teachers at School B in the same manner as School A with a high response rate ($n = 20, 95.2\%$).

Electronic Participant Journal Entries

During the two-week intervention period, the participating teachers were asked to complete three electronic journal entries for phase one of the qualitative data gathering (Lindlof & Taylor, 2011). The journal entries were completed electronically using Google Forms long response questions. Participants completed electronic journal entries at three specific time periods: (1) within 24-hours after session one; (2) at the intervention practice midpoint (one week after session one); and, (3) within 24-hours after session one. The researchers sent reminder emails to all participants to complete journals at three specific intervals and individual reminder emails sent as needed. All 25 participants completed the entries.

The initial journal entry prompt (interval one) asked teachers to *explain mindfulness and whether they followed mindfulness practices*. If so, they were asked to *share practices they used for mindfulness and reflect on their beliefs and experiences with stress in teaching*. The second open-ended journal questions (interval two), completed after two weeks of practicing mindfulness from the initial training, asked participating teachers to *reflect on their current confidence in their ability to meet student needs*. Additionally, participants were asked to *reflect on their recent practices of mindfulness*

and how they have changed since learning to use mindfulness with intentionality. The last journal prompt (interval three), completed after the second professional development intervention, asked participants to, again, describe mindfulness and reflect on the ways intentional mindfulness practices had become part of their current thoughts and patterns of behavior as a classroom teacher.

The journal responses were organized into an electronic spreadsheet by entry time one, two, and three and then by respective reflective open-ended question constructs. These responses were analyzed for inductive themes (Nowell et al., 2017) to explore potential benefits to participant teachers during the mindfulness intervention phase. Code checking (Nowell et al., 2017) was done by researchers throughout the analyses to mitigate cognitive drift and biases as appropriate.

Interviews

The second phase for gathering qualitative data was through 15- to 20-minute one-on-one, semi-structured interviews (Creswell & Plano Clark, 2017). The interviews were conducted after participants received the final professional development intervention installment and completed the intentional professional practice and reflection based in the elementary classroom setting. The nine-item researcher-developed an open-ended semi-structured interview aimed to understand participant perceptions on personal growth in mindfulness and the impact practices had on their teaching and feelings of efficacy. To enhance credibility (Shenton, 2004), the nine questions were informed by the MTS (Frank et al., 2016) and other literature shaping the following constructs: concepts and practices for mindfulness (e.g., Baer, 2003; Burrows, L., 2011; Fredrickson et al., 2008), teacher stress and burnout (Flook et al., 2013), emotional and cognitive exhaustion and resilience (Beltman et al., 2011), and perspectives on daily teaching challenges in rural schools (Akhavan, 2011; Duncan & Stock, 2010). The semi-structured model (Creswell & Plano Clark, 2017) allowed the researchers to ask probing questions for clarity and elaboration, as appropriate, to ensure a complete understanding of the responses for heightened trustworthiness in the analyses phase (Shenton, 2004). Table 4 provides the interview questions.

Table 4

Post Intervention Semi-Structured Interview Questions

| No. | Question |
|-----|---|
| 1 | When you hear the term <i>mindfulness</i> what are the big concepts or ideas that come to mind? |
| 2 | Think about your school day, at what point do you feel the most mindful? Can you please explain what that looks like or feels like? |
| 3 | How do you consider teaching to be emotional and attention demanding work that demands resilience? What strategies do you use to manage this cognitive and emotional load? |
| 4 | How much do you agree or disagree with the following statement?: <i>When I am teaching, it seems I am 'running on automatic' without much awareness of what I am doing.</i> Please explain. |
| 5 | How much do you agree or disagree with the following statement?: <i>When I'm really struggling with teaching, I tend to feel like other teachers must be having an easier time of it.</i> Please explain. |
| 6 | How much do you agree or disagree with the following statement?: <i>When something painful happens at school I tend to blow the incident out of proportion.</i> Please explain. |
| 7 | What determines a good and bad day for you at school? Finish the following phrases: <i>A good day at school looks like . . . A bad day at school looks like . . .</i> |
| 8 | Tell me about your level of comfort with students who don't follow your directions? Please describe how this behavior makes you feel and how do you manage it? |
| 9 | In your opinion and based on your experience, what are some reasons for teacher burnout? Do you see these situations increasing or decreasing in education? Why? Can you share examples of some of these reasons? |

The teachers who participated in the interviews also completed the surveys and journal entries necessary for triangulation in the interpretation phase (Creswell & Plano Clark, 2017). The interviews were audio-recorded with consent and transcribed for later analyses. As with the journal entries, the responses were analyzed for inductive themes (Nowell et al., 2017) to explore emergent themes around the potential benefits of mindfulness practices in teaching after the

intervention phase. To mitigate cognitive drift and biases as appropriate, code checking (Nowell et al., 2017) was done by researchers throughout the analyses.

QUANTITATIVE RESULTS

To understand any benefits of the intervention on teachers' mindfulness practices, the differences in overall mean response ratings of the MTS (Frank et al., 2016) by intervention and control groups were compared using an ANOVA. First, this included the comparative analysis of mean responses in intrapersonal mindfulness and, second, in interpersonal mindfulness. Overall, findings suggest teachers can benefit from participation in a mindfulness intervention compared to those without exposure to the material, particularly intrapersonal mindfulness practices.

Table 5

Means, Standard Deviations and Sample Sizes for MTS Intrapersonal Mindfulness

| Group | Intervention (School A) | | | | Inactive Control (School B) | | | |
|--|-------------------------|----------|-----------|-----------|-----------------------------|----------|-----------|-----------|
| | <i>N</i> | <i>M</i> | <i>SD</i> | <i>SE</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>SE</i> |
| Intrapersonal Mindfulness | | | | | | | | |
| <i>Run on automatic w/o awareness</i> | 25 | 1.56 | .821 | .164 | 20 | 3.50 | 1.147 | .256 |
| <i>Difficulty staying focused on the present</i> | 25 | 1.44 | .917 | .183 | 20 | 2.15 | .988 | .221 |
| <i>Do things w/o paying attention</i> | 25 | 1.84 | 1.028 | .206 | 20 | 2.50 | 1.051 | .235 |
| <i>Focus on goals and lose touch with present</i> | 25 | 2.00 | 1.118 | .224 | 20 | 3.35 | .933 | .209 |
| <i>Walk quickly w/o paying attention</i> | 25 | 2.92 | 1.352 | .270 | 20 | 4.00 | 1.026 | .229 |
| <i>Rush through activities w/o real attention to class</i> | 25 | 1.76 | .723 | .145 | 20 | 2.50 | 1.235 | .276 |
| <i>Tend to blow painful situations at school out of proportion</i> | 25 | 1.72 | .792 | .158 | 20 | 2.10 | 1.210 | .270 |
| <i>Busy thinking about other things not really listening to students</i> | 25 | 2.12 | 1.166 | .233 | 20 | 2.95 | 1.356 | .303 |
| <i>Feel others have easier time of teaching</i> | 25 | 2.60 | 1.384 | .277 | 20 | 3.20 | 1.322 | .296 |
| Overall | 25 | 1.99 | .583 | .117 | 20 | 2.92 | .709 | .159 |

Intrapersonal Mindfulness

Based on the MTS survey results, a statistically significant difference was found between the intervention ($M = 1.99$) and control groups ($M = 2.92$) overall mean responses on intrapersonal mindfulness ($F(1, 43) = 22.952, p = .000$). Eight out of nine overall mean factors also resulted in statistically significant differences by intervention and control group mean responses on intrapersonal mindfulness (see Tables 5 and 6).

Both the intervention ($M = 1.72$) and control ($M = 2.10$) groups disagreed with having a *tendency to blow painful events at school out of proportion*. There was no significant difference. Conversely, the intervention group did show benefits compared to the control group in the rating of agreement on each intrapersonal mindfulness item at a 0.05 level. The intervention participant responses showed the most significant difference in perceived intrapersonal mindfulness behavior in *running on automatic without awareness* (strongly disagree/disagree, $M = 1.56, p = .000$) and *focus on goals and lose touch with the present* (disagree, $M = 2.00, p = .000$) as compared to the control participant responses in the respective items (neutral/agree, $M = 3.50$; neutral/agree, $M = 3.35$).

Table 6

Summary of One-Way ANOVAs using MTS Intrapersonal Mindfulness as the Dependent Variable and by Group as the Independent Variable

| Intrapersonal Mindfulness | | SS | df | MS | F | p |
|---|----------------|--------|----|--------|--------|-------|
| <i>Run on automatic w/o awareness</i> | Between Groups | 41.818 | 1 | 41.818 | 43.687 | .000* |
| | Within Groups | 41.160 | 43 | .957 | | |
| | Total | 82.978 | 44 | | | |
| <i>Difficulty staying focused on the present</i> | Between Groups | 5.601 | 1 | 5.601 | 6.222 | .017* |
| | Within Groups | 38.710 | 43 | .900 | | |
| | Total | 44.311 | 44 | | | |
| <i>Do things w/o paying attention</i> | Between Groups | 4.840 | 1 | 4.840 | 4.489 | .040* |
| | Within Groups | 46.360 | 43 | 1.078 | | |
| | Total | 51.200 | 44 | | | |
| <i>Focus on goals and lose touch with present</i> | Between Groups | 20.250 | 1 | 20.250 | 18.706 | .000* |
| | Within Groups | 46.550 | 43 | 1.083 | | |
| | Total | 66.800 | 44 | | | |
| <i>Walk quickly w/o paying attention</i> | Between Groups | 12.960 | 1 | 12.960 | 8.729 | .005* |
| | Within Groups | 63.840 | 43 | 1.485 | | |
| | Total | 76.800 | 44 | | | |
| <i>Rush through activities w/o real attention to class</i> | Between Groups | 6.084 | 1 | 6.084 | 6.295 | .016* |
| | Within Groups | 41.560 | 43 | 0.967 | | |
| | Total | 47.644 | 44 | | | |
| <i>Tend to blow painful situations at school out of proportion</i> | Between Groups | 1.604 | 1 | 1.604 | 1.610 | .211 |
| | Within Groups | 42.840 | 43 | 0.996 | | |
| | Total | 44.444 | 44 | | | |
| <i>Busy thinking about other things not really listening to student</i> | Between Groups | 7.654 | 1 | 7.654 | 4.870 | .033* |
| | Within Groups | 67.590 | 43 | 1.572 | | |
| | Total | 75.244 | 44 | | | |
| <i>Feel others have easier time of teaching</i> | Between Groups | 12.960 | 1 | 12.960 | 8.720 | .005* |
| | Within Groups | 63.840 | 43 | 1.485 | | |
| | Total | 76.800 | 44 | | | |
| Overall | Between Groups | 9.449 | 1 | 9.449 | 22.592 | .000* |
| | Within Groups | 17.703 | 43 | .412 | | |
| | Total | 27.153 | 44 | | | |

*denotes significance at .05 level

Table 7**Means, Standard Deviations and Sample Sizes for MTS Interpersonal Mindfulness**

| Group | Intervention (School A) | | | | Inactive Control (School B) | | | |
|---|-------------------------|----------|-----------|-----------|-----------------------------|----------|-----------|-----------|
| | <i>N</i> | <i>M</i> | <i>SD</i> | <i>SE</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>SE</i> |
| Interpersonal Mindfulness | | | | | | | | |
| <i>Allow students to express feelings even when uncomfortable</i> | 25 | 4.00 | .764 | .153 | 20 | 4.40 | .503 | .112 |
| <i>Listen carefully to students even when disagree</i> | 25 | 4.20 | .707 | .141 | 20 | 4.20 | .523 | .117 |
| <i>Awareness of how moods affect treatment of students</i> | 25 | 4.60 | .500 | .100 | 20 | 4.70 | .470 | .105 |
| <i>Notice feelings before taking action with students even when upset</i> | 25 | 3.80 | .816 | .163 | 20 | 3.50 | 1.100 | .246 |
| <i>Calmly tell students feelings even when upset</i> | 25 | 3.56 | 1.121 | .224 | 20 | 3.80 | 1.152 | .258 |
| Overall | 25 | 4.03 | .492 | .098 | 20 | 4.13 | .489 | .109 |

Interpersonal Mindfulness

Regarding overall interpersonal mindfulness, no significant difference resulted between intervention ($M = 4.03$) or control group ($M = 4.13$) mean responses. Only one out of five interpersonal mindfulness factors indicated a significant difference in mean response between the two groups. See Tables 7 and 8.

The intervention participant responses showed the most significant difference in perceived interpersonal mindfulness behavior in *allowing students to express feelings even when uncomfortable* (agree, $M = 4.00$, $p = .05$) compared to the control participant responses in the respective item (agree/strongly agree, $M = 4.40$). The intervention and control groups did not show any other differences across the other items with respective responses from neutral to a strong agreement at a .05 level. Regardless of receiving the intervention, all teachers reported they practiced these types of interpersonal mindful behaviors with students.

QUALITATIVE RESULTS

Three themes emerged from the qualitative analyses based on the perceived benefits of the mindfulness intervention for participating elementary school teachers: (1) positively changed interactions with students; (2) began to practice being present and using calming practices daily; and, (3) felt mindfulness practices reduced stress at the moment.

Teachers Positively Changed Interactions with Students

Every participant teacher expressed that, in some way, the mindfulness practices they employed positively reshaped their experience in the classroom. Twenty-four participants noted the change, specifically with daily student interactions. One participant detailed an experience where ongoing journaling for reflection and using breathing at the moment helped him deescalate a situation in the classroom:

I had an incident and I really had to put [mindfulness] into practice...I'm just going to breathe through this, I could feel myself getting [upset]. I knew that would affect my students...If I had not done that training or not have done those journal entries, I probably would have handled that situation very differently.

Others described how being metacognitive of their feelings, and word choices prevented adverse behavioral outcomes in the classroom. One participant shared that before they deal with a student who made a difficult choice, they now ask themselves, “am I going to do something or say something that’s going to hurt?” Another teacher wrote about “try[ing] to be mindful of how my students may react before I say or do something.”

Table 8

Summary Table for the One-Way ANOVAs Using MTS Interpersonal Mindfulness as the Dependent Variable and by Group as the Independent Variable

| Interpersonal Mindfulness | | SS | df | MS | F | p |
|---|----------------|--------|----|-------|-------|-------|
| <i>Allow students to express feelings even when uncomfortable</i> | Between Groups | 1.778 | 1 | 1.778 | 4.066 | .050* |
| | Within Groups | 18.800 | 43 | 0.437 | | |
| | Total | 20.578 | 44 | | | |
| <i>Listen carefully to students even when disagree</i> | Between Groups | 0.000 | 1 | 0.000 | 0.000 | 1.000 |
| | Within Groups | 17.200 | 43 | 0.400 | | |
| | Total | 17.200 | 44 | | | |
| <i>Awareness of how moods affect treatment of students</i> | Between Groups | 0.111 | 1 | 0.111 | 0.468 | .497 |
| | Within Groups | 10.200 | 43 | 0.237 | | |
| | Total | 10.311 | 44 | | | |
| <i>Notice feelings before taking action with students even when upset</i> | Between Groups | 1.000 | 1 | 1.000 | 1.103 | .300 |
| | Within Groups | 39.000 | 43 | 0.907 | | |
| | Total | 40.000 | 44 | | | |
| <i>Calmly tell students feelings even when upset</i> | Between Groups | 0.640 | 1 | 0.640 | 0.497 | .485 |
| | Within Groups | 55.360 | 43 | 1.287 | | |
| | Total | 56.000 | 44 | | | |
| Overall | Between Groups | 0.096 | 1 | 0.096 | 0.399 | .531 |
| | Within Groups | 10.352 | 43 | 0.241 | | |
| | Total | 10.448 | 44 | | | |

*denotes significance at .05 level

Fifteen teachers expressly indicated how making proactive choices was a new mindfulness practice that led to feelings of empowerment. One participant stated, “I am empowered by being mindful before I speak...I can choose my outcomes with my students this way.” Another discussed being cognitively in the moment helped them decide to use “positive words with students.” Another participant wrote, specific to instructional moments, that “I take a minute to think before I speak and feel empowered because it has helped reduce the amount of reteaching I have to do...I am more careful to choose a better way of explaining up front.”

Lastly, twenty-one teachers discussed how they became more intentional in showing they value and appreciate their students regularly. One participant wrote “I find myself giving compliments and listening to my students more when they

want to tell me something that happened to them.” Another teacher expressed, “I now make sure that I acknowledge everyone and every student that I run into.” In respect to valuing students as a mindful practice, another participant shared that “giving [my students] an opportunity to speak their mind and to really share and just tell them that they’re important and that they do matter.” Another explained how they are now working on “being present and engaged emotionally and truly paying attention to the others and what they are feeling as well as what they are saying.”

Teachers Began to Practice Being Present and Using Calming Practices Daily

Eighteen teachers equated mindfulness to *being in the moment* which was also explained as a new foundation for their daily work with students after two-weeks of practice. In the interviews and the final journal entry, teachers made connections to overall mindfulness as being purposeful and intentional in order to grow as a person and as a teacher. One teacher stated that mindfulness is “being in the moment and creating change where it needs to be made later with reflection.” Another described mindfulness as “purposely being present in the moment and choosing the way I respond.” Another emphasized that “I am now aware when I am not mindful thus, I become mindful and be in the moment.” Participants as a whole took to heart the meaning of mindfulness and highlighted their understanding through the ways they practiced being present and maintaining a sense of calm with their students.

Standard mindfulness practices noted across responses were the use of breathing techniques, preparing their thoughts before teaching, the act of journaling, and taking a moment to reflect on interactions with students and colleagues personally. One participant emphasized journal reflection as “enlightening to me because it made me really reflect on my practices, and when I couldn’t say ‘yes’ I do this all the time it helped me reflect and say okay there were certain circumstances that I didn’t.” Another participant shared “I just think that daily reflection has helped in the classroom. It has made me more aware of what I am doing.”

Every participant recognized how, in some way, mindfulness – being calm and present – is a work in progress that builds a platform from which they can approach their teaching day. One participant shared that “sustaining mindfulness is somewhat difficult. I know we can focus on it and start acting on it, but sustaining it is difficult. But, I think the best thing to do is to be mindful of our mindfulness.”

Teachers Feel Mindfulness Practices Reduce Stress

Participants named many stressors in teaching including student behaviors, planning for all student needs, academic expectations for achievement, assessments, paperwork, short deadlines, and duties outside of the classroom for the school such as yard duty, activities, and evening family events. One participant wrote they “could list so many...assessing, grading, extreme behaviors, conflicts with colleagues, communication.” Nineteen teachers used the specific phrase “more things put on our plate” when discussing how stress seems to compound annually.

Understanding this context for intervention participants, twenty-four teachers shared how their new understanding of mindfulness in teaching helped them reduce the feelings of stress. For example, one teacher wrote that “teaching can be stressful, but if you focus on choosing to be positive, choosing purposeful words and attitudes...it helps me not let the little things get to me.” Another said they were going “back to being purposeful and intentional and really just being present in the moment when [something] is happening. I don’t need to add to my stress...I can choose to be less stressed by the attitude I have and the words I use.” In regards to working through stressful moments as a teacher, one participant shared they “can choose to be upset or just breathe through it. I can calm myself to chill, let go, and move forward like a fresh start.”

DISCUSSION

This embedded quasi-experimental, mixed-method study aimed to explore the potential benefits a mindfulness intervention can have for participating elementary school teachers as a possible way to help school leaders support teachers in mitigating stress and burnout. The results’ interpretation is rooted in understanding the quantitative results as connected to qualitative themes and supported by the literature review.

RQ1 - What are the differences in perceptions of mindfulness practices between elementary teachers who participated in professional development on mindfulness versus those who have not?

In response to the RQ1, perceptions of overall mindfulness in teaching were, as expected, higher for teachers who participated in the intervention versus those who had not. When comparing the active and inactive control groups, the

benefit for intervention participants was mostly within the MTS factor of intrapersonal mindfulness, which, as validated by Frank et al. (2016), is also a strong predictor of corresponding teacher self-efficacy. As research has established, increases in teacher self-efficacy, as a part of academic optimism, can impact student learning and relationships (e.g., Beltman et al., 2011; Hue & Lau, 2015; Taylor et al., 2016; Woolfolk Hoy, 2012).

Interpersonal mindfulness was rated high by both groups, with only one notable difference in response to *allowing students to express feelings even when uncomfortable*. In this specific case, intervention participants rated themselves lower than control group teachers, which, in light of the journal and interview responses, suggests that understanding and practicing mindfulness techniques benefitted participants despite the inverse rating. Participant's have noted heightened awareness of being in the moment and observing emotional responses to use calming strategies daily seemingly afforded them self-assess student interactions with more accuracy than those who did not receive mindfulness training. This interpretation is supported by results of studies such as Achor (2010), Schussler et al. (2018), and Taylor et al. (2016), which highlight ways mindfulness training can impact participants' efficacy in improving student interactions, and reported by Schussler et al. (2019) as warranting further research. The interpretation also aligns with the significant tenet of mindfulness, as emphasized in this study's intervention sessions, which is to become more aware of one's emotions in the present moment (e.g., Baer, 2003; Burrows, 2011; Kabat-Zinn, 2003; McGonigal, 2013). The qualitative findings within theme one, *teachers positively changed interactions with students*, and two, *teachers began to practice being present and using calming practices daily*, also supports this interpretation. The responses focused on the teachers' metacognitive reflective shifts related to overall intrapersonal mindfulness and noted specific instances where mindfulness assisted in dealing with challenging student interactions in more intentional and positive ways.

Through mindfulness practice, teachers were expected to be more aware of how they respond to students, rather than how they believe or hope they respond, which was expected of non-trained teachers, but surprisingly showed up through an inverse report within interpersonal mindfulness. When interpreting the lack of difference between the intervention-control group results for overall interpersonal mindfulness, the work of Taylor et al.'s (2016) is appropriate to consider. Their study uncovered that teachers naturally use some mindfulness practices whether or not they receive an intervention.

RQ2 - In what ways does professional development on mindfulness practices benefit elementary teachers?

Along with the benefits highlighted through RQ1, professional development on mindfulness practices does suggest benefits for participating elementary school teachers. The exploration of the qualitative responses revealed other benefits beyond those connected to the MTS, as previously discussed. Participants not only felt that the use of mindfulness in teaching, mainly being in the moment and using practices daily, benefitted their interaction with students but also reported that the practices helped mitigate the adverse effects of on-the-job stressors. Another potential benefit surfaced for further exploration in regards to reflection and principal support of the practice.

Within theme one, participants shared ways they interacted with more sincerity when listening to students, and theme two, reported using preventative reflection and breathing to remain in the present daily. These elementary teachers shared how drawing upon calming mindfulness practices positively impacted word choice when communicating with students in challenging situations. The highlighted benefit of mindfulness professional developments on elementary teachers' interactions with students aligns with a decade of related research. Kabat-Zinn's (2003) asserts that mindfulness cultivates openness of thinking and more compassionate responses in stressful situations. For elementary teachers, training in mindfulness practices increases purposeful and intentional attention on students (Achor, 2010), is related to increased student compassion (Schussler et al., 2018) and forgiveness (Taylor et al., 2016).

In theme 3, participants reported that mindfulness practices helped balance stress and become more aware of their emotional responses during stressful situations. These results also correspond with over a decade of research exploring the relationship of teachers' use of mindfulness practices with the reduction of stress and other areas of well-being (e.g., Burrows, 2011; Crain et al., 2017; Flook et al., 2013; Hue & Lau, 2015; Lomas et al., 2017; Roeser et al., 2012; Schussler et al.; 2018). Reduction of stress, as established in the literature review, is vital to mitigating feelings of burnout and reducing teacher turnover (e.g., Eslinger, 2014; Rumschlag, 2017; Steinhardt et al., 2011; Vanderslice, 2010) to maintain higher levels of teacher efficacy (e.g., Hitt & Tucker, 2016; Woolfolk Hoy, 2102) and positive school climates to support student learning (e.g., Carver-Thomas & Darling-Hammond, 2019; Cherkowski & Walker, 2019).

Another surfaced benefit for teachers was the relationship between the teacher's use of mindful reflection, incorporation of intentional reflective journaling, and the principal's support of a collaborative, reflective process. As indicated across all qualitative themes, daily reflection was a large component in improving student interactions and

reducing stress. The study design's use of reflective journaling and discussion, as framed by *Professional Development 3.0* (Korthegan, 2017), aimed to shape conditions for positive teacher change.

The principal's support of giving teachers time to learn, practice collaboratively, and reflect on mindfulness became an added benefit to teachers building mindfulness and handling daily stressors. Current experts in the field find teachers' perceptions regarding principal's support were directly related to decreases in teacher turnover, the reduction reduces stress, and teacher self-efficacy (e.g., Ansley et al., 2019; Carver-Thomas & Darling-Hammond, 2019; Flook et al., 2013; Hitt & Tucker, 2016; Roeser et al., 2012).

Limitations

There are significant limitations to note when considering the results of this study. This small-scale research study was conducted in one rural school district in California based on the intervention school's immediate needs. This limited the researchers to the intervention school's context for which teacher demographics could not be controlled; however, researchers worked to recruit participating teachers from a similar school for reliability. The context of these rural schools had similar demographics but small pools of teachers. The small sample sizes did not allow for statistical analyses by subgroups.

Additionally, the study intervention was limited to two weeks due to district scheduling. The researchers' mitigated this by considering the framework for professional development and the research on principal support. Though increasing validity and the participation rates for both schools were close to 100%, the small respondent numbers and limited time of treatment only allowed for an exploration of results as suggestions and interpretations.

Furthermore, using an inactive control group can only be used to consider the significance for those whom the intervention actively benefitted (Wampold, 2001). It does not allow for drawing conclusions on the level of the professional development quality, nor does this study provide for generalizability across research contexts beyond the rural school research setting. The results can suggest considerations for the inclusion of contextually designed professional development on mindfulness practices to benefit elementary teachers' well-being. Lastly, these results are founded on perceptive ratings and personal narrative, which are only reliable as the participants were honest with their responses. To mitigate this, the research assistants used their roles as teachers in the district as rapport with both the intervention and control groups.

CONCLUSIONS AND IMPLICATIONS

Although teacher stress, burnout, and turnover in education is no new concept, it is an ongoing issue for school leaders, and their support is a significant factor in combating these challenges (e.g., Carver-Thomas & Darling-Hammond, 2019; Ronfeldt et al., 2013) while also working to maintain focus on student achievement and well-being (e.g., Chenoweth & Theokas, 2013; Duncan & Stock, 2010; Hitt & Tucker, 2016). This study aimed to explore the potential benefits of mindfulness practices for teachers to help school leaders inform their support to lower teacher stress and raise teacher self-efficacy. The results of this study continue to suggest that mindfulness interventions can benefit elementary school teachers by reducing stress and improving interactions with students. These findings have hopeful implications for practitioners. By providing professional development opportunities on intrapersonal mindfulness in teaching, district and school leaders can support teachers through daily on-the-job stressors. In this way of addressing teacher well-being, leaders also help mitigate teacher burnout and impact job retention rates, which correlate with positive school and classroom climates and student achievement (e.g., Gold et al., 2010; Hue & Lau, 2015; Jennings et al., 2017; Lomas et al., 2017).

To assist school leaders' support of teachers and student learning, further research is warranted in several areas. One area of examination is professional development content design, and delivery on teacher mindfulness and student interactions. A second area is discovering how school leadership can effectively support teachers with and beyond reflection and collaborative learning. Another would be to explore the impact mindfulness can have on the overall school climate, increasing student learning and well-being. Lastly, further comparative research by gender, grade level, race/ethnicity, years of service, and school demographics would broaden the understanding of the benefits mindfulness training can have on teachers, students, and school climate.

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